



Tell what archaeology is and explain to your counselor how it differs or relates to other fields of study such as anthropology, geology, paleontology, and history. Explain how archaeology is different than artifact collecting or treasure hunting. Describe each of the following steps of the archaeological process: site location, development of background research and a research design, site survey and fieldwork, artifact identification and examination, interpretation, preservation, and information sharing. Describe at least two ways in which archaeologists determine the age of sites, structures, or artifacts. Explain what absolute dating and relative dating are. Learn about a combined total of five archaeological sites located both within and outside the United States. For EACH site you research, point it out on a map and explain how it became known to archaeologists. Describe some of the information about the past that has been found at each site. Explain how the information gained from the study of these sites answers questions that archaeologists are asking and how the information may be important to modern people. Compare the relative ages of the sites you picked and give a short presentation about your findings to a Cub Scout pack, your Scout troop, your school class, or another group. Do the following: Learn about the federal laws and international conventions that protect archaeological sites. Find out if your state, county, or local government has regulations that apply to archaeological or historic sites. Identify a national, international, or local organization that helps to protect archaeological sites. Do the following: Explain why it is important to protect archaeological sites. Explain what people should do if they think they have found an artifact. Describe the ways in which your counselor: Visit a museum to observe how artifacts aid in conveying history. Present to your counselor a significant family artifact/heirloom and discuss its history. Make a list of the trash your family throws out during one week. Discuss with your counselor what archaeologists might learn about you and your family if they found your trash a thousand years from now. Research a group of people who lived in your area more than 100 years ago. Find out about their ways of life, including housing, clothing, arts and crafts, tools, trade and markets, rituals and religions, and diets, and their relationships with other groups of people in the area. Describe what you would expect to find at an archaeological site where these people lived. Explain how these people influenced your current community. Identify three career opportunities in archaeology. Pick one and explain how to prepare for such a career. Discuss with your counselor what education and training are required, and explain why this profession might interest you. Do either A or B of the following: With your parent's and counselor's permission, assist a qualified archaeologist for at least eight hours with a project being worked on. Projects may include surveying, site monitoring, site stabilization, excavation, laboratory analysis, use of digital archaeological technology, or public outreach. Describe your involvement in the project, what you learned about archaeology, and the steps of archaeological inquiry. Note: Visiting an archaeological site will require advance planning. An archaeologist's directions and comply with all the safety procedures. Be aware of the changing conditions at the site. With your counselor's approval, take part in a simulated archaeological project designed by a gualified archaeologist. The project must include the use of a simulated archaeological site including artifacts and features for the site. Using the steps of archaeological inguiry, analyze the "artifacts and features" and document the spatial relationships of the "artifacts and features" at the simulated site. Explain how the environment and time can affect the interpretation of an artifact and the overall archaeological site. Tell how you would share the results of your analysis with other researchers and the public Note: To find out how to make a simulated archaeological site, talk with a professional archaeologist, trained avocational archaeologist, museum school instructor, junior high or high school science teacher, advisor from a local archaeology society, or other qualified instructor. Under the supervision of a qualified archaeologist or instructor, do ONE of the following: Help prepare an archaeological exhibit for display in a museum, visitor center, school, or other public area. Use the methods of experimental archaeology to re-create an item or to practice a skill from the past. Write a brief report explaining the experiment and its results. BSA Advancement ID#: 132 Requirements last updated in: 2018 Pamphlet Publication Number: 35855 Pamphlet Stock (SKU) Number: 650864 Pamphlet Revision Date: 2021 Page updated on: December 25, 2020 Làm fan Sao chép link Lấy mã nhúng Hiện mã QR ALEX Lesson Plans View Standard(s): [HLS] NAT (9-12) 1:1) Demonstrate knowledge and skills related to communication, safety, infection control, resident rights, and independence with satisfactory performance prior to engaging in direct contact with residents. • Identifying proper channels related to the process of communication and demonstrating effective interpersonal skills • Demonstrating proficiency and knowledge in the area of infection control Examples: Lab Skills - handwashing, gloving, masking, gowning, donning and removing Personal Protective Equipment (PPE) • Demonstrating skills related to safety and emergency procedures to include abdominal thrust and Cardiopulmonary Resuscitation (CPR) Examples: Lab Skills - fire extinguisher, evacuation, falling, choking, CPR, bleeding, restraints • Describing the purpose of resident's rights and the importance of respecting the rights • Defining independence and methods for promoting first aid certification, explaining body mechanics [HLS] PCT (9-12) 15 : 15) Simulate technical skills required for safe patient care as implemented by a Patient care as impl through listening, speaking, reading, and writing. [HLS] HL05 (11-12) 9 : 9) Demonstrate therapeutic communication skills in the health care facility. Examples: reporting medical information to immediate supervisor, communicating with client and family or caregiver Subject: Health Science (9 - 12) Title: Standard/Transmission-Based Precautions and Communication Skills - Simulation Description: This lesson provides a formative assessment of previously mastered concepts and skills. Students in the Health Science Internship Course or completing the Certified Patient Care Technician or Certified Nursing Assistant training programs should be proficient in analyzing a patient encounter as well as applying skills and knowledge to formulate a plan. Students will complete a pre-learning activity and pre-briefing follows the simulation experience and serves as a formative assessment. This lesson will focus on standard and transmission-based precautions as well as communication skills. View Standards Standard(s): [HLS] NAT (9-12) 2 : 2) Identify basic nursing skills related to long term care and demonstrate knowledge and proficiency associated with the skills. • Defining the importance of vital signs and demonstrating skills for taking and recording temperature, pulse, respiration, and blood pressure Examples: Lab Skills - blood pressure, pulse, respiration, radial/apical pulse, temperature-oral, axillary, rectal • Demonstrating skills for measuring height and weight, and recognizing the importance of assessing height and weight Examples: Lab Skills - weight of ambulatory and non-ambulatory patients, floor scale, wheel chair scale, occupied bed scale • Identifying steps to maintaining and caring for the resident's environment Examples: Lab Skills - bedmaking, closed bed, occupied bed • Recognizing abnormal changes in elderly body functions and demonstrating steps for reporting findings • Defining stages in death and dying and identifying steps associated with caring for the dying resident [HLS] PCT (9-12) 5 : 5) Monitor and record vital signs and patient assessment utilizing manual and electronic methods. Examples: blood pressure, pulse, apical-radial deficit, respirations, pulse oximetry, and weight (standing, wheelchair, or bed scales) Subject: Health Science (9 - 12) Title: Measuring Weight & Height Description: This lesson is part of the Nurse Aide Training or Patient Care Technician Course. Students will be able to proficiently perform height and weight measurement skills as outlined by the Nurse Aide or Patient Care Technician Certification. Students will also understand the importance of assessing and analyzing these measurements. This lesson plan could also be used to teach Course of Study Standard #1 in the Health Science Internship Course. View Standards Standard(s): [SC2015] (2) 7 : 7) Obtain information from literature and other media to illustrate that there are many different kinds of living things and that they exist in different places on land and in water (e.g., woodland, tundra, desert, rainforest, ocean, river). Subject: Science (2) Title: Where Do You Live? Description: The students will create a layered lookbook, which displays recorded information that explains that living things do exist in different places. The students will create a multimedia project, which will retell information learned about living things in different places. This lesson results from a collaboration between the Alabama State Department of Education and ASTA View Standards Standard(s): [SS2010] ALA (4) 16 : 16) Determine the impact of population growth on cities, major road systems, demographics, natural resources, and the natural environment of Alabama during the late twentieth and early twenty-first centuries. • Describing how technological advancements brought change to Alabamians, including the telephone; refrigerator; automobile; television; and wireless, Internet, and space technologies • Relating Alabama's economy to the influence of foreign-based industry, including the automobile industry [DLIT] (4) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (4) 18 : 12) Use basic features of digital tools to communicate key ideas and details in a way that informs and/or persuades. Subject: Social Studies (4), Digital Literacy and Computer Science (4) Title: What if Nothing Ever Changed? Description: Imagine if the world as you know it never changed? Description: Imagine if the world as you know it never changed? Students will compare and contrast the information they research to their present day lives. Students will then identify how technological advancements changed life for Alabamians and reflect on how they feel their life would be today if things never changed. Students will create an Adobe Spark digital story to communicate their researched information and personal reflections. This resource was created as a result of the Alabama Technology in Motion Partnership. View Standards Standard(s): [MA2015] (4) 4 : 4) Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite. [4-OA4] [DLIT] (4) 13 : 7) Create a working program in a block-based visual programming environment using arithmetic operators, conditionals, and repetition in programs, in collaboration with others. [DLIT] (4) 10: 4) Detect and debug logical errors in various basic algorithms. Example: Trace the path of a set of directions to determine success or failure. Subject: Mathematics (4), Digital Literacy and Computer Science (4) Title: Using Scratch to learn the basics of coding and how to use blocks and animations to create a game. Students will create a game to find multiples of a given factor. The student will go through a series of coding steps to create a background, make a character fly, and create the factor and multiple game. This lesson plan was created as a result of the Girls Engaged in Math and Science, GEMS Project. View Standards Standard(s): [DLIT] (2) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (2) 19 : 13) Create a research-based product using online digital tools. [SS2010] LWT2 (2) 2 : 2) Identify national historical figures and celebrations that exemplify fundamental democratic values, including fathers, including George Washington, Thomas Jefferson, Benjamin Franklin, Patrick Henry, John Adams, John Hancock, and James Madison • Recognizing historical female figures, including Abigail Adams, Dolley Madison, Harriet Tubman, and H Thanksgiving Day • Describing the history of American symbols and monuments Examples: Liberty Bell, Statue of Liberty, bald eagle, United States flag, Washington Monument, Lincoln Memorial Subject: Digital Literacy and Computer Science (2), Social Studies (2) Title: Symbols All Around Us Description: This lesson will focus on American symbols. Students will identify American symbols and explain how they represent the United States of America. Symbols include the Liberty, United States Flag, Washington Monument, and the Lincoln Memorial. Students will work in pairs and conduct research about American symbols and create a digital story about a symbol of their choosing. This lesson was created as part of a collaboration between Alabama Technology in Motion and ALEX. View Standard(s): [SS2010] GHS (3) 9 : 9) Identify ways to prepare for natural disasters. Examples: constructing houses on stilts in flood-prone areas, buying earthquake and flood insurance, providing hurricane or tornado shelters, establishing emergency evacuation routes [SS2010] GHS (3) 9 : 9) Identify ways to prepare for natural disasters. Examples: constructing houses on stilts in flood-prone areas, buying earthquake and flood insurance, providing hurricane or tornado shelters, establishing emergency evacuation routes [DLIT] (3) 19 : 13) Communicate key ideas and details collaboratively in a way that informs, persuade school administrators to allow additional time for lunch. [DLIT] (3) 22 : 16) Conduct basic keyword searches to produce valid, appropriate results, and evaluate results for accuracy, relevance, and appropriateness. Examples: Use search techniques, check for credibility and validity. [DLIT] (3) 19 : 13) Communicate key ideas and details collaboratively in a way that informs, persuades, and/or entertains, using digital tools. Example: Create a digital presentation to persuade school administrators to allow additional time for lunch. [DLIT] (3) 22 : 16) Conduct basic keyword searches to produce valid, appropriate results, and evaluate results for accuracy, relevance, and appropriateness. Examples: Use search techniques, check for credibility and validity. Subject: Social Studies (3), Digital Literacy and Computer Science (3) Title: Natural Disasters Description: Each student becomes an expert on a natural disaster, investigating and discovering how they can prepare for it. Students initially create traditional motivational posters using paper, pencils, markers, and crayons. Then, students create an electronic version to motivate others to prepare for natural disasters. Next, students create storyboards/scripts and digital stories on a natural disasters. This lesson was created as part of a collaboration between Alabama Technology in Motion and ALEX. View Standards Standard(s): [ELA2015] (2) 35 : 35) Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking. [L.2.1] a. Use collective nouns (e.g., group). [L.2.1a] b. Form and use frequently occurring irregular plural nouns (e.g., feet, children, teeth, mice, fish). [L.2.1b] c. Use reflexive pronouns (e.g., myself, ourselves). [L.2.1c] d. Form and use the past tense of frequently occurring irregular verbs (e.g., The boy watched the movie; The little boy watched the movie; The action movie was watched by the little boy). [L.2.1f] [ELA2015] (2) 36 : 36) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.2.2] a. Capitalize holidays, product names, and geographic names. [L.2.2a] b. Use commas in greetings and closings of letters. [L.2.2b] c. Use an apostrophe to form contractions and frequently occurring possessives. [L.2.2c] d. Generalize learned spelling patterns when writing words (e.g., cage > badge; boy > boil). [L.2.2d] e. Form uppercase and lowercase letters in cursive. (Alabama) f. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings. [L.2.2e] [ARTS] VISA (2) 2 : 2) Explore personal interests and curiosities with a range of art materials. a. Create two-dimensional art. Examples: Paper-weaving, drawing, and resist painting. Use book about weaving, The Goat in the Rug by Charles L. Blood & Martin Link. b. Create three-dimensional art. Examples: Clay animals and pipe cleaner sculptures. Use a book about clay, When Clay Sings by Byrd Baylor. [ARTS] VISA (2) 3 : 3) Extend skills by individually following sequential steps to create works of art on subjects that are real or imaginary. Example: Use the book A House for Hermit Crab by Eric Carle. Create a real or imagined home. [ARTS] VISA (2) 8 : 8) Explore a variety of ways to prepare artwork for presentation. Examples: gluing artwork on construction paper, creating a name card Subject: English Language Arts (2), Arts Education (2) Title: Transformation Creations Description: The students will use critical thinking skills and artistic abilities to "transform" an image into something completely different. The original images can be taken with a digital camera and printed out or cut from old magazines. View Standard(s): [ARTS] VISA (7) 2 : 2) Develop and implement criteria to guide making a work of art or design to meet an identified goal. Example: Students make a group checklist for completion to include technical steps, use of materials, subject matter and compositional strategies. [ARTS] VISA (7) 4 : 4) Demonstrate ethical responsibility to oneself and others when posting and sharing images and other materials through the internet, social media, and other communication formats. [ARTS] VISA (8) 3 : 3) Engage, experiment, innovate, and take risks to pursue ideas, forms, and meaning that emerge in the process of creating art. [ARTS] VISA (8) 4 : 4) Define and/or illustrate awareness of practices, issues, and ethics of appropriation, fair use, copyright, Open Source, and Creative Commons as they apply to creating works of art and design. Example: Take their own reference photos and use them to create a work of art. [ARTS] VISAN (9-12) 3 : 3) Explore works of art and/or design that demonstrate basic technical skills and craftsmanship with various art media used to create images from observation, memory, and imagination. [ARTS] VISAN (9-12) 4 : 4) Understand how traditional and non-traditional materials may impact humans and the environment. a. Identify safety and environmental regulations. Examples: Rules from Environmental Protection Agency, state and local environmental agencies. [ARTS] VISAI (9-12) 2 : 2) Implement multiple solutions with the use of available digital tools and/or innovative technology in an artistic investigation of traditional and/or contemporary practices. Examples: Printmaking, digital photography, animation, or digital graphics. [ARTS] VISAI (9-12) 3 : 3) Make works of art and/or design that demonstrate technical skill and craftsmanship with various art media when creating images from observation, memory, and imagination. a. Determine the appropriateness of techniques used to create a work of art. [ARTS] VISAA (9-12) 2 : 2) Make informed choices using a range of materials, methods, and techniques of traditional and/or contemporary artistic processes to plan works of art and design. a. Employ a diverse range of traditional media, digital media, and multimedia; techniques; styles; tools; concepts; and processes in producing meaningful and expressive compositions. b. Organize subject matter and formal qualities in a work of art into meaningful and expressive compositions. [ARTS] VISAA (9-12) 3 : 3) Explore and create works of art and/or design that demonstrate increased technical skill and craftsmanship with various art media to explore a theme, idea, or concept. Subject: Arts Education (7 - 12) Title: Expressionism: What's the deal with these strange colors? Description: The students will gain a good understanding of the history of Expressionism painting and its use of color and paint application to establish an "emotional feel". They will use this knowledge to create their own expressionistic oil painting. View Standards Standard(s): [ARTS] VISA (6) 3 : 3) Develop new ideas through open-ended experiments, using various materials, methods and approaches in creating works of art. [ARTS] VISA (7) 5 : 5) Apply graphic design strategies to produce a work of art, design, or media that clearly communicates information or ideas. Example: Students design and create posters or fliers to advertise a school art show or athletic activity. [ARTS] VISA (8) 3 : 3) Engage, experiment, innovate, and take risks to pursue ideas, forms, and meaning that emerge in the process of creating art. Subject: Arts Education (6 - 8) Title: Illustrate a Song Description: Many times when people think of art, they only think about the visual arts. Music is also an art form. Music has the ability to inspire us, change our mood, comfort us, and teach us. It is hard to imagine a day without any sort of music. Therefore, it is necessary that when teaching the arts, students also learn about the value of music as an art form. View Standards Standard(s): [SC2015] (2) 2 : 2) Collect and evaluate data to determine appropriate uses of materials based on their properties (e.g., strength, flexibility, hardness, texture, absorbency).* [SC2015] (1) 5 : 5) Design a solution to a human problem by using materials to imitate how plants and/or animals use their external parts to help them survive, grow, and meet their needs (e.g., outerwear imitating animal furs for insulation, gear mimicking tree bark or shells for protection).* [MA2015] (2) 17 : 17) Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. [2-MD4] Subject: Science (1 - 2), Mathematics (2) Title: What if I Had Bat Ears? A STEM Challenge Description: After reading, What if You Had Animal Ears? by Sandra Markle, students will plan, design, and create bat-like ears from various materials for a STEM challenge. Students will test their models and redesign them to improve the effectiveness of their models to increase their own ability to hear by mimicking the external parts of a bat's ear. The students will measure and collect data from tests and compare results between the design. This lesson can be completed in two 45 minute sessions or one 90 minute session. This lesson plan was created in partnership with the Birmingham Zoo. View Standards Standards Standards (9-12) 5:5) Use mathematics to explain the relationship of the seasons to the tilt of Earth's axis (e.g., zenith angle, surface area) and its revolution about the sun, addressing intensity and distribution of sunlight on Earth's surface. Subject: Science (9 - 12) Title: Solar Angles and the Unequal Heating of the Earth's atmosphere at the equator. Students will demonstrate that Earth's shape has a direct effect on the unequal heating of the atmosphere. The students will discover how the tilt of Earth's axis affects the amount of sunlight that reaches different regions of the earth's surface thus causing different seasons. This lesson results from the ALEX Resource Gap Project. View Standard(s): [SC2015] LSC7 (7) 3 : 3) Construct an explanation of the function (e.g., mitochondria releasing energy during cellular respiration) of specific cell structures (i.e., nucleus, cell membrane, cell wall, ribosomes, mitochondria, chloroplasts, and vacuoles) for maintaining a stable environment. [SC2015] LSC7 (7) 5 : 5) Examine the cycling of matter between abiotic and biotic parts of ecosystems to explain the flow of energy and the conservation of matter. a. Obtain, evaluate, and communicate information about how food is broken down through chemical reactions to create new molecules that support growth and/or release energy as it moves through an organism. b. Generate a scientific explanation based on evidence for the role of photosynthesis and cellular respiration in the cycling of matter and flow of energy into and out of organisms. Subject: Science (7) Title: Plant's Nanomachinery for Photosynthesis and the artificial nanostructured photocatalysts contrast biotic and abiotic systems, while demonstrating the efficiency of photosynthesis compared to titanium dioxide nanoparticles in generating gas production volumetrically. The experiment results transition to a discussion of photosynthesis and the organelles within the cell where it takes place. This lesson explores light energy capture and transformation into chemical energy during photosynthesis. The lesson can lead to discussion of renewable energy conversion methods and nanotechnology, to help advance nanoscience research to solve the challenging energy issues in the future. View Standards Standards Standards standard (s): [ELA2015] (11) 1 : 1) Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain. [RL.11-12.1] [ELA2015] (11) 27 : 27) Draw evidence from literary or informational texts to support analysis, reflection, and research. [W.11-12.9] a. Apply Grade 11 Reading standards to literature (e.g., "Demonstrate knowledge of twentieth- and twenty-first-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics"). [W.11-12.9a] (Alabama) b. Apply Grade 11 Reading standards to literary nonfiction (e.g., Analyze seminal United States documents of historical and literary significance [e.g., Roosevelt's "Four Freedoms" speech, King's "Letter from a Birmingham Jail"]), including how they address related themes and concepts. [W.11-12.9b] (Alabama) [ELA2015] (11) 29 : 29) Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacherled) with diverse partners on Grade 11 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. [SL.11-12.1] a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. [SL.11-12.1a] b. Work with peers to promote civil, democratic discussions and deadlines, and establish individual roles as needed. [SL.11-12.1b] c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. [SL.11-12.1c] d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. [SL.11-12.1d] [SS2010] US11 (11) 4 : 4) Describe causes, events, and the impact of military involvement of the United States in World War I, including mobilization and economic and political changes. [A.1.a., A.1.b., A.1.b., A.1.f., A.1.i., A.1. economic and political conditions in Europe, including greater opportunities for the rise of fascist states in Germany, Italy, and Spain • Comparing short- and post-World War I in Europe and the Middle East, leading to the creation of new countries Subject: English Language Arts (11). Social Studies (11) Title: "Should They Go?" Considering the Point of View of an Alabama Citizen Regarding the World War I Draft Description: In this lesson, students will read and critically examine a letter from an Alabama farm owner to a U.S. Senator from Alabama regarding exemption status for the 1917 Selective Service Act on behalf of one of her workers. This primary source document will allow the students to practice evaluating a complex text. The students in order to participate in a "Philosophical Chairs" class debate regarding the merit of the farm owner's request. The Philosophical Chairs activity will allow the students to verbally articulate an argumentative position while specifically using textual evidence in order to be able to defend his or her position. *Note: Bibliography of resources used can be found at the end of the "Lesson Procedures Section" of this lesson. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [SC2015] PSC (9-12) 14 : 14) Propose and defend a hypothesis based on information gathered from published materials (e.g., trade books, magazines, Internet resources, videos) for and against various claims for the safety of electromagnetic radiation. [LIT2010] SCI (9-10) 1:1) Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. [LIT2010] WRI (9-10) 1:1) Write arguments focused on discipline-specific content. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and evidence, and between claim(s) and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the text, c tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented. [LIT2010] WRI (9-10) 5 : 5) Develop and strengthen writing as needed by planning, revising, editing, revising, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. [LIT2010] WRI (9-10) 7 : 7) Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject. demonstrating understanding of the subject under investigation. [LIT2010] WRI (9-10) 9:9) Draw evidence from informational texts to support analysis, reflection, and research. Subject: Science (9 - 12), Literacy Standards (6-12) (9 - 10) Title: The Case of the Invisible Signal Description: Are cell phones really safe for humans to use frequently? In this mock trial lesson, students will use claim, evidence, and reasoning to construct a scientific argument on the safety of the electromagnetic waves involved in cell phone technology. During the lesson process, students will hold a "trial" and each individual student will construct their own written "verdict" based on the evidence presented at the mock trial. This lesson results from the ALEX Resource Gap Project. View Standard(s): [SC2015] (4) 8 : 8) Construct a model to explain that an object can be seen when light reflected from its surface enters the eyes. Subject: Science (4) Title: Eye Spy Description: Throughout this lesson, students will discover how the lens in your eye helps focus light. First, students will discuss the parts of the eye and how these parts work together to allow us to see. Then, students will use a clear plastic bag filled with water to create a model of an eyeball to investigate how the lens in your eye helps focus light. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [SC2015] (4) 11: 11) Investigate different ways (e.g., skunks lifting tails and spraying an odor when threatened, dogs moving ears when reacting to sound, snakes coiling or striking when sensing vibrations). [SC2015] (4) 11 : 11) Investigate different ways animals receive information, and respond to it in different ways (e.g., skunks lifting tails and spraying an odor when threatened, dogs moving ears when reacting to sound, snakes coiling or striking when sensing vibrations). Subject: Science (4) Title: Earthworm Behavior Description: This is an inquiry-based lesson that allows students to investigate different ways animals receive information, and respond to it. Students will place earthworms in a lighted area and see if they move toward a dark environment or stay in the lighted environment. Students will observe the behavior of the earthworms and use data from the investigation to conclude how an earthworm uses its senses to affect its behavior. This lesson results from the ALEX Resource Gap Project. View Standard(s): [SC2015] (5) 10 : 10) Construct and interpret models (e.g., diagrams, flow charts) to explain that energy in animals, and fungi are all interconnected in a giant web. They will construct a model of a food chain to explain that energy in animals' food is used to sustain life. They will also acknowledge that all food chains start with energy from the sun. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [ELA2015] (11) 9:9) By the end of Grade 11, read and comprehend literature, including stories, dramas, and poems, in the Grades 11-College and Career Readiness (CCR) text complexity band proficiently, with scaffolding as needed at the high end of the range. [RL.11-12.10] [ELA2015] (11) 10 : 10) Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain. [RI.11-12.1] [SS2010] US11 (11) 4 : 4) Describe causes, events, and the impact of military involvement of the United States in World War I, including mobilization and economic and political changes. [A.1.a., A.1.b., A.1.d., A.1.f., A.1.i., A.1.i., A.1.i., A.1.i., A.1.i., A.1.k.] • Identifying the role of militarism, alliances, imperialism, and nationalism in World War I • Explaining controversies over the Treaty of Versailles of 1919, Woodrow Wilson's Fourteen Points, and the League of Nations • Explaining how the Treaty of Versailles led to worsening economic and political conditions in Europe, including greater opportunities for the rise of fascist states in Germany, Italy, and Spain • Comparing short- and long-term effects of changing boundaries in pre- and post-World War I in Europe and the Middle East, leading to the creation of new countries [SS2010] US11 (11) 3 : 3) Explain the United States' changing role in the early twentieth century as a world power. [A.1.a., A.1.b., A.1.c., A.1.d., A.1.e., A.1.d., A.1.e., A.1.f., A.1.e., A.1.f., A.1.e., A.1.f., A.1.e., A.1.e. President Theodore Roosevelt • Describing consequences of the Spanish-American War, including the Treaty of Paris of 1898, insurgency in the Philippines, and territorial expansion in the Pacific and Caribbean • Analyzing the involvement of the United States in the Hawaiian Islands for economic and imperialistic interests • Appraising Alabama's contributions to the United States between Reconstruction and World War I, including those of William Crawford Gorgas, Joseph Wheeler, and John Tyler Morgan (Alabama) • Evaluating the role of the Open Door policy and the Roosevelt Corollary on America's expanding economic and geographic interests • Comparing the executive leadership represented by William Howard Taft's Dollar Diplomacy, Theodore Roosevelt's Big Stick Diplomacy, and Woodrow Wilson's Moral Diplomacy, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. [W.11-12.6] Subject: English Language Arts (11), Social Studies (11) Title: Not so Fast, Mr. President!: Examining primary sources pertaining to differing viewpoints of America's involvement in World War I. The students will annotate the documents, looking for main ideas and supporting details. The students will then form graphic organizers separating two opposing viewpoints. Finally, students will write a group expository essay using the data from the graphic organizer. Commission's Curriculum Development Project. View Standards Standards Standard(s): [ELA2015] (11) 1 : 1) Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain. [RL.11-12.1] [ELA2015] (11) 10 : 10) Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain. [RI.11-12.1] [ELA2015] (11) 25 : 25) Conduct short as well as more sustained research projects to answer a question (including a selfgenerated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. [W.11-12.7] [ELA2015] (11) 29 : 29) Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 11 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. [SL.11-12.1] a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. [SL.11-12.1a] b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. [SL.11-12.1b] c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. [SL.11-12.1c] d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. [SL.11-12.1d] [SS2010] US11 (11) 4 : 4) Describe causes, events, and the impact of military involvement of the United States in World War I, including mobilization and economic and political changes. [A.1.a., A.1.b., A.1.b., A.1.b., A.1.i., A.1. economic and political conditions in Europe, including greater opportunities for the rise of fascist states in Germany, Italy, and Spain • Comparing short- and post-World War I in Europe and the Middle East, leading to the creation of new countries [SS2010] US11 (11) 10 : 10) Describe the impact of World War II on the lives of American citizens, including wartime economic measures, population shifts, growth in the middle class, growth in the middle cla (G. I. Bill of Rights), and desegregation of the military. [A.1.b., A.1.c., A.1.d., A.1.e., A.1.d., A. bases (Alabama) Subject: English Language Arts (11), Social Studies (11) Title: "Cheer, for the 'Red, White, and Blue!" University and High School Students' support of and involvement in the World Wars. Students will research both photographic and textual resources in order to produce factual information about how students reacted to World Wars 1 and 2. This lesson will culminate in a student-driven Socratic Seminar style discussion which will allow the students to verbally articulate their findings from the resources provided. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards - Standard(s): [SC2015] (3) 11 : 11) Construct an argument from evidence to explain the likelihood of an organism's ability to survive when compared to the resources in a certain habitat (e.g., freshwater organisms survive well, less well, or not at all in saltwater; desert organisms survive. b. Create models that illustrate how organisms and their habitats make up a system in which the parts depend on each other. c. Categorize resources in various habitats as basic materials (e.g., sunlight, air, freshwater, soil), produced materials (e.g., food, fuel, shelter), or as nonmaterial (e.g., safety, instinct, nature-learned behaviors). [SC2015] (4) 9 : 9) Examine evidence to support an argument that the internal and external structures of plants (e.g., thorns, leaves, stems, roots, colored petals, xylem, phloem) and animals (e.g., heart, stomach, lung, brain, skin) function to support survival, growth, behavior, and reproductions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. [RI.3.1] [ELA2015] (3) 14 : 14) Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently. [RI.3.5] [ELA2015] (3) 22 : 22) Write opinion pieces on topics or texts, supporting a point of view with reasons. [W.3.1] a. Introduce the topic or text they are writing about, state an opinion, and create an organizational structure that lists reasons. [W.3.1a] b. Provide reasons that support the opinion. [W.3.1b] c. Use linking words and phrases (e.g., because, therefore, since, for example) to connect opinion and reasons. [W.3.1c] d. Provide a concluding statement or section. [W.3.1d] [ELA2015] (4) 22 : 22) Write opinion pieces on topics or texts, supporting a point of view with reasons and information. [W.4.1] a. Introduce a topic or text clearly, state an organizational structure in which related ideas are grouped to support the writer's purpose. [W.4.1a] b. Provide reasons that are supported by facts and details. [W.4.1b] c. Link opinion and reasons using words and phrases (e.g., for instance, in order to, in addition). [W.4.1c] d. Provide a concluding statement or section related to the opinion pieces on topics or texts, supporting a point of view with reasons and information. [W.5.1] a. Introduce a topic or text clearly, state an opinion, a point of view with reasons and information. [W.4.1c] (5) 22 : 22) Write opinion pieces on topics or texts, supporting a point of view with reasons and information. [W.5.1] a. Introduce a topic or text clearly, state an opinion, the pinion pieces on topics or texts are opinion pieces on topics or texts. and create an organizational structure in which ideas are logically grouped to support the writer's purpose. [W.5.1a] b. Provide logically ordered reasons using words, phrases, and clauses (e.g., consequently, specifically). [W.5.1c] d. Provide a concluding statement or section related to the opinion presented. [W.5.1d] Subject: Science (3 - 4), English Language Arts (3 - 5) Title: Animal Adaptions for Grades 3-5 Description: HyperSlides are digital lessons/units that help students learn the material in a way that is engaging and inquiry-based. Students will work together to complete a HyperSlides unit centering around animal adaptations for standards in grades 3-5. Students will work creatively and collaboratively with a variety of Course of Study standards that engage students through using Google Slides and a Hyperlinks to assist in the understanding of animal adaptations. This project will take several class periods to complete. After an introduction to the Hyperslides, students are encouraged to work at their own pace, but Hyperslides can be assigned on a daily basis. This Lesson Plan was created in partnership with the Birmingham Zoo. View Standards S and reasons for the United States' entry into the war. Examples: sinking of the Lusitania, Zimmerman Note, alliances, militarism, imperialism, nationalism • Describing military and civilian roles in the United States during World War I • Explaining roles of important persons associated with World War I, including Woodrow Wilson and Archduke Franz Ferdinand • Analyzing technological advances of the World War I era for their impact on modern warfare Examples: machine gun, tank, submarine, airplane, poisonous gas, gas mask • Locating on a map major countries involved in World War I and boundary changes after the war • Explaining the intensification of isolationism in the United States after World War I Example: reaction of the Congress of the United States to the Treaty of Versailles, League of Nations, and Red Scare • Recognizing the strategic placement of military bases in Alabama (Alabama) [LIT2010] WRI (6-8) 4 : 4) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. Subject: Social Studies (6), Literacy Standards (6-12) (6 - 8) Title: Remembering James Reese Europe was an "accomplished orchestra conductor, bandleader, and composer of popular songs, marches and dance music during the early twentieth century... Europe was an effective champion of African-American musical performers and abroad." Born in Mobile, Alabama, Europe accomplished much in his brief lifetime and deserves a place in every study of World War I. Students will annotate a biography of James Reese Europe and his "Hellfighter" orchestra as they fought, performed, and received medals for their efforts during the war. As a culminating activity on the second day, students will write a eulogy for Europe detailing his role as a leader in Jazz and as an African American officer. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Sta the same reasoning as in solving equations. [A-CED4] Example: Rearrange Ohm's law V = IR to highlight resistance R. Subject: Mathematics (9 - 12) Title: Can You Solve the Mystery of the Variable? Description: This lesson will help students master Algebra I standard 15: Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations [A-CED4]. The lesson will make the connection between isolating a guilty person in a "who-dun-it" with isolating a given variable in an equation. In addition, this lesson will involve students creating a list of procedures to use when solving for a given variable. At this time it is not necessary for students to know the formal names for the properties. It is important for students to understand the concepts and take part in creating a set of procedures for isolating a variable and solving equations. This lesson results from the ALEX Resource Gap Project. View Standard(s): [SS2010] ALA (4) 3 : 3) Explain the social, political, and economic impact of the War of 1812, including battles and significant leaders of the Creek War, on Alabama land for settlement political—forced relocation of American Indians, labeling of Andrew Jackson as a hero and propelling him toward Presidency economic—acquisition of tribal land in Alabama by the United States • Explaining the impact of the Trail of Tears on Alabama American Indians' lives, rights, and territories [ELA2015] (4) 10 : 10) Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. [RI.4.1] Subject: Social Studies (4), English Language Arts (4) Title: Who Was William Weatherford? Description: William Weatherford was a Creek leader, and his role in the Creek War of 1813-1814. Students will view a PowerPoint, read an excerpt from an article about William Weatherford from the Encyclopedia of Alabama, share information with peers, and view the engraving of William Weatherford and support it with evidence from the lesson. This lesson should be done in conjunction with studying the Creek War of 1813-1814 so that his role in this historical event can be better understood. This lesson was created as a part of the Alabama Bicentennial Commission's Curriculum Development Project. View Standard(s): [ELA2015] (2) 29: 29) Participate in collaborative conversations with diverse partners about Grade 2 topics and texts with peers and adults in small and larger groups. [SL.2.1] a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). [SL.2.1a] b. Build on others' talk in conversations by linking their comments to the remarks of others. [SL.2.1b] c. Ask for clarification and further explanation as needed about the topics and texts under discussion. [SL.2.1c] [ELA2015] (2) 30 : 30) Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. [SL.2.2] [SC2015] (2) 7 : 7) Obtain information from literature and other media to illustrate that there are many different places on land and in water (e.g., woodland, tundra, desert, rainforest, ocean, river). [ELA2015] (2) 14 : 14) Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently. [RI.2.5] [ELA2015] (2) 14 : 14) Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently. [RI.2.5] [ELA2015] (2) 18 : 18) Compare and contrast the most important points presented by two texts on the same topic. [RI.2.9] [ELA2015] (2) 17 : 17) Describe how reasons support specific points the author makes in a text. [RI.2.8] Subject: English Language Arts (2), Science (2) Title: Lesson 1 If We Ran the Zoo: How Do Animals Impact Our Environment? Description: A brainstorming activity and class discussion will begin the lesson and provide the background knowledge students have regarding zoos and how the animals in zoos impact our environment. Students will select an animal for further research using an online survey

created by the teacher to determine their research group. Afterward, students will view an informational video pertaining to the origin and purpose of zoos, and complete an exit slip stating new learning that has been added to their background knowledge. This lesson was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standards Standards (2) [ELA2015] (2) 14 : 14) Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently. [RI.2.5] [ELA2015] (2) 27 : 27) Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). [W.2.7] [ELA2015] (2) 29 : 29) Participate in collaborative conversations with diverse partners about Grade 2 topics and texts with peers and adults in small and larger groups. [SL.2.1] a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). [SL.2.1a] b. Build on others' talk in conversations by linking their comments to the remarks of others. [SL.2.1b] c. Ask for clarification and further explanation as needed about the topics and texts under discussion. [SL.2.1c] [SC2015] (2) 7 : 7) Obtain information from literature and other media to illustrate that there are many different places on land and in water (e.g., woodland, tundra, desert, rainforest, ocean, river). [ELA2015] (2) 30 : 30) Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. [SL.2.2] [ELA2015] (2) 17 : 17) Describe how reasons support specific points the author makes in a text. [RI.2.8] [ELA2015] (2) 18 : 18) Compare and contrast the most important points presented by two texts on the same topic. [RI.2.9] Subject: English Language Arts (2), Science (2) Title: Lesson 2- If We Ran the Zoo: How Do Animals Impact Our Environment? Research/Zoo Book Description: The lesson will begin working in their Zoo Booklets by discussing vocabulary that is associated with their animal. Students will use various types of text and other resources to find the information needed to learn more about their animal. Students will work cooperatively in groups to complete their final project. This lesson was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [SC2015] (0) 3 : 3) Distinguish between living and nonliving things and verify what living things need to survive (e.g., animals needing nutrients, water, sunlight, and air). [SC2015] (0) 4 : 4) Gather evidence to support how plants and animals provide for their needs by altering their environment (e.g., tree roots breaking a sidewalk to provide space, red fox burrowing to create a den to raise young, humans growing gardens for food and building roads for transportation). [SC2015] (1) 5 : 5) Design a solution to a human problem by using materials to imitate how plants and/or animals use their external parts to help them survive, grow, and meet their needs (e.g., outerwear imitating animal furs for insulation, gear mimicking tree bark or shells for protection).* [SC2015] (2) 7 : 7) Obtain information from literature and other media to illustrate that there are many different kinds of living things and that they exist in different places on land and in water (e.g., woodland, tundra, desert, rainforest, ocean, river). [ELA2015] (0) 9 : 9) Actively engage in group reading activities with purpose and understanding. [RL.K.10] [ELA2015] (1) 19 : 19) With prompting and support, read informational texts appropriately complex for Grade 1. [RI.1.10] [ELA2015] (2) 19 : 19) By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the Grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range. [RI.2.10] Subject: Science (K - 2), English Language Arts (K - 2) Title: Amazing Animal Adaptations for K-2 Description: This is a multisession interactive lesson plan about animal adaptations for kindergarten through second grade students. The goal of this interactive digital lesson plan is to guide students through activities that help them understand how characteristics such as body covering, body parts, and behaviors help animals survive. These lesson plans also build cooperation and communication skills for students. There are additional resources provided for the teacher to use before or after using the HyperDoc. This Lesson Plan was created in partnership with the Birmingham Zoo. View Standards Standards Standards (): [MA2015] PRE (9-12) 13 : 13) (+) Know and apply the Binomial Theorem for the expansion of (x + y)n in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined, for example, by Pascal's Triangle. (The Binomial Theorem can be proved by mathematical induction or by a combinatorial argument.) [A-APR5] Subject: Mathematics (9 - 12) Title: Binomial Expansion -Shortcut Please Description: This lesson is an introduction to Binomial Expansion and the Binomial Theorem. Students begin by expanding binomials using multiplication. They will examine the expansions looking for patterns. These patterns will be used to complete the Binomial Expansion. This lesson results from the ALEX Resource Gap Project. View Standard(s): [MA2015] ALT (9-12) 37: 37) Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle. [F-TF1] Subject: Mathematics (9 - 12) Title: Radians: Just Another Way Description: Students will be guided through a review of the special angles on the unit circle in degree measures. They will use a circle/paper plate and paper strips to measure and mark these special angles. Students will be introduced to the definition of a radian and will discover the number of radians in a circle as well as the measures of the special angles in radian measure. The students will find the formulas for converting degrees to radians and from radians to degrees. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [LIT2010] HIS (6-8) 2 : 2) Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions. [LIT2010] HIS (6-8) 7 : 7) Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts. [SS2010] USS6 (6) 3 : 3) Identify causes and consequences of World War I and reasons for the United States' entry into the war. Examples: sinking of the Lusitania, Zimmerman Note, alliances, militarism, imperialism, nationalism • Describing military and civilian roles in the United States during World War I • Explaining roles of important persons associated with World War I, including Woodrow Wilson and Archduke Franz Ferdinand • Analyzing technological advances of the World War I era for their impact on modern warfare Examples: machine gun, tank, submarine, airplane, poisonous gas, gas mask • Locating on a map major countries involved in World War I and boundary changes after the war • Explaining the intensification of isolationism in the United States after World War I Example: reaction of the Congress of the United States to the Treaty of Versailles, League of Nations, and Red Scare • Recognizing the strategic placement of military bases in Alabama (Alabama) Subject: Literacy Standards (6-12) (6 - 8), Social Studies (6) Title: Reading Can Save a Soldier Description: At the turn of the 20th century, illiteracy was common across the United States. Percentages ranged from 10-30%, depending on location. Rural Alabama suffered from a high illiteracy rate. During this lesson, students will read and analyze primary documents that focus on the importance of literacy for Alabamian soldiers - LIT2010 (6-8)(2 & 7). Students will create a propaganda poster that asks citizens to do their part [SS2010 (6)(3)] in changing the culture of Alabama illiteracy and for teaching Alabama soldiers that literacy is a powerful weapon [SS2010 (6)(1)]. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [MA2015] PRE (9-12) 24 : 24) (+) Understand the inverse relationship between exponents and logarithms, and use this relationship to solve problems involving logarithms and exponents. [F-BF5] Subject: Mathematics (9 - 12) Title: Logarithms: Undo the Exponential function and its inverse. They are then introduced to the logarithmic function and will practice writing exponential functions as logarithms and logarithms as exponential functions. Students will evaluate logarithmic expressions and will solve logarithmic equations. This lesson results from the ALEX Gap Resource Project. View Standards Standard(s): [SC2015] (0) 4 : 4) Gather evidence to support how plants and animals provide for their needs by altering their environment (e.g., tree roots breaking a sidewalk to provide space, red fox burrowing to create a den to raise young, humans growing gardens for food and building roads for transportation). [ELA2015] (0) 28 : 28) With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers. [W.K.6] [ELA2015] (0) 30 : 30) With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. [W.K.8] Subject: Science (K), English Language Arts (K) Title: Plants and Animals Provide for Their Needs Description: This lesson will allow students to gather evidence to better understand how plants and animals provide for themselves by altering the environment. Students will observe plants and animals. Students will write or draw about their findings. After writing with their group members, students will produce and present their knowledge to the class via Chatterpix. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [MA2015] AL2 (9-12) 9 : 9) (+) Add, subtract, and multiply matrices of appropriate dimensions. [N-VM8] Subject: Mathematics (9 - 12) Title: Add. Subtract. and Multiply Matrices Description: The lesson will introduce the concept of a matrix. The matrix is labeled by its rows and columns. This lesson will teach the concept of adding, subtracting, scalar multiplication, and multiplication of matrices. This lesson will be a prerequisite for solving systems of equations with matrices. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [MA2015] AL1 (9-12) 15 : 15) Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. [A-CED4] Example: Rearrange Ohm's law V = IR to highlight resistance R. Subject: Mathematics (9 - 12) Title: Solving Formulas for the Given Variable Description: This lesson will use the process of inverse operations to solve formulas will not be recognized by the student. The actual formula is not important, but the variables are. This lesson results from the ALEX Resource Gap Project. View Standards Standards Standards (9 - 12) Title: Converting Numbers from Base 10 to Binary, Octal, and Hexadecimal Description: The lesson will develop knowledge for other bases besides base 10. The lesson will investigate base 2, base 8, and base 16. The student will write numbers using expanded notation. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [SC2015] (0) 8 : 8) Design and construct a device (e.g., hat, canopy, umbrella, tent) to reduce the effects of sunlight.* Subject: Science (K) Title: Made In The Shade Description: Students will discuss the effects of sunlight. Next, they will be introduced to the task of designing and constructing a device to reduce the effect of sunlight. In groups, students will design and then construct a tent that will keep an ice cube from completely melting before the uncovered control ice cube melts. Students will test the effectiveness of their tents. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [MA2015] (4) 24 : 24) Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. [4-MD6] Subject: Mathematics (4) Title: Measuring Angles Description: This lesson is designed to teach students to measure angles with a protractor. The student will be taught how to read the protractor correctly by using either the top or bottom set of numbers. The lesson will reinforce classifying angles as acute, right, and obtuse. The student will sketch angles given a specified measure. This lesson results from the ALEX Resource Gap Project. View Standards Standards Standard(s): [MA2015] (6) 16 : 16) Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true' Use substitution to determine whether a given number in a specified set makes an equation or inequality true. [6-EE5] Subject: Mathematics (6) Title: Equations and Solutions to equations and inequalities. The students will be given a replacement set of values. The student will check the values to determine if the result is true or false. The values that are true will be the solution. The student will graph the inequality solutions on the number line. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [MA2015] AL2 (9-12) 5 : 5) (+) Extend polynomial identities to the complex numbers. Example: Rewrite x2 + 4 as (x + 2i)(x - 2i). [N-CN8] [MA2015] ALT (9-12) 5 : 5) (+) Extend polynomial identities to the complex numbers. [N-CN8] Example: Rewrite x2 + 4 as (x + 2i)(x - 2i). Subject: Mathematics (9 - 12) Title: Complex Numbers Solutions Description: This lesson is designed to teach the students that some quadratic equations will have imaginary solutions. The lesson will examine the concept of complex numbers in terms i. The student will use the quadratic formula to solve the equations and write the solutions in the form a +bi. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [SS2010] USS6 (6) 3 : 3) Identify causes and consequences of World War I and reasons for the United States' entry into the war. Examples: sinking of the Lusitania, Zimmerman Note, alliances, militarism, imperialism, nationalism • Describing military and civilian roles in the United States during World War I • Explaining roles of important persons associated with World War I, including Woodrow Wilson and Archduke Franz Ferdinand • Analyzing technological advances of the World War I era for their impact on modern warfare Examples: machine gun, tank, submarine, airplane, poisonous gas, gas mask • Locating on a map major countries involved in World War I and boundary changes after the war • Explaining the intensification of isolationism in the United States after World War I Example: reaction of the Congress of the United States to the Treaty of Versailles, League of Nations, and Red Scare • Recognizing the strategic placement of military bases in Alabama (Alabama) [ELA2015] (6) 32 : 32) Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study. [SL.6.2] Subject: Social Studies (6), English Language Arts (6) Title: The Flu Affects All Walks of Life in Alabama Description: This lesson will include a study of several primary sources that detail the 1918 flu epidemic and how it affected a variety of people in Alabama (ELA2015(6)32). Students will work in small groups to study different primary sources and will complete graphic organizers specific to the type of primary sources and will complete graphic organizers specific to the type of primary source. Alabama. The focus and outcomes of this lesson will meet the Social Studies standard (SS2010(6)) by allowing the students to describe civilian roles during WWI and recognizing the military bases in Alabama. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [MA2015] (8) 10 : 10) Analyze and solve pairs of simultaneous linear equations. [8-EE8] a. Understand that solutions to a system of two linear equations to a system of two linear equations in two variables correspond to points of intersection satisfy both equations in two variables correspond to points of two linear equations in two variables correspond to points of their graphs because points of intersection satisfy both equations in two variables correspond to points of two linear equations. equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. [8-EE8b] Example: 3x + 2y = 6 have no solution because 3x + 2y = 6 hav [8-EE8c] Example: Given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair. Subject: Mathematics (8) Title: Systems of Equations Part 3 -- Solving by Elimination Description: This lesson will be completed in one class period. This lesson, the third in the series, will focus on another way of solving linear systems, the elimination method. When using this method, the students will add the equations to eliminate the variable. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [MA2015] (5) 6: 6) Read, write, and compare decimals to thousandths. [5-NBT3] a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/100) + 2 \times (1$ thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. [5-NBT4] [SC2015] (5) 14 : 14) Use a model to represent how any two systems, specifically the atmosphere, biosphere, b geosphere, and/or hydrosphere, interact and support life (e.g., influence of the ocean on ecosystems, landform shape, and climate; influence of the atmosphere). [DLIT] (5) 5 : R5) Locate and curate information from digital sources to answer research questions. Subject: Mathematics (5), Science (5) Title: Rain Drops Description: In this lesson, students will examine the amount of annual and seasonal rainfall in four cities to compare decimals to the hundredths place. Students will add and round digits to the thousandths place. Students will utilize technology by navigating to a specific United States climate website to get relatively current and accurate data. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [SC2015] (3) 12 : 12) Evaluate engineered solutions to a problem created by environmental changes and any resulting impacts on the types and density of plant and animal populations living in the environment (e.g., replanting of sea oats in coastal areas due to destruction by hurricanes, creating property development restrictions in vacation areas to reduce displacement and loss of native animal populations).* Subject: Science (3) Title: Coral Reef Nursery Evaluation Presentation Description: Students will be exposed to an engineered solution to the current issue of excessive algae growth that is inhibiting the health of Staghorn and Elkhorn coral populations. Students will then use their knowledge, as well as conduct research, that would allow them to aid in the effort to protect this crucial living element to the oceanic environment. Students will collaborate with their group to apply their knowledge and create an Animoto presentation that consists of at least five slides. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [SC2015] (1) 2 : 2) Construct explanations from observations that objects can be seen only when light is available to illuminate them (e.g., moon being illuminated when held toward a light). [ELA2015] (1) 7 : 7) Use illustrations and details in a story to describe its characters, setting, or events. [RL.1.7] [ELA2015] (1) 26 : 26) Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure. [W.1.3] Subject: Science (1), English Language Arts (1) Title: What Makes Light? Description: This lesson is an introduction to the concept of light sources (both natural and man-made), as well as levels of light (bright, dim, dark, pitch black). Students will explore these concepts through a children's literature read-aloud, discussion of personal experiences, brainstorming and sorting activities (with optional technology). use), and hands-on activities with light boxes. Students conclude with a narrative writing assignment. This lesson can be divided and taught over the course of several days, or integrated into multiple subject areas (reading, science, and writing blocks) as time permits. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [MA2015] (5) 6 : 6) Read, write, and compare decimals to thousandths. [5-NBT3] a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/100) + 2 \times (1/1000) + 2 \times (1/1000)$. [5-NBT3] b. Compare two decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/100) + 2 \times (1/1000)$. [5-NBT3] b. Compare two decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/100) + 2 \times (1/1000)$. [5-NBT3] b. Compare two decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/100) + 2 \times (1/1000)$. thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. [5-NBT3b] [MA2015] (5) 7 : 7) Use place value understanding to round decimals to any place. [5-NBT4] [SC2015] (5) 14 : 14) Use a model to represent how any two systems, specifically the atmosphere, biosphere geosphere, and/or hydrosphere, interact and support life (e.g., influence of the ocean on ecosystems, landform shape, and climate; influence of mountain ranges on winds and clouds in the atmosphere). [DLIT] (5) 5 : R5) Locate and curate information from digital sources to answer research guestions. Subject: Digital Literacy and Computer Science (5) Title: Rain Drops Description: In this lesson, students will add and round digits to the thousandths place. Students will utilize technology by navigating to a specific United States climate website to get relatively current and accurate data. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standard(s): [ELA2015] (5) 23 : 23) Write informative or explanatory texts to examine a topic and convey ideas and information clearly. [W.5.2] a. Introduce a topic clearly, provide a general observation and focus, and group related informations, and multimedia when useful to aiding comprehension. [W.5.2a] b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. [W.5.2b] c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially). [W.5.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.5.2d] e. Provide a concluding statement or section related to the information or explanation presented. [W.5.2e] [SC2015] (5) 13 : 13) Analyze data and represent with graphs to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky (e.g., shadows and the position and motion of Earth with respect to the sun, visibility of select stars only in particular months). Subject: English Language Arts (5) Title: Movement of Constellations in the Night Sky Description: In this lesson, students will examine time lapse photos and videos to see the movement of stars during the night. visibility of constellations throughout the year and graph the number of days a constellation is visible each month. Using data from the graphs, they will collaboratively construct a large-scale model of the sun, Earth, and constellations to better understand the role Earth's movement and axial tilt play in the visibility of stars. Finally, students will draw a diagram and write an explanation of the apparent movement of stars using data from the graphs and class model. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [SC2015] (0) 2 : 2) Use observations and data from investigations to determine if a design solution (e.g., designing a ramp to increase the speed of an object in order to move a stationary object) solves the problem of using force to change the speed or direction swith diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. [SL.K.1] a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). [SL.K.1b] Subject: Science (K), English Language Arts (K) Title: Ramp Exploration Description: In this lesson, students will work in groups to design a ramp to increase the speed of a ball. The teacher will guide students' work through careful questioning. After creating different ramps, students will record and report their findings to the class. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [ELA2015] (5) 23 : 23) Write informative or explanatory texts to examine a topic and convey ideas and information clearly. [W.5.2] a. Introduce a topic clearly, provide a general observations, and multimedia when useful to aiding comprehension. [W.5.2a] b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. [W.5.2b] c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially). [W.5.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.5.2d] e. Provide a concluding statement or section related to the information or explanation presented. [W.5.2e] [SC2015] (5) 13 : 13) Analyze data and represent with graphs to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky (e.g., shadows and the position and motion of Earth with respect to the sun, visibility of select stars only in particular months). Subject: Science (5) Title: Movement of Constellations in the Night Sky Description: In this lesson, students will examine time lapse photos and videos to see the movement of stars during the night. Students will use star wheels to track the visibility of constellations throughout the year and graph the number of days a constellation is visible each month. Using data from the graphs, they will collaboratively construct a large-scale model of the sun, Earth, and constellations to better understand the role Earth's movement and axial tilt play in the visibility of stars. Finally, students will draw a diagram and write an explanation of the apparent movement of stars using data from the graphs and class model. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [MA2015] PRE (9-12) 29 : 29) (+) Use special triangles to determine geometrically the values of sine, cosine, and tangent for π/3, π/4, and π/6, and use the unit circle to express the values of sine, cosine, and tangent for π - x, π + x, and 2π - x in terms of their values for x, where x is any real number. [F-TF3] Subject: Mathematics (9 - 12) Title: Unit Circle - Special Angles - Just Know One Description: This lesson will demonstrate that in order to find the coordinates of the special angles on the unit circle, students will need a knowledge of the first guadrant angles only. Students will use special right triangle relationships for 30° - 60° -90° or 45° - 45° - 90° triangles to find the first guadrant coordinate values. These values will then be reflected across the x- and y-axis to locate the coordinates in the remaining quadrants. Students will also convert the angle measurements from units in degrees to units in radians. They will become familiar with finding angles in the quadrants by using reference angles (π-x, π+x. 2π-x). This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [HLS] HL06 (9-12) 9 : 9) Identify structures of the cardiovascular system. • Tracing the flow of blood through the body • Identifying components of blood end groups • Describing common cardiovascular diseases and disorders Examples: myocardial infarction, mitral valve prolapse, varicose veins, arteriosclerois [SC2015] HAP (9-12) 7 : 7) Use models to determine the relationship between the structures in and functions of the cardiovascular system (e.g., components of blood, blood circulation through the heart, types of blood vessels). a. Engage in argument from evidence regarding possible prevention and treatment options related to the pathology of the cardiovascular system (e.g., myocardial infarction, mitral valve prolapse, varicose veins, arteriosclerosis, anemia, high blood pressure). b. Design and carry out an experiment to test various conditions that affect the heart (e.g., heart rate, blood pressure, electrocardiogram [ECG] output). Subject: Health Science (9 - 12), Sci affect blood transfusions. Students will complete the online modules in The Blood Type Game and hunt for answers to a worksheet on The Red Cross website. After the lesson, students will be assessed with an online quiz on Quizziz. This lesson was created as part of a collaboration between Alabama Technology in Motion and ALEX Lesson author recommended by TIM Trainer Courtney Winn Hamilton. View Standards Standards Standards Standards (8): [MA2015] (8) 10 : 10) Analyze and solve pairs of simultaneous linear equations. [8-EE8] a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersections of their graphs because points of intersection satisfy both equations simultaneously. [8-EE8a] b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. [8-EE8b] Example: 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6. c. Solve real-world and mathematical problems leading to two linear equations in two variables. [8-EE8c] Example: Given coordinates for two pairs of points intersects the line through the first pair of points intersects the line through the second pair. Subject: Mathematics (8) Title: System of Equations -- Part I Graphing Description: Systems of Equations will be taught over a three-day period: the first day will include a lesson regarding equations that can be solved by graphing, the second day will include a lesson regarding equations that can be solved by substitution, and the third day will include a lesson regarding equations that can be solved by elimination. The students will graph two lines on the same coordinate axis and determine where the two lines cross. The teacher will be able to rock the teenage world with the website "DESMOS". Solving the equations graphically will enhance the graphing skill of the students. The lesson will explain all the ways to graph a line. This lesson results from the ALEX Resource Gap Project. View Standard(s): [SC2015] (2) 2 : 2) Collect and evaluate data to determine appropriate uses of materials based on their properties (e.g., strength, flexibility, hardness, texture, absorbency).* Subject: Science (2) Title: Finding Suitable Solutions Description: Students will be exposed to three different scenarios. The scenarios will require that students hypothesize two solutions, test their hypotheses, document the results, and document the results, and document the results, and paper towels, which material would be most effective in cleaning spilled water, and what property makes it so effective?" Students will then present the data collected in a Google Slides presentation. The lesson's total duration is about six days. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [MA2015] PRE (9-12) 22 : 22) (+) Read values of an inverse function from a graph or a table, given that the function has an inverse. [F-BF4c] Subject: Mathematics (9 - 12) Title: Building Functions: Inverse Functions from Tables and Graphs Description: This lesson will lead students on a guided discovery to find the inverse of a function given the graph or a table of values. Students will relate the inverse of a graph to finding the reflection of the graph over the line y=x. They will identify characteristics of functions whose inverses are also functions (One-to-One Functions) and will be introduced to the horizontal line test. Students will also apply their knowledge of a graph to a table of values to determine if the table represents a One-to-One Function. This lesson results from the ALEX Resource Gap Project. View Standard(s): [SC2015] (3) 1:1) Plan and carry out an experiment to determine the effects of balanced and unbalanced forces on the motion of an object using one variable at a time, including number, size, direction, speed, position, friction, or air resistance (e.g., balanced force on one side of an object, such as a ball, producing motion), and communicate these findings graphically. Subject: Science (3) Title: Optimal Snow Sled Experience Description: Students will determine the difference between balanced and unbalanced forces through an experiment. The experiment consists of a student-created scaled snow sled model going down a teacher-created ramp. Students will plan to change one variable, collect data, and chart the data graphically. Students will change a variable such as: number of students riding the snow sled, size of the child (children) riding the snow sled, size of the child (children) riding the snow sled is released, position of children on the sled (sitting, standing, laying), friction caused by materials that makes up the sled, and air resistance caused by an object such as a parachute. Students will collect and chart data of each experiment graphically in order to determine the longest snow sled ride. This lesson results from the ALEX Resource Gap Project. View Standard(s): [MA2015] PRE (9-12) 35 : 35) (+) Derive the formula A = (1/2)ab sin(C) for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side. (Apply formulas previously derived in Geometry.) [G-SRT9] (Alabama) Subject: Mathematics (9 - 12) Title: Triangle Area: No Height?--Use the Sine Description: This lesson will lead students through a review of the proof of the Law of Sines. This proof will remind them that they can use the right triangle relationship for Sine to find the height of a triangle. They will then apply this knowledge to find the area of a triangle when given. This result should produce the Area Formula for a triangle given two sides and the included angle. This lesson results from the ALEX Resource Gap Project. View Standard(s): [SS2010] USS5 (5) 3 : 3) Distinguish differences among major American Indian cultures in North America according to geographic region, natural resources, community organization, economy, and belief systems. • Locating on a map American Indian nations according to geographic region [ELA2015] (5) 28 : 28) Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. [W.5.7] [ELA2015] (5) 16 : 16) Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. [RI.5.7] [ELA2015] (5) 18 : 18) Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. [RI.5.9] [ELA2015] (5) 36 : 36) Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. [SL.5.5] [SC2015] (5) 14 : 14) Use a model to represent how any two systems, specifically the atmosphere, biosphere, and/or hydrosphere, interact and support life (e.g., influence of the ocean on ecosystems, landform shape, and climate; influence of the atmosphere on landforms and ecosystems through weather and climate; influence of mountain ranges on winds and clouds in the atmosphere). [DLIT] (5) 22 : 16) Use advanced features of digital tools and media-rich resources to communicate key ideas and details in a way that informs, persuades, and/or entertains. [DLIT] (5) 23 : 17) Publish organized information in different ways to make it more useful or relevant. Examples: Infographic, student created website. Subject: Social Studies (5), English Language Arts (5) Title: Native Americans: How Their Environment Affected Their Culture Description: In this lesson, students will research one Native American group from each of the six main biomes in North America. Students will use their developing technology and language arts skills to find reliable sources on the internet, evaluate and integrate information from these texts, select a suitable digital platform to share their findings, and create a cohesive presentation showcasing their mastery of the learning outcomes. Students will discover the climate, landforms, water, and other natural resources available within each region and how they were used by the natives living there. Students will explore the relationships between the cultures found within each region and its resources. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standard(s): [SC2015] (4) 8 : 8) Construct a model to explain that an object can be seen when light reflected from its surface enters the eyes. Subject: Science (4) Title: The Eyes Have It Description: In this lesson students will investigate how light rays reflect from the surface of an object and allow us to see the objects. Students will construct a model to describe how an object can be seen when light reflected from its surface enters the eye. This lesson results from the ALEX Resource Gap Project. View Standard(s): [SS2010] USS5 (5) 3 : 3) Distinguish differences among major American Indian cultures in North America according to geographic region, natural resources, community organization, economy, and belief systems. • Locating on a map American Indian nations according to geographic region [ELA2015] (5) 28 : 28) Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. [W.5.7] [ELA2015] (5) 16 : 16) Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. [RI.5.7] [ELA2015] (5) 18 : 18) Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. [RI.5.9] [ELA2015] (5) 36 : 36) Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. [SL.5.5] [SC2015] (5) 14 : 14) Use a model to represent how any two systems, specifically the atmosphere, biosphere, and/or hydrosphere, interact and support life (e.g. influence of the ocean on ecosystems, landform shape, and climate; influence of the atmosphere on landforms and ecosystems through weather and climate; influence of mountain ranges on winds and clouds in the atmosphere). [DLIT] (5) 22 : 16) Use advanced features of digital tools and media-rich resources to communicate key ideas and details in a way that informs, persuades, and/or entertains. [DLIT] (5) 23 : 17) Publish organized information in different ways to make it more useful or relevant. Examples: Infographic, student created website. Subject: Science (5), Digital Literacy and Computer Science (5) Title: Native Americans: How Their Environment Affected Their Culture Description: In this lesson, students will use their developing technology and language arts skills to find reliable sources on the internet, evaluate and integrate information from these texts, select a suitable digital platform to share their findings, and create a cohesive presentation showcasing their mastery of the learning outcomes. Students will discover the climate, landforms, water, and other natural resources available within each region and how they were used by the natives living there. Students will explore the relationships between the cultures found within each region and its resources. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standard(s): [MA2015] (8) 10 : 10) Analyze and solve pairs of simultaneous linear equations. [8-EE8] a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersections of their graphs because points of intersection satisfy both equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. [8-EE8b] Example: 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6. c. Solve real-world and mathematical problems leading to two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair. Subject Mathematics (8) Title: Solving Systems of Linear Equations -- Part 2 Substitution Description: This lesson is the second part of solving systems of linear equations. The lesson will be taught in one class period. The concept for the lesson is to solve one equation in terms of "x" or "y" and substitute the results into the other equation. Calculating the final solution to the system will take a few more steps. This lesson will describe the remaining steps as well as examples to follow. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [SC2015] (5) 11 : 11) Create a model to illustrate the transfer of matter among producers; consumers, including scavengers and decomposers; and the environment. Subject: Science (5) Title: Modeling Energy Within the Food Chain Description: In this lesson, students must show how an ecosystem provides energy from a producer to the consumers and ending with a decomposer. The students will begin by working in groups to compete with their peers by sorting food chain picture cards (producers, consumers, decomposers of an ecosystem) in the correct order. Students will be assessed at the conclusion of the lesson with a multiple choice exit ticket guiz. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standard(s): [MA2015] GEO (9-12) 8 : 8) Explain how the criteria for triangle congruence, angle-side-angle (ASA), side-angle (SAS), and side-side-side (SSS), follow from the definition of congruence in terms of rigid motions. [G-CO8] Subject: Mathematics (9 - 12) Title: Triangle Congruence with Rigid Motions Description: This lesson will provide instruction on proving triangles to be congruent using rigid motions. Using the concept of transformations, the students will be able to manipulate the triangle on the coordinate plane. When using the coordinate plane to test congruence, the triangle or other object will slide, rotate, or flip to map onto the transformations. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [ELA2015] (4) 23 : 23) Write informative or explanatory texts to examine a topic and convey ideas and information clearly. [W.4.2] a. Introduce a topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. [W.4.2b] c. Link ideas within categories of information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.4.2d] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2e] [SC2015] (4) 12 : 12) Construct explanations and fossils in rock layers that Earth changes over time through both slow and rapid processes (e.g., rock layers containing shell fossils) appearing above rock layers containing plant fossils and no shells indicating that over time, a canyon with different rock. Subject: English Language Arts (4), Science (4) Title: Fascinating Fossils Description: Students will explore how changes in rocks and land formations over time explain the large number of aquatic fossils that can be found across the state of Alabama. They will model volcanic eruptions and fossil formation through a hands-on activity using baking soda, vinegar, and playdough. Then they will read a news article to determine that Alabama was underwater at one time, which explains how aguatic fossils are found across the state. Finally, they will write and illustrate an explanation that shows how layers and fossils found in rock are evidence that these rocks changed over time. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [MA2015] (8) 4 : 4) Use square root and cube roots of small perfect squares and cube roots of small perfect square root and cube roots of small perfect square root and cube root square root square root and cube root square root square root and cube root square root and cube root square root and cube root square root squa root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect cubes. Know that $\sqrt{2}$ is irrational. Subject: Mathematics (8) Title: Square and Cube Root Salad Description: This lesson will develop the knowledge of squared and cubed numbers. The students will know when to use the square root and cube roots. The answers will be left in radical form. Finally, the students will be able to identify the radicals as rational or irrational. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [SC2015] (4) 3 : 3) Investigate to determine changes in energy resulting from increases or decreases or decre energy relate to the transfer of energy from one marble to another when they collide. Students will introduce different variables (mass and height) and investigate the transfer of potential and kinetic energy in a sled collision online simulation. Students will build a ramp, test it, and measure the distance their cars travel caused by the collision. Students will create a presentation to share their findings with the class. This lesson results from the ALEX Resource Gap Project View Standards Standard(s): [MA2015] (8) 20 : 20) Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. [8-G5] Example: Arrange three copies of the same triangle so that the sum of the same triangle so that the sum of the same triangle so that the sum of the three angles appears to form a line. lesson is designed to develop knowledge about the angles of a triangle. This lesson will prove that the interior angles of a triangle will have a sum of the remote interior angles. This lesson will prove that an exterior angle is the sum of the remote interior angle is the sum of the remote interior angles. This lesson will prove that an exterior angle is the sum of the remote interior angle is the sum of the remote interior angles. lesson results from the ALEX Resource Gap Project. View Standards Standards Standard(s): [SS2010] ALA (4) 14 : 14) Analyze the modern Civil Rights Movement to determine the social, political, and economic impact on Alabama. • Recognizing important persons of the modern Civil Rights Movement, including Martin Luther King, Jr.; George C. Wallace; Rosa Parks; Fred Shuttlesworth; John Lewis; Malcolm X; Thurgood Marshall; Hugo Black; and Ralph David Abernathy • Describing events of the modern Civil Rights Movement, including the Montgomery Bus Boycott, the Sixteenth Street Baptist Church bombing in Birmingham, the Freedom Riders bus bombing, and the Selma-to-Montgomery March • Explaining benefits of the Civil Rights Act of 1964, the Voting Rights Act of 1965, and Brown versus Board of Education Supreme Court case of 1954 • Using vocabulary associated with the modern Civil Rights Movement, including discrimination, prejudice, segregation, integration, suffrage, and rights [ELA2015] (3) 6 : 6) Distinguish their own point of view from that of the narrator or those of the characters. [RL.3.6] [ELA2015] (3) 7 : 7) Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting). [RL.3.7] Subject: Social Studies (4), English Language Arts (3) Title: Jim Peppler Southern Courier Photograph Collection-Richard C. Boone Asks a Question: Master May I? Description: When we hear the words Civil Rights Movement, we have visions of Dr. Martin Luther King and a few others. Through pictures, students will identify ordinary leaders in the crowd. Students will have the opportunity to analyze those pictures by doing a picture walk. Students will learn more about some of the people in the crowd, and how they made a difference in our beloved community. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [MA2015] PRE (9-12) 20 : 20) Determine the inverse of a function and a relation. (Alabama) Subject: Mathematics (9 - 12) Title: Building Functions - Reverse to Inverse of a function of teacher-led instruction and collaboration, students will discover a method for finding the inverse of a function or relation. The use of an online graphing calculator will aid students with their discovery. This lesson results from the ALEX Resource Gap Project. View Standards Standards Standards (s): [MA2015] (7) 15 : 15) Use facts about supplementary, complementary, complem vertical, and adjacent angles in a multistep problem to write and solve simple equations for an unknown angle in a figure. [7-G5] Subject: Mathematics (7) Title: Writing and Solving Equations Using Angle Terminology Description: This lesson will enhance mathematical vocabulary knowledge and reinforce basic skills for solving equations. Mathematical vocabulary is a vital part of this lesson. The lesson will challenge the minds of seventh-grade students with the theory of angles. The student will use the information in the diagram to write an equation and solve for the variable. Terms that will be identified in the lesson are as follows: supplementary, complementary, adjacent, parallel lines and transversal, and vertical angles. This lesson results from the ALEX Resource Gap Project. View Standards as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function to the composition of time. Subject: Mathematics (9 - 12) Title: Building Functions: Composition of time. Subject: Mathematics (9 - 12) Title: Building Functions: Composition of time. functions. The review is accomplished through the use of an online exploration using a function machine. The idea of a function rules). This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [SC2015] (3) 15: 15) Evaluate a design solution (e.g., flood barriers, wind resistant roofs, lightning rods) that reduces the impact of a weather-related hazard.* [ELA2015] (3) 11: 11) Determine the main idea of a text; recount the key details and explain how they support the main idea. [RI.3.2] [ELA2015] (3) 18 : 18) Compare and contrast the most important points and key details presented in two texts on the same topic. [RI.3.9] Subject: Science (3), English Language Arts (3) Title: Diverting Disaster With Lightning Rods Description: Students will use a Venn diagram to compare lightning and static electricity. Then, students will experiment with static electricity and read nonfiction passages about lightning rod system that protects a house from a lightning-induced fire. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [ELA2015] (4) 14 : 14) Describe the overall structure (e.g., chronology, comparison, cause and effect, problem and solution) of events, ideas, concepts, or information in a text or part of a text. [RI.4.5] [ELA2015] (4) 18 : 18) Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. [RI.4.9] [SS2010] ALA (4) 12 : 12) Explain the impact the 1920s and Great Depression had on different socioeconomic groups in Alabama. Examples: 1920s—increase in availability of electricity, employment opportunities, wages, products, consumption of goods and services; overproduction of goods; stock market crash Great Depression—overcropping of land, unemployment, poverty, establishment of new federal programs • Explaining how supply and demand impacted economies of Alabama and the United States during the 1920s and the Great Depression [ELA2015] (4) 32 : 32) Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 4 topics and texts, building on others' ideas and expressing their own clearly. [SL.4.1] a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. [SL.4.1a] b. Follow agreed-upon rules for discussions and carry out assigned roles. [SL.4.1b] c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. [SL.4.1c] d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. [SL.4.1d] [ELA2015] (4) 33 : 33) Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, guantitatively, and orally. [SL.4.2] [ELA2015] (4) 35 : 35) Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. [SL.4.4] Subject: English Language Arts (4), Social Studies (4) Title: The Great Depression Description: During this lesson, students will research the social, political, and economic impact of the Great Depression on the lives of Alabamians. Students will collaborate to create a presentation from the project-based learning activity and present it to the class. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [SC2015] (3) 8 : 8) Engage in argument from evidence to justify that traits can be influenced by the environment (e.g., stunted growth in normally tall plants due to insufficient water, change in an arctic fox's fur color due to light and/or temperature, stunted growth of a normally large animal due to malnourishment). [ELA2015] (3) 23 : 23) Write informative or explanatory texts to examine a topic and convey ideas and information clearly. [W.3.2] a. Introduce a topic and group related information together; include illustrations, and details. [W.3.2b] c. Use linking words and phrases (e.g., also, another, and, more, but) to connect ideas within categories of information. [W.3.2c] d. Provide a concluding statement or section. [W.3.2d] [ELA2015] (3) 25 : 25) With guidance and support from adults, produce writing types are defined in standards 22-24 above.) [W.3.4] [ELA2015] (3) 29 : 29) Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. [W.3.8] Subject: Science (3), English Language Arts (3) Title: Can an Animal's Traits be Influenced by the Environment? Description: The lesson will begin with the teacher leading a discussion related to animal traits and the environment using a T-chart graphic organizer. The students will have the opportunity to discuss their ideas with a partner, and then the teacher will introduce the essential question of the lesson: "Can an animal's traits be influenced by

the environment?" Next, the teacher will show students a video clip and nonfiction text related to the arctic fox, which is an animal that experiences a seasonal change in its fur color, and record information about the fox's traits and habitat on a T-chart graphic organizer. Then, students will research a different animal to determine how its traits can be influenced by its environment using digital or print sources and take brief notes. Lastly, students will develop an explanatory text in a claim-evidence-reasoning format that includes an illustration to help convey their scientific ideas clearly. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [ELA2015] (4) 23 : 23) Write information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. [W.4.2a] b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. [W.4.2b] c. Link ideas within categories of information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to information using words and phrases (e.g., another, because (e.g., another, because (about or explain the topic. [W.4.2d] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2e] [ELA2015] (4) 18 : 18) Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. [RI.4.9] Subject: English Language Arts (4) Title: Five Paragraph Expository Essay: What was the Social, Political, and Economic Impact of the Great Depression on the Lives of Alabamians? Description: Students will work in collaborative groups to analyze and interpret research information from their previous reading assignment on the social, political, and economic impact of the Great Depression on the lives of Alabamians. Next, students will use a graphic organizer to collect information needed to develop and write a five paragraph expository essay on the social, political, and economic impact of the Great Depression on the lives of Alabamians. Finally, students will present their expository essay to the class. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [ELA2015] (1) 30 : 30) With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a guestion. [W.1.8] [MA2015] (1) 18 : 18) Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category than in another. [1-MD4] [SC2015] (1) 2 : 2) Construct explanations from observations that objects can be seen only when light is available to illuminate them (e.g., moon being illuminated by the sun, colors and patterns in a kaleidoscope being illuminated when held toward a light). Subject: English Language Arts (1), Mathematics (1), Science (1) Title: Light and Sight – Why We Need Light to See Description: In this lesson, students will investigate objects' appearance in varying levels of light to help them construct an explanation that objects can only be seen when light is available to illuminate them. Students will discuss why objects look different in a dark room and graph their preferences for sleeping with a light on or off. Then, they will investigate how an object's appearance changes in different lighting conditions in small group centers. Finally, they will model the moon's path around the sun to see how light from the sun causes the moon's appearance to change as it orbits Earth. At the conclusion of the lesson, students will use their experiences as evidence to explain that light is essential for sight. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [SC2015] (3) 15 : 15) Evaluate a design solution (e.g., flood barriers, wind resistant roofs, lightning rods) that reduces the impact of a weather-related hazard.* Subject: Science (3) Title: Evaluating the Design of a Dam Description: Students will be given the task to build a dam that will stand against water. Students will design and build a scaled model for the ability to reduce the impact of a flood. Students will evaluate the efficacy of the dam they constructed and built. Students will contemplate what actions can be taken and materials that could be used in order to create a more effective dam in the future. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [SC2015] (0) 5 : 5) Construct a model of a natural habitat (e.g., terrarium, ant farm, diorama) conducive to meeting the needs of plants and animals native to Alabama. [ELA2015] (0) 31 : 31) Participate in collaborative conversations with diverse partners about kindergarten topics and taking turns speaking turns speaking turns speaking to others and taking turns speaking turns speaking turns speaking to others and taking turns speaking to others and taking turns speaking about the topics and texts under discussion). [SL.K.1a] b. Continue a conversation through multiple exchanges. [SL.K.1b] Subject: Science (K), English Language Arts (K) Title: Animal Habitats Description: In this lesson, students will research a variety of animals, plants, and habitats from Alabama. After researching animals, plants, and habitats from Alabama, small groups of students will be assigned a habitat to create. After creating the habitat in small groups, the small groups, the small groups of students will share their habitat to create. After creating the habitat in small groups of students will be assigned a habitat to create. After creating the habitat with their classmates. This lesson results from the ALEX Resource Gap Project. View Standard(s): [MA2015] (8) 23 : 23) Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. [8-G8] Subject: Mathematics (8) Title: Distance "The Pythagorean Theorem to find distance between two points in the coordinate system. In the coordinate plane the difference in the x- and y-values will determine the numbers to calculate the distance. This lesson will use online graphing tools as well as graph paper to plot the points. This lesson can also be used to show the relationship between the distance formula and the Pythagorean Theorem. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [SC2015] LSC7 (7) 7 : 7) Use empirical evidence from patterns and data to demonstrate how changes to physical or biological components of an ecosystem (e.g., deforestation, succession, drought, fire, disease, human activities, invasive species) can lead to shifts in populations. [ELA2015] (7) 20: 20) Write arguments to support claims with clear reasons and relevant evidence. [W.7.1] a. Introduce claim(s), acknowledge alternate or opposing claims, and organize the reasons and demonstrating and relevant evidence. understanding of the topic or text. [W.7.1b] c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence. [W.7.1c] d. Establish and maintain a formal style. [W.7.1d] e. Provide a concluding statement or section that follows from and supports the argument presented. [W.7.1c] d. Establish and maintain a formal style. [W.7.1d] e. Provide a concluding statement or section that follows from and supports the argument presented. [W.7.1c] d. Establish and maintain a formal style. [W.7.1d] e. Provide a concluding statement or section that follows from and supports the argument presented. [W.7.1c] d. Establish and maintain a formal style. [W.7.1d] e. Provide a concluding statement or section that follows from and supports the argument presented. [W.7.1c] d. Establish and maintain a formal style. [W.7.1d] e. Provide a concluding statement or section that follows from and supports the argument presented. [W.7.1c] d. Establish and maintain a formal style. [W.7.1d] e. Provide a concluding statement or section that follows from and supports the argument presented. [W.7.1d] e. Provide a concluding statement or section that follows from and supports the argument presented. [W.7.1d] e. Provide a concluding statement or section that follows from and supports the argument presented. [W.7.1d] e. Provide a concluding statement or section that follows from and support stat Subject: Science (7), English Language Arts (7) Title: Pollution and the Peppered Moth Description: This lesson will begin with students reviewing the steps of the scientific method to explore factors that caused the population of the peppered moth to change over time. The students will conduct an experiment to gather data regarding the factors that led to a population shift in the peppered moth species. Then, students will read an article about the history of the peppered moth and play an online interactive game to further explore the factors that led to a change in this species's population. Lastly, students will develop a writing piece that includes a claim related to the experiment, reading, and online activity. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [ELA2015] (3) 22 : 22) Write opinion pieces on topics or texts, supporting a point of view with reasons. [W.3.1] a. Introduce the topic or text they are writing about, state an organizational structure that lists reasons. [W.3.1a] b. Provide reasons that support the opinion. [W.3.1b] c. Use linking words and phrases (e.g., because, therefore, since, for example) to connect opinion and reasons. [W.3.1c] d. Provide a concluding statement or section. [W.3.1d] [MA2015] (3) 19 : 19) Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot where the horizontal scale is marked off in appropriate units — whole numbers, halves, or quarters. [3-MD4] [MA2015] (3) 18 : 18) Draw a scaled bar graphs. [3-MD3] Example: Draw a bar graph in which each square in the bar graph might represent 5 pets. Subject: English Language Arts (3), Mathematics (3) Title: Dam Engineering Description: In Math, students will draw a t-chart to represent dam and flood data obtained from their reading resource. Students will select the information they wish to use from the reading resource (their opinions). Students will then use rulers marked with halves and fourths of an inch to measure lengths and construct in Science. Students will represent data in a graph and use measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Students will test their scale dams and make changes as needed. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards signal over a distance (e.g., using a flashlight and a piece of cardboard to simulate a signal lamp for sending a coded message to a classmate).* Subject: Science (1) Title: Phone-a-Friend Description: This lesson will begin with students brainstorming methods of communication using a web graphic organizer. Next, students will collaborate with a partner to create a basic cup phone set. Then, the teacher will lead students will design and construct a revised version of the cup phone and test its effectiveness as compared to the first cup phone set. This lesson results from the ALEX Resource Gap Project. View Standard(s): [SC2015] (4) 1 : 1) Use evidence to explain the relationship of the speed of an object to the energy of that object. Science (4) Title: Zoom Zoom! Description: In this lesson, students will explore how to increase the potential and kinetic energy of their toy cars by building ramps. Students will investigate potential and kinetic energy by introducing different variables such as mass, weight, and height during a ramp redesign, and measure the distance the cars travel using the variables. Students will create a presentation on Educreations to showcase their ramp redesign using their chosen variable. This lesson results from the ALEX Resource Gap Project. View Standard(s): [SC2015] ES6 (6) 13 : 13) Use models (e.g., diagrams, maps, globes, digital representations) to explain how the rotation of Earth and unequal heating of its surface create patterns of atmospheric and oceanic circulation that determine regional climates. a. Use experiments to investigate how energy from the sun is distributed between Earth's surface and its atmosphere by convection and radiation (e.g., warmer water in a pan rising as cooler water sinks, warming one's hands by a campfire). [ELA2015] (6) 22 : 22) Write information through the selection, organization, and analysis of relevant content. [W.6.2] a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison or contrast, and cause and effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. [W.6.2a] b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. [W.6.2b] c. Use appropriate transitions to clarify the relationships among ideas and concepts. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.6.2c] d. Use precise language and domain-specific vocabulary to i section that follows from the information or explanation presented. [W.6.2f] Subject: Science (6), English Language Arts (6) Title: Investigating Heat Transfer within Earth's Atmosphere: Radiation and Convection Description: This lesson will begin with students discussing ways that we can feel the sun's energy even though the sun is very far away from Earth. Then, the teacher will introduce the three methods of heat transfer (radiation, conduction, and convection) utilizing an online video clip. Next, the students will perform an experiment to investigate radiation as a form of heat transfer by recording how the temperature of ice changes when exposed to an energy source (solar energy from a clamp lamp). Then, students will perform an experiment to investigate convection as a form of heat transfer using blue dyed ice cubes and warmed red food coloring, to create a convection cycle within a container filled with roomtemperature water. Lastly, students will apply the data gathered from the experiments to write a response to the question: "How is heat energy from the ALEX Resource Gap Project. View Standards Standard(s): [SC2015] PHYS (9-12) 12 : 12) Use the principles of Ohm's and Kirchhoff's laws to design, construct, and analyze combination circuits using typical components (e.g., resistors, capacitors, diodes, sources of power). Subject: Science (9 - 12) Title: Discovering and Applying Ohm's Law Description: Students will design an experiment to relate the voltage difference and current in a circuit. They will collect data, then create and analyze a graph in order to arrive at Ohm's Law. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [SC2015] (5) 9 : 9) Construct an illustration to explain how plants use light energy to convert carbon dioxide and water into a storable fuel, carbohydrates, and a waste product, oxygen, during the process of photosynthesis. [ELA2015] (5) 23 : 23) Write informative or explanatory texts to examine a topic and convey ideas and information clearly. [W.5.2] a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, concrete details, quotations, or other information and examples related to the topic. [W.5.2b] c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially). [W.5.2c] d. Use precise language and domain-specific vocabulary to inform about or explanation presented. [W.5.2e] [ELA2015] (5) 38 : 38) Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking. [L.5.1] a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. [L.5.1] a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. [L.5.1] a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. [L.5.1] a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. [L.5.1] a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. [L.5.1] a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. walked; I have walked; I will have walked) verb tenses. [L.5.1c] d. Recognize and correct inappropriate shifts in verb tense. * [L.5.1d] e. Use correlative conjunctions. [L.5.1c] d. Recognize and correct inappropriate shifts in verb tense. * [L.5.1d] e. Use correlative conjunctions (e.g., either/or, neither/nor). [L.5.1e] (ELA2015] (5) 39 : 39) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.5.2] a. Use punctuation to separate items in a series.* [L.5.2b] c. Use a comma to set off the words yes and no (e.g., Yes, thank you), to set off a tag question from the rest of the sentence (e.g., It's true, isn't it'), and to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate titles of works. [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underlining, quotation marks, or italics to indicate direct address (e.g., Is that you, Steve'). [L.5.2c] d. Use underli Title: Photosynthesis: Let's Talk About It Description: This lesson will utilize the talking drawings strategy, in which students will begin the lesson by drawing a picture of a plant to illustrate how they think plants make their own food. Then, the teacher will introduce the process of photosynthesis using an interactive presentation to explain photosynthesis in a pictorial format. As the teacher describes the process, the students will create a writing piece that will describe the process of photosynthesis and construct a scientifically accurate illustration of the process of photosynthesis. This lesson results from the ALEX Resource Gap Project. View Standards Standard(s): [SC2015] (2) 1 : 1) Conduct an investigation to describe and classify various substances according to physical properties (e.g., milk being a liquid, not clear in color, assuming shape of its container, mixing with water; mineral oil being a liquid, clear in color, taking shape of its container, floating in water; a brick being a solid, not clear in color, rough in texture, not taking the shape of its container, sinking in water). [SC2015] (2) 4 : 4) Provide evidence that some changes in matter caused by heating or cooling can be reversed (e.g., heating or freezing of water) and some changes are irreversible (e.g., baking a cake, boiling an egg). Subject: Science (2) Title: Making Matter Change: Microwave Mug Cake Description: The lesson will begin with students comparing and contrasting the physical properties of ice and water using a Venn diagram graphic organizer. Next, the students will describe the physical properties of ingredients needed for a microwave mug cake. The students will bake a chocolate microwave mug cake to demonstrate that some changes in matter caused by heating and cooling are irreversible. Lastly, the students will create a written and pictorial response comparing the water and ice to the microwave mug cake to provide evidence that some changes in matter can be reversed, while others can not. This lesson results from the ALEX Resource Gap Project. View Standard(s): [MA2015] GEO (9-12) 20 : 20) Explain and use the relationship between the sine and cosine of complementary angles. [G-SRT7] Subject: Mathematics (9 -12) Title: "I Saw the Sine" Description: This lesson will provide information that will prove the concept of sine and cosine is equal to the complementary angles of a right triangle. The lesson will examine the proper techniques for writing trigonometric ratios. The lesson will enhance background knowledge of proportions as well as use the terminology of means and extremes. This lesson results from the ALEX Resource Gap Project. View Standards Standards Standards (3) Title: Primary Sources: Making Meaning From Photographs Description: This lesson introduces students to the world of primary sources. Students will analyze two photographs concerning Alabama's second governor, Thomas Bibb, in order to construct meaning. Students will analyze a primary source from their past and present it to the class. This lesson was created in partnership with the Alabama Department of Archives and History. View Standard(s): [SS2010] GHS (3) 13 : 13) Describe prehistoric and historic American Indian cultures, governments, and economics in Alabama. (Alabama) Examples: prehistoric—Paleo-Indian, Archaic, Woodland, Mississippian historic—Choctaw, Chickasaw, Cherokee, Creek (Alabama) • Identifying roles of archaeologists and paleontologists [ELA2015] (3) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.3.3] a. Establish a situation and introduce a narrator. characters, or both; organize an event sequence that unfolds naturally. [W.3.3a] b. Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations. [W.3.3b] c. Use temporal words and phrases to signal event order. [W.3.3c] d. Provide a sense of closure. [W.3.3d] [ELA2015] (3) 29 : 29) Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. [W.3.8] Subject: Social Studies (3) Title: Can You Dig It? Description: In this lesson, students will define archaeology. Students will make inferences from observations by sorting through garbage to analyze clues about the people who left the garbage. Students will compare and contrast two artifacts looking for clues from the past. Students will write a narrative story of an artifact. This lesson was created in partnership with the Alabama Department of Archives and History View Standards Standard(s): [SS2010] GHS (3) 3 : 3) Describe ways the environment is affected by humans in Alabama and the world. (Alabama) Examples: crop rotation, oil spills, landfills, clearing of forests, replacement of cleared lands, restocking of fish in waterways • Using vocabulary associated with human influence on the environment, including irrigation, aeration, urbanization, reforestation, erosion, and migration [SS2010] ALA (4) 2 : 2) Relate reasons for European exploration and settlement in Alabama to the impact of European explorers on trade, health, and land expansion in Alabama. • Locating on maps European settlements in early Alabama. including Juan Ponce de León, Hernando de Soto, and Vasco Núñez de Balboa • Explaining reasons for conflicts between Europeans and American Indians in Alabama from 1519 to 1840, including differing beliefs regarding land ownership, religion, and culture [SS2010] USS5 (5) 1 : 1) Locate on a map physical features that impacted the exploration and settlement of the Americas, including ocean currents, prevailing winds, large forests, major rivers, and significant mountain ranges. • Locating on a map states and capitals east of the Mississippi River • Identifying natural harbors in North America Examples: Mobile, Boston, New York, New Orleans, Savannah (Alabama) [SS2010] USS5 (5) 2 : 2) Identify causes and effects of early migration and settlement of North America. [ARTS] VISA (3) 1 : 1) Elaborate on an individual or prompted imaginative idea. Examples: Create an imaginative mask showing his/her personality. Look at masks from different cultures such as Chinese, African and Native American. [ARTS] VISA (3) 2 : 2) Demonstrate skills using available resources, tools, and technologies to investigate personal ideas through the art-making process. Examples: Choose from a variety of resources and materials to create a work of art. Use books Imagine That by Joyce Raymond or Dinner at Magritte's by Michael Garland. [ARTS] VISA (3) 4 : 4) Demonstrate an understanding of the safe and proficient use of materials, tools, equipment, and studio space. [ARTS] VISA (3) 10 : 10) Speculate about processes and purposes an artist used to create a work of art. Example: Observe and compare similar themes in artwork from historical and contemporary eras. [ARTS] VISA (3) 14 : 14) Create works of art based on observations of surroundings. [ARTS] VISA (4) 4 : 4) When making works of art, utilize and care for materials, tools, and equipment in a manner that prevents danger to oneself and others. [ARTS] VISA (4) 5 : 5) Document, describe, and create real or imagined constructed environments. Example: Design a futuristic art room, town, or planet. [ARTS] VISA (4) 15 : 15) Through observation, infer information about time, place, and culture in which a work of art was created. Example: Look at the statue of Vulcan in Birmingham and talk about its relationship to history of the city. [ARTS] VISA (5) 2 : 2) Demonstrate the methods of the art-making process, including brainstorming, sketching, reflecting, and refining, to create a work of art/design. [ARTS] VISA (5) 4 : 4) Demonstrate proper care and use of materials, tools, and equipment while creating art. [ARTS] VISA (5) 10 : 10) Compare one's interpretation of a work of art with the interpretation of others. [ARTS] VISA (5) 13 : 13) Recognize differences in criteria used to evaluate works of art depending on styles, genres, and media as well as historical and cultural contexts. Subject: Social Studies (3 - 5) Title: Alabama's Pine Barren Description: Students will read a description of the pine barrens by Basil Hall and analyze the text by using the 3-2-1 strategy. Students will discuss the life and work of Basil Hall, including his travels and journaling in North America. They will observe how a camera lucida functions and debate whether using a camera lucida is "cheating" in art. Next, students will venture outside to create a sketch of their environment while appropriately utilizing materials. They will compare and contrast their products to the sketches of Basil Hall and critique each other's work. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [ELA2015] (4) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.4.3] a. Orient the reader by establishing a situation and introducing a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.4.3a] b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. [W.4.3b] c. Use a variety of transitional words and phrases to manage the sequence of events. [W.4.3c] d. Use concrete words and sensory details to convey experiences and events precisely. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3e] [SS2010] ALA (4) 2 : 2) Relate reasons for European exploration and settlement in Alabama to the impact of European explorers on trade, health, and land expansion in Alabama. • Locating on maps European settlements in early Alabama, including Fort Condé, Fort Toulouse, and Fort Mims • Tracing on maps and globes, the routes of early explorers of the New World, including Juan Ponce de León, Hernando de Soto, and Vasco Núñez de Balboa • Explaining reasons for conflicts between Europeans and American Indians in Alabama from 1519 to 1840, including differing beliefs regarding land ownership, religion, and culture [DLIT] (4) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (4) 19 : 13) Synthesize complex information from multiple sources in different ways to make it more useful and/or relevant. Subject: English Language Arts (4), Social Studies (4) Title: What is the Price of Land? Description: In this lesson, students will define conflict as it relates to Native American land conflict during the early nineteenth century. Students will compare Native Americans' and settlers' perspectives on land. Students will write a narrative writing as a Creek Chief watching the settlers move into their territory, focusing on how this makes them feel and how these events will change the lives of his/her people. This lesson was created in partnership with the Alabama Department of Archives and Historic — Paleo-Indian, Archaic, Woodland, Mississippian historic—Choctaw, Chickasaw, Cherokee, Creek (Alabama) • Identifying roles of archaeologists and paleontologists and paleontologists and paleontologists [ELA2015] (3) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.3.3] a. Establish a situation and introduce a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.3.3a] b. Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations. [W.3.3b] c. Use temporal words and phrases to signal event order. [W.3.3c] d. Provide a sense of closure. [W.3.3d] [ELA2015] (3) 29 : 29) Recall information from experiences or gather information from privided categories. [W.3.8] Subject: English Language Arts (3) Title: Can You Dig It? Description: In this lesson, students will define archaeology. Students will make inferences from observations by sorting through garbage to analyze clues about the people who left the garbage. Students will write a narrative story of an artifact. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [SS2010] GHS (3) 3 : 3) Describe ways the environment is affected by humans in Alabama and the world. (Alabama) Examples: crop rotation, oil spills, landfills, clearing of forests, replacement of cleared lands, restocking of fish in waterways • Using vocabulary associated with human influence on the environment, including irrigation, aeration, urbanization, reforestation, erosion, and migration [SS2010] GHS (3) 11 : 11) Interpret various primary sources for reconstructing the past, including documents, letters, diaries, maps, and photographs. • Comparing maps of the past to maps of the present [SS2010] ALA (4) 2 : 2) Relate reasons for European exploration and settlement in Alabama to the impact of European explorers on trade, health, and land expansion in Alabama. • Locating on maps and globes, the routes of early explorers of the New World, including Juan Ponce de León, Hernando de Soto, and Vasco Núñez de Balboa • Explaining reasons for conflicts between Europeans and American Indians in Alabama from 1519 to 1840, including differing beliefs regarding land ownership, religion, and culture [SS2010] USS5 (5) 1:1) Locate on a map physical features that impacted the exploration and settlement of the Americas, including ocean currents, prevailing winds, large forests, major rivers, and significant mountain ranges. • Locating on a map states and capitals east of the Mississippi River • Identifying natural harbors in North America Examples: Mobile, Boston, New York, New Orleans, Savannah (Alabama) [SS2010] USS5 (5) 2 : 2) Identify causes and effects of early migration and settlement of North America. [ARTS] VISA (3) 1 : 1) Elaborate on an individual or prompted imaginative idea. Examples: Create an imaginative mask showing his/her personality. Look at masks from different cultures such as Chinese, African and Native American. [ARTS] VISA (3) 2 : 2) Demonstrate skills using available resources, tools, and technologies to investigate personal ideas through the art-making process. Examples: Choose from a variety of resources and materials to create a work of art. Use books Imagine That by Joyce Raymond or Dinner at Magritte's by Michael Garland. [ARTS] VISA (3) 4 : 4) Demonstrate an understanding of the safe and proficient use of materials, tools, equipment, and studio space. [ARTS] VISA (3) 10 : 10) Speculate about processes and purposes an artist used to create a work of art. Example: Observe and compare similar themes in artwork from historical and contemporary eras. [ARTS] VISA (3) 14 : 14) Create works of art, utilize and care for materials, tools, and equipment in a manner that prevents danger to oneself and others. [ARTS] VISA (4) 5 : 5) Document, describe, and create real or imagined constructed environments. Example: Design a futuristic art room, town, or planet. [ARTS] VISA (4) 15 : 15) Through observation, infer information about time, place, and culture in which a work of art was created. Example: Look at the statue of Vulcan in Birmingham and talk about its relationship to history of the city. [ARTS] VISA (5) 2 : 2) Demonstrate the methods of the art-making process, including brainstorming, sketching, reflecting, and refining, to create a work of art/design. [ARTS] VISA (5) 4 : 4) Demonstrate proper care and use of materials, tools, and equipment while creating art. [ARTS] VISA (5) 10 : 10) Compare one's interpretation of a work of art with the interpretation of others. [ARTS] VISA (5) 13 : 13) Recognize differences in criteria used to evaluate works of art depending on styles, genres, and media as well as historical and cultural contexts. Subject: Arts Education (3 - 5) Title: Alabama's Pine Barren Description: Students will read a description of the pine barrens by Basil Hall and analyze the text by using the 3-2-1 strategy. Students will discuss the life and work of Basil Hall, including his travels and journaling in North America. They will observe how a camera lucida functions and debate whether using a camera lucida is "cheating" in art. Next, students will venture outside to create a sketch of their environment while appropriately utilizing materials. They will compare and contrast their products to the sketches of Basil Hall and critique each other's work. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [ELA2015] (4) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.4.3] a. Orient the reader by establishing a situation and introducing a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.4.3a] b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. [W.4.3b] c. Use a variety of transitional words and phrases to manage the sequence of events. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3e] [SS2010] ALA (4) 2 : 2) Relate reasons for European exploration and settlement in Alabama to the impact of European explorers on trade, health, and land expansion in Alabama. • Locating on maps European settlements in early Alabama, including Fort Condé, Fort Toulouse, and Fort Mims • Tracing on maps and globes, the routes of early explorers of the New World, including Juan Ponce de León, Hernando de Soto, and Vasco Núñez de Balboa • Explaining reasons for conflicts between Europeans and American Indians in Alabama from 1519 to 1840, including differing beliefs regarding land ownership, religion, and culture [DLIT] (4) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (4) 19 : 13) Synthesize complex information from multiple sources in different ways to make it more useful and/or relevant. Subject: Digital Literacy and Computer Science (4) Title: What is the Price of Land? Description: In this lesson, students will define conflict as it relates to Native American land conflict during the early nineteenth century. Students will write a narrative writing as a Creek Chief watching the settlers move into their territory, focusing on how this makes them feel and how these events will change the lives of his/her people. This lesson was created in partnership with the Alabama Department of Archives and History. View Standard(s): [SS2010] ALA (4) 6 : 6) Describe cultural, economic, and political aspects of the lifestyles of early nineteenth-century farmers, plantation owners, slaves and townspeople. Examples: cultural—housing, education, religion, recreation economic—transportation, means of support political—inequity of legal codes • Describing major areas of agricultural production in Alabama, including the Black Belt and fertile river valleys [ELA2015] (4) 12 : 12) Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. [RI.4.3] [ELA2015] (4) 23 : 23) Write information clearly. [W.4.2] a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. [W.4.2a] b. Develop the topic. [W.4.2b] c. Link ideas within categories of information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to informational texts to support analysis, reflection, and research. [W.4.9] a. Apply Grade 4 Reading standards to literature (e.g., "Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character's thoughts, words, or actions]"). [W.4.9a] b. Apply Grade 4 Reading standards to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text"). [W.4.9b] Subject: Social Studies (4), English Language Arts (4) Title: Slavery: The Act of Buying, Selling, and Gifting Humans Description: Through this lesson, students will explore primary sources related to the buying and selling of human beings for the purpose of slavery. Students will analyze the language and iconography used in bills of sale pertaining to the buying and selling of slaves in the 19th century. The students will write a paragraph to compare and contrast the items from both eras. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [SS2010] ALA (4) 5 : 5) Describe Alabama's entry into statehood and establishment of its three branches of government and the constitutions. • Explaining political and geographic reasons for changes in location of Alabama's state capital • Recognizing roles of prominent political leaders during early statehood in Alabama, including William Rufus King, and John W. Walker [ELA2015] (4) 12 : 12) Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. [RI.4.3] [ELA2015] (4) 18 : 18) Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. [RI.4.9] [ELA2015] (4) 25 : 25) Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 22-24 above.) [W.4.4] [ELA2015] (4) 23 : 23) Write informative or explanatory texts to examine a topic and convey ideas and information clearly. [W.4.2] a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. [W.4.2a] b. Develop the topic with facts, definitions, concrete details, quotations, or other information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.4.2d] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2e] [ELA2015] (4) 25 : 25) Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 22-24 above.) [W.4.4] [ELA2015] (4) 10 : 10) Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. [RI.4.1] [ELA2015] (4) 11 : 11) Determine the main idea of a text and explain how it is supported by key details; summarize the text. [RI.4.2] Subject: Social Studies (4), English Language Arts (4) Title: We, the People... Description: In 1819 the Constitutional Convention met in Huntsville, Alabama in order to write our state's constitution. In this lesson, students will learn what a preamble to Alabama's Constitution. Students will examine similarities between both preambles and discuss possible reasons for such similarities. Fifth-grade teachers could also utilize this lesson to examine and compare both preambles and their purposes. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standards Standard(s): [SS2010] ALA (4) 4 : 4) Relate the relationship of the five geographic regions of Alabama to the movement of Alabama settlers during the early nineteenth century. • Identifying natural resources of Alabama during the early nineteenth century, including housing, roads, and place names [ELA2015] (4) 12 : 12) Explain events, procedures, ideas, or concepts in a historical scientific, or technical text, including what happened and why, based on specific information in the text. [RI.4.3] Subject: Social Studies (4), English Language Arts (4) Title: A Natural Resources of Alabama During the Early Nineteenth Century Description: This lesson looks at the natural resources that drew settlers to Alabama. Students will explore the 1818 letter from Joseph Noble to his friend, Samuel B. Bidgood, describing the town at Tuscaloosa Falls. Students will explain ideas within this historical text based on specific information presented in this primary source. Follow up lesson - Alabama: A Boundless Field of Speculation This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [SS2010] GHS (3) 2 : 2) Locate the continents on a map or globe • Using vocabulary associated with geographical features of Earth, including hill, plateau, valley, peninsula, island, isthmus, ice cap, and glacier • Locating major mountain ranges, oceans, rivers, and lakes throughout the world (Alabama) [ELA2015] (3) 2 : 2) Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text. [RL.3.2] [DLIT] (3) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (3) 22 : 16) Conduct basic keyword searches to produce valid, appropriate results, and evaluate results. Examples: Use search techniques, check for credibility and validity. Subject: Social Studies (3), English Language Arts (3) Title: Mapping the Travels of Paul Bunyan Through Alabama, Too! Description: During this lesson, students will recount a Paul Bunyan tall tale, an entertaining way to identify bodies of water and landforms in the United States. Although Paul Bunyan's Tales did not focus on Alabama, students will create their own narratives after viewing photographs of major mountain ranges, rivers, and lakes throughout Alabama (ACOS 3.2). This lesson will utilize older maps of the United States and Alabama, which are used to remind us that this folk tale was handed down orally until the early 1900s when a newspaper printed several accounts of the tall tale. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [ELA2015] (3) 1 : 1) Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. [RL.3.1] [SS2010] GHS (3) 11 : 11) Interpret various primary sources for reconstructing the past, including documents, letters, diaries, maps, and photographs. • Comparing maps of the present [SS2010] ALA (4) 3 : 3) Explain the social, political, and economic impact of the War of 1812, including battles and significant leaders of the Creek War, on Alabama. Examples: social—adoption of European culture by American Indians, opening of Alabama land for settlement political—forced relocation of tribal land in Alabama by the United States • Explaining the impact of the Trail of Tears on Alabama American Indians' lives, rights, and territories Subject: English Language Arts (3), Social Studies (3 - 4) Title: The Negotiators - Land Of No Return Description: The lesson content is connected to Alabama Creek Indian Headsmen and the government. The disruption would be solved through negotiation. The negotiation. The negotiating Creek Indians did not obtain full restoration of their land, however, they did accept a compromise. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [ELA2015] (4) 12 : 12) Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. [RI.4.3] [SS2010] ALA (4) 4 : 4) Relate the relationship of the five geographic regions of Alabama to the movement of Alabama settlers during the early nineteenth century. • Identifying natural resources of Alabama during the early nineteenth century. • Describing human environments of Alabama as they relate to settlement during the early nineteenth century. Boundless Field of Speculation Description: This lesson looks at the natural resources that drew businesses to Alabama. Students will explore the adapted 1820 letter from Mason and Dexter in Cahaba, Alabama to Richards and Simmons in Cumberland, Rhode Island. information presented in this primary source. This lesson can be used as a stand alone or can follow A Natural Attraction: The Natural Resources of Alabama Department of Archives and History. View Standards Standard(s): [SS2010] ALA (4) 6: 6) Describe cultural, economic, and political aspects of the lifestyles of early nineteenth-century farmers, plantation owners, slaves, and townspeople. Examples: cultural—housing, education, religion, recreation economic—transportation, means of support political—inequity of legal codes • Describing major areas of agricultural production in Alabama, including the Black Belt and fertile river valleys [ELA2015] (4) 10 : 10) Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. [RI.4.1] [ELA2015] (4) 11 : 11) Determine the main idea of a text and explain how it is supported by key details; summarize the text. [RI.4.2] Subject: Social Studies (4), English Language Arts (4) Title: School Days: Early 19th Century and a newspaper article from 1818 to determine what education was like in the early nineteenth century. Students will investigate the documents and find text evidence to find out what schools were like in the early nineteenth century. Students will use their findings to write a story. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [SS2010] ALA (4) 6 : 6) Describe cultural, economic, and political aspects of the lifestyles of early nineteenth-century farmers, plantation owners, slaves, and townspeople. Examples: cultural—housing, education, religion, recreation economic—transportation, means of support political—inequity of legal codes • Describing major areas of agricultural production in Alabama, including the Black Belt and fertile river valleys [ELA2015] (4) 28 : 28) Conduct short research projects that build knowledge through investigation of different aspects of a topic. [W.4.7] Subject: Social Studies (4) Title: Letting Off Some Steam Description: In this lesson, students will explore the invention of the steamboat and the role it played in the economy, transportation, and culture of the lifestyles of plantation owners, yeoman farmers, slaves, and townspeople of early nineteenth-century Alabama. Students will create a steamboat advertisement to illustrate the importance of the invention of the steamboat in Alabama. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standards Standards Standards European explorers on trade, health, and land expansion in Alabama. • Locating on maps and globes, the routes of early explorers of the New World, including Juan Ponce de León, Hernando de Soto, and Vasco Núñez de Balboa • Explaining reasons for conflicts between Europeans and American Indians in Alabama from 1519 to 1840, including differing beliefs regarding land ownership, religion, and culture [ELA2015] (4) 12 : 12) Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. [RI.4.3] [ELA2015] (4) 16 : 16) Interpret information presented visually, or ally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears. [RI.4.7] [ELA2015] (4) 18 : 18) Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. [RI.4.9] [ELA2015] (4) 32 : 32) Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 4 topics and texts, building on others' ideas and expressing their own clearly. [SL.4.1] a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. [SL.4.1a] b. Follow agreed-upon rules for discussions and carry out assigned roles. [SL.4.1b] c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. [SL.4.1c] d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. [SL.4.1d] [ELA2015] (4) 10 : 10) Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. [RI.4.1] Subject: Social Studies (4) Title: Hernando de Soto, his route, and his interactions with Native Americans in Alabama Students will read two articles in order to identify information about the impact of European Exploration on the Native Americans who were in Alabama in the 1500s. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [ELA2015] (4) 10 : 10) Refer to details and examples in a text when explaining what the text. [RI.4.1] [ELA2015] (4) 12 : 12) Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. [RI.4.3] [SS2010] ALA (4) 6 : 6) Describe cultural, economic, and political aspects of the lifestyles of early nineteenth-century farmers, plantation owners, slaves, and townspeople. Examples: cultural—housing, education, religion, recreation economic—transportation, means of support political—inequity of legal codes • Describing major areas of agricultural production in Alabama, including the Black Belt and fertile river valleys Subject: English Language Arts (4), Social Studies (4) Title: School is in Session! Description: In this lesson, students will be able to describe cultural aspects of early nineteenth century townspeople by reading a newspaper article describing the opening of a new school. Students will also be able to discuss, infer, and write from a variety of perspectives when explaining the roles of various people mentioned in the article. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [SS2010] ALA (4) 5 : 5) Describe Alabama's entry into statehood and establishment of its three branches of government and the constitutions. • Explaining political and geographic reasons for changes in location of Alabama's state capital • Recognizing roles of prominent political leaders during early statehood in Alabama, including William Wyatt Bibb, Thomas Bibb, Israel Pickens, William Rufus King, and John W. Walker [ELA2015] (4) 10 : 10) Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. [RI.4.1] [ELA2015] (4) 12 : 12) Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. [RI.4.3] [ELA2015] (4) 25 : 25) Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 22-24 above.) [W.4.4] [ELA2015] (4) 30 : 30) Draw evidence from literary or informational texts to support analysis, reflection, and research. [W.4.9] a. Apply Grade 4 Reading standards to literature (e.g., "Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character's thoughts, words, or actions]"). [W.4.9a] b. Apply Grade 4 Reading standards to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text"). [W.4.9b] [ELA2015] (4) 32 : 32) Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 4 topics and texts, building on others' ideas and expressing their own clearly. [SL.4.1] a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. [SL.4.1] b. Follow agreedupon rules for discussions and carry out assigned roles. [SL.4.1b] c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the remarks of others. [SL.4.1c] d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. [SL.4.1d] Subject: Social Studies (4), English Language Arts (4) Title: Alabama's Early Government at the state level, especially related to the first governors of the state of Alabama. Their impact on the development of Alabama and Alabama's role in the United States will be discussed. Students will use research and note taking skills to gather information, discuss the importance of each governor, similarities, and impact. Finally, students will discuss the role of governor and how governors have an impact on the state and the impact these men had in Alabama and in other states. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [ELA2015] (4) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.4.3] a. Orient the reader by establishing a situation and introducing a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.4.3a] b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. [W.4.3b] c. Use a variety of transitional words and phrases to manage the sequence of events. [W.4.3c] d. Use concrete words and events precisely. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3e] [ELA2015] (4) 35 : 35) Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. [SL.4.4] [SS2010] ALA (4) 6 : 6) Describe cultural, economic, and political aspects of the lifestyles of early nineteenthcentury farmers, plantation owners, slaves, and townspeople. Examples: cultural—housing, education, religion, recreation economic—transportation, means of agricultural production in Alabama, including the Black Belt and fertile river valleys [DLIT] (4) 6 : R6) Produce. review, and revise authentic artifacts that include multimedia using appropriate digital tools. [DLIT] (4) 18 : 12) Use basic features of digital tools to communicate key ideas and details in a way that informs and/or persuades. [DLIT] (4) 19 : 13) Synthesize complex information from multiple sources in different ways to make it more useful

and/or relevant. Subject: English Language Arts (4), Social Studies (4) Title: The Slave Experience: A Look at a Slave's Life in the Nineteenth Century Description: Students will explore two NCSS Notable Trade Books and a newspaper advertisement to develop an understanding of what life was like for slaves in the nineteenth century. Students will use their understanding to write a narrative story about being a slave in the nineteenth century. Students will use the website MyStorybook to create and publish their stories. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [SS2010] ALA (4) 6 : 6) Describe cultural, economic, and political aspects of the lifestyles of early nineteenth-century farmers, plantation owners, slaves, and townspeople. Examples: cultural—housing, education, religion, recreation economic—transportation, means of support political—inequity of legal codes • Describing major areas of agricultural production in Alabama, including the Black Belt and fertile river valleys [ELA2015] (4) 10 : 10) Refer to details and examples in a text when explaining what the text. [RI.4.1] [ELA2015] (4) 12 : 12) Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. [RI.4.3] [ELA2015] (4) 17 : 17) Explain how an author uses reasons and evidence to support particular points in a text. [RI.4.8] Subject: Social Studies (4), English Language Arts (4) Title: You Don't Have Mail! Description: This lesson will provide students with two primary documents, a drawing of a postal stagecoach and a newspaper article outlining the difficulties of mail delivery. Students will complete a graphic organizer to provide evidence that details a specific perspective described in the documents. Students will examine the cultural and economic aspects of the early nineteenth century and will refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences. Students will be able to explain how an author uses reasons and evidence to support particular points of view. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [SS2010] ALA (4) 4 : 4) Relate the relationship of the five geographic regions of Alabama to the movement of Alabama as they relate to settlement during the early nineteenth century, including housing, roads, and place names [ELA2015] (4) 1 : 1) Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. [RL.4.1] [ELA2015] (4) 35 : 35) Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. [SL.4.4] [ELA2015] (4) 12 : 12) Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. [RI.4.3] Subject: Social Studies (4) Title: Alabama Fever! Description: In this lesson, students will work in small groups to examine a letter describing the environment of Alabama and identify reasons which might have encouraged settlers to move to Alabama in the early nineteenth century. Students will choose an interesting attraction of Alabama mentioned in the letter and design a postage stamp around that attraction. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards 5 (SS2010) ALA (4) 6 : 6) Describe cultural, economic, and political aspects of the lifestyles of early nineteenth-century farmers, plantation owners, slaves, and townspeople. Examples: cultural—housing, education, religion, recreation economic—transportation, means of support political—inequity of legal codes • Describing major areas of agricultural production in Alabama, including the Black Belt and fertile river valleys [ELA2015] (4) 10:10) Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. [RI.4.1] [ELA2015] (4) 12:12) Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. [RI.4.3] Subject: Social Studies (4), English Language Arts (4) Title: Look Who's Coming to Dinner! Description: Students will read from an Alabama newspaper about President James Monroe's surprise visit to Huntsville. The article discusses the purposes of the visit, the locals who welcomed and entertained the President, and his discussion of current (1819) events. This lesson was created in partnership with the Alabama Department of Archives and History. View Standard(s): [SS2010] ALA (4) 6 : 6) Describe cultural, economic, and political aspects of the lifestyles of early nineteenth-century farmers, plantation owners, slaves, and townspeople. Examples: cultural—housing, education, religion, recreation economic—transportation, means of support political—inequity of legal codes • Describing major areas of agricultural production in Alabama, including the Black Belt and fertile river valleys [ELA2015] (4) 11 : 11) Determine the main idea of a text and explain how it is supported by key details; summarize the text. [RI.4.2] [ELA2015] (4) 12 : 12) Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. [RI.4.3] Subject: Social Studies (4), English Language Arts (4) Title: Lafayette's Grand Tour Description: Students will analyze a primary document and read a secondary source about the Marquis de Lafayette's Grand Tour of the United States in 1825. The Marquis and his entourage toured in Alabama as the country prepared to celebrate America's 50th birthday. The timeline will include dates and descriptions of the people, places, and events in informative summaries as well as appropriate illustrations. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [SS2010] ALA (4) 6 : 6) Describe cultural, economic, and political aspects of the lifestyles of early nineteenth-century farmers, plantation economic—transportation, means of support political—inequity of legal codes • Describing major areas of agricultural production in Alabama, including the Black Belt and fertile river valleys [ELA2015] (4) 12 : 12) Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. [RI.4.3] [ELA2015] (4) 15 : 15) Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided. [RI.4.6] Subject: Social Students will analyze a primary document that details items purchased to celebrate the Marquis de Lafayette's tour of Alabama in April 1825. Students will create an invitation to the celebration, including the What, Where, When, Why, What to Bring, and R.S.V.P. Students will include details from the secondary source, as well as the primary document, to include on the invitation. The event will be explained utilizing the format of the invitation. This lesson is part of the SSC3 A+ College Ready training. This lesson was created in partnership with the Alabama Department of Archives and History. View Standard(s): [SS2010] ALA (4) 2 : 2) Relate reasons for European exploration and settlement in Alabama to the impact of European explorers on trade, health, and land expansion in Alabama. • Locating on maps European settlements in early Alabama, including Fort Condé, Fort Toulouse, and Fort Mims • Tracing on maps and globes, the routes of early explorers of the New World, including Juan Ponce de León, Hernando de Soto, and Vasco Núñez de Balboa • Explaining reasons for conflicts between Europeans and American Indians in Alabama from 1519 to 1840, including differing beliefs regarding land ownership, religion, and culture [ELA2015] (4) 12 : 12) Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. [RI.4.3] [ELA2015] (4) 16 : 16) Interpret information presented visually, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears. [RI.4.7] [ELA2015] (4) 18 : 18) Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. [RI.4.9] [ELA2015] (4) 32 : 32) Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 4 topics and texts, building on others' ideas and expressing their own clearly. [SL.4.1] a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information [SL.4.1a] b. Follow agreed-upon rules for discussions and carry out assigned roles. [SL.4.1b] c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. [SL.4.1c] d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. [SL.4.1d] [ELA2015] (4) 10 : 10) Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. [RI.4.1] Subject: English Language Arts (4) Title: Hernando de Soto, his route, and his interactions with Native Americans in Alabama. Students will read two articles in order to identify information about Hernando de Soto and his journey through Alabama. Students will also learn about the impact of European Exploration on the Native Americans who were in Alabama in the 1500s. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [SS2010] ALA (4) 4 : 4) Relate the relationship of the five geographic regions of Alabama to the movement of Alabama during the early nineteenth century • Describing human environments of Alabama as they relate to settlement during the early nineteenth century, including housing, roads, and place names [ELA2015] (4) 1 : 1) Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. [RL.4.1] [ELA2015] (4) 35 : 35) Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. [SL.4.4] [ELA2015] (4) 12 : 12) Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. [RI.4.3] Subject: English Language Arts (4) Title: Alabama Fever! Description: In this lesson, students will work in small groups to examine a letter describing the environment of Alabama and identify reasons which might have encouraged settlers to move to Alabama in the early nineteenth century. Students will choose an interesting attraction of Alabama mentioned in the letter and design a postage stamp around that attraction. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [ELA2015] (3) 27 : 27) With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others. [W.3.6] Subject: English Language Arts (3) Title: Engineered Solution Dam Evaluation Journal and Presentation Description: Students will create a Google Doc utilizing their school based account or the class created account provided by the teacher. Students will electronically journal their thinking throughout the process of the hands-on group science activity about designing and evaluating a dam to reduce the impact of a flood. Once the activity is complete, students will share their Google Doc with a peer or assigned group in order to discuss findings of the experiment and clarify any unclear statements claimed in his/her journaling. Students will compile journal entries to create a sequential writing appropriate to the task. Students will then create a presentation of their journaling with Google Slides, Prezi, Animoto or a similar electronic presentation tool. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [SC2015] (0) 5 : 5) Construct a model of a natural habitat (e.g., terrarium, ant farm, diorama) conducive to meeting the needs of plants and animals native to Alabama. [ELA2015] (0) 25 : 25) Use a combination of drawing, dictating, and writing to compose informative or explanatory texts in which they name what they are writing about and supply some information about the topic. [W.K.2] [ELA2015] (0) 38 : 38) Begin to demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.K.2] a. Capitalize the first word in a sentence and the pronoun I. [L.K.2a] b. Recognize and name end punctuation. [L.K.2b] c. Write a letter or letters for most consonant and short-vowel sounds (phonemes). [L.K.2d] Subject: Science (K), English Language Arts (K) Title: Exploring and Constructing Forest Habitats Description: In this lesson, students will explore and construct forest habitats of plants and animals native to Alabama. In the beginning, students will explore and construct forest Habitat by Bobbie Kalman is used to further the students learning of the components that comprise a forest habitat and how those components interact with one another. The students will demonstrate their learning through animal sorts, habitat construction, and informational writing using the conventions of Standard English such as capitalization and punctuation. For the conclusion, the students will peer edit their writing using the provided writing anchor chart before presenting their learning to others. This lesson was created as part of the ALEX Gap Project. View Standards Standards Standards Standards (a): [SS2010] ALA (4) 6 : 6) Describe cultural, economic, and political aspects of the lifestyles of early nineteenth-century farmers, plantation owners, slaves, and townspeople. Examples: cultural-housing, education, religion, recreation economic-transportation, means of support political-inequity of legal codes • Describing major areas of agricultural production in Alabama, including the Black Belt and fertile river valleys [ELA2015] (4) 28 : 28) Conduct short research projects that build knowledge through investigation of different aspects of a topic. [W.4.7] Subject: English Language Arts (4) Title: Letting Off Some Steam Description: In this lesson, students will explore the invention of the steamboat and the role it played in the economy, transportation, and culture of the lifestyles of plantation owners, yeoman farmers, slaves, and townspeople of early nineteenth-century Alabama. Students will create a steamboats advertisement to illustrate the importance of the invention of the steamboat in Alabama. This lesson was created in partnership with the Alabama Department of Archives and History. View Standard(s): [SS2010] GHS (3) 2 : 2) Locate the continents on a map or globe • Using vocabulary associated with geographical features of Earth, including hill, plateau, valley, peninsula, island, isthmus, ice cap, and glacier • Locating major mountain ranges, oceans, rivers, and lakes throughout the world (Alabama) [ELA2015] (3) 2 : 2) Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text. [RL.3.2] [DLIT] (3) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (3) 22 : 16) Conduct basic keyword searches to produce valid, appropriate results, and evaluate results for accuracy, relevance, and appropriateness. Examples: Use search techniques, check for credibility and validity. Subject: Digital Literacy and Computer Science (3) Title: Mapping the Travels of Paul Bunyan tall tale, an entertaining way to identify bodies of water and landforms in the United States. Although Paul Bunyan's Tales did not focus on Alabama, students will create their own narratives after viewing photographs of major mountain ranges, rivers, and lakes throughout Alabama (ACOS 3.2). This lesson will utilize older maps of the United States and Alabama, which are used to remind us that this folk tale was handed down orally until the early 1900s when a newspaper printed several accounts of the tall tale. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [ELA2015] (4) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.4.3] a. Orient the reader by establishing a situation and introducing a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.4.3a] b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. [W.4.3b] c. Use a variety of transitional words and phrases to manage the sequence of events. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3e] [ELA2015] (4) 35 : 35) Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. [SL.4.4] [SS2010] ALA (4) 6 : 6) Describe cultural, economic, and political aspects of the lifestyles of early nineteenth-century farmers, plantation owners, slaves, and townspeople. Examples: cultural—housing, education, religion, recreation economic—transportation, means of agricultural production in Alabama, including the Black Belt and fertile river valleys [DLIT] (4) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [DLIT] (4) 18 : 12) Use basic features of digital tools to communicate key ideas and details in a way that informs and/or relevant. Subject: Digital Literacy and Computer Science (4) Title: The Slave Experience: A Look at a Slave's Life in the Nineteenth Century Description: Students will explore two NCSS Notable Trade Books and a newspaper advertisement to develop an understanding of what life was like for slaves in the nineteenth century. Students will use their understanding to write a narrative story about being a slave in the nineteenth century. Students will use the website MyStorybook to create and publish their stories. This lesson was created in partnership with the Alabama Department of Archives and History. View Standards Standard(s): [SS2010] GHS (3) 11 : 11) Interpret various primary sources for reconstructing the past, including documents, letters, diaries, maps, and photographs. • Comparing maps of the past to maps of the present Subject: Social Studies (3) Title: Reducing the Impact of a Flood Description: Students will interpret various primary sources for reconstructing the past, including documents and photographs. about dam designs. Students will gain skills necessary for researching by locating credible and original sources, determining if the sources are primary or secondary. Students will use technology to create a presentation, highlighting primary and secondary sources. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [ELA2015] (3) 12 : 12) Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause and effect. [RI.3.3] Subject: English Language Arts (3) Title: Cause and Effect of Dams Description: Students will discuss the definition of cause and effect, and the teacher will explicitly explain the definition of cause and effect. Students will be introduced to an informational text about dams. The teacher will model determining a cause and effect relationship found in the text. Next, the students will practice determining cause and effect relationships within the informational text. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [ELA2015] (3) 12 : 12) Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause and effect. [RI.3.3] [ELA2015] (3) 6 : 6) Distinguish their own point of view from that of the narrator or those of the characters. [RL.3.6] [SS2010] GHS (3) 11 : 11) Interpret various primary sources for reconstructing the past, and photographs. • Comparing maps of the past to maps of the present Subject: English Language Arts (3) Title: Pros and Cons - Picture Perfect Capitol for Alabama Description: Pictures of Alabama State Capitols are provided in this lesson to give students the opportunity to research information about the pictures. This will start a conversation about the best location for a capital city and its capitol building. This lesson was created as part of the Alabama Bicentennial Commission's Curriculum Development Project. View Standard(s): [ELA2015] (3) 11 : 11) Determine the main idea of a text; recount the key details and explain how they support the main idea. [RI.3.2] [SC2015] (3) 14 : 14) Collect information from a variety of sources to describe climates in different regions of the world. Subject: English Language Arts (3) Title: Exploring Nonfiction Texts to Determine How Climate Impacts Different Weather Phenomenon Description: The lesson will begin by students accessing their prior knowledge of weather and climates by completing a warm-up writing prompt. Students will then move to reading texts on the subjects of tornadoes, hurricanes, earthquakes, and droughts to determine if and how climate affects these weather phenomena. In groups, students will create a half-poster that describes their findings in text and pictures. At the end of the lesson, students will view a graph to extend their learning about tornadoes and hint at a future lesson while also completing an "exit ticket" as a means of summative assessment. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [ELA2015] (3) 12 : 12) Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause and effect. [RI.3.3] [ELA2015] (3) 6 : 6) Distinguish their own point of view from that of the narrator or those of the characters. [RL.3.6] [SS2010] GHS (3) 11 : 11) Interpret various primary sources for reconstructing the past, including documents, letters, diaries, maps, and photographs. • Comparing maps of the present Subject: Social Studies (3) Title: Pros and Cons - Picture Perfect Capitol for Alabama Description: Pictures of Alabama State Capitols are provided in this lesson to give students the opportunity to research information that could help them to give their point of view. It will be up to the students to provide further information about the pictures. This will start a conversation about the best location for a capital city and its capitol building. This lesson was created as part of the Alabama Bicentennial Commission's Curriculum Development Project. View Standards Standard(s): [ELA2015] (3) 12 : 12) Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause and effect. [RI.3.3] [ELA2015] (3) 16 : 16) Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur). [RI.3.7] Subject: English Language Arts (3) Title: Tornadoes: Cause and Effect Description: The lesson will begin with a brief review of the previous lesson on how climates and geographic locations can affect weather patterns and produce natural disasters. Students will watch a short video during the before strategy to engage learners in the lesson on a particular natural disaster-tornadoes. Students will read various texts and charts in order to understand the causes and effects of tornadoes, putting the information in a T-chart to help organize their thoughts. Students will then discuss their findings with an elbow partner and then write a two-paragraph cause and effect essay which will serve as the summative assessment. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standards Standards (3): [ELA2015] (3) 11 : 11) Determine the main idea of a text; recount the key details and explain how they support the main idea. [RI.3.2] [SC2015] (3) 14 : 14) Collect information from a variety of sources to describe climates in different regions of the world. Subject: Science (3) Title: Exploring Nonfiction Texts to Determine How Climate Impacts Different Weather Phenomenon Description: The lesson will begin by students accessing their prior knowledge of weather and climates by completing a warm-up writing prompt. Students will then move to reading texts on the subjects of tornadoes, hurricanes, earthquakes, and droughts to determine if and how climate affects these weather phenomena. In groups, students will create a half-poster that describes their findings in text and pictures. At the end of the lesson, students will view a graph to extend their learning about tornadoes and hint at a future lesson while also completing an "exit ticket" as a means of summative assessment. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standard(s): [SS2010] LWT2 (2) 2 : 2) Identify national historical figures and celebrations that exemplify fundamental democratic values, including equality, justice, and responsibility for the common good. • Recognizing our country's founding fathers, including George Washington, Thomas Jefferson, Benjamin Franklin, Patrick Henry, John Adams, John Hancock, and James Madison • Recognizing historical female figures, including Abigail Adams, Dolley Madison, Harriet Tubman, and Harriet Beecher Stowe • Describing the significance of national holidays, including the birthday of Martin Luther King, Jr.; Presidents' Day; Memorial Day; the Fourth of July; Veterans Day; and Thanksgiving Day • Describing the history of American symbols and monuments Examples: Liberty Bell, Statue of Liberty, bald eagle, United States flag, Washington Monument, Lincoln Memorial [SS2010] LWT2 (2) 3 : 3) Use various primary sources, including calendars and timelines, for reconstructing the past. Examples: historical letters, stories, interviews with elders, photographs, maps, artifacts [SS2010] LWT2 (2) 4 : 4) Use vocabulary to describe segments of time, including year, decade, score, and century. [ELA2015] (2) 12 : 12) Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text. [RI.2.3] [MA2015] (2) 14 : 14) Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. [2-MD1] [MA2015] (2) 19 : 19) Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the number sums and differences within 100 on a number line diagram. [2-MD6] [ELA2015] (2) 12 : 12) Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text. [RI.2.3] Subject: Social Studies (2), English Language Arts (2), Mathematics (2), Title: Time After Time: How Can We Use Timelines to Reconstruct the Past? Part 2 Description: The lesson will focus on observing and creating timelines. Teacher will show students example timelines. Students will state things that they notice from the sample timelines. Teacher will read American Symbols: The Lincoln Memorial by Terri DeGezelle. Finally, students will break into groups and work to create a timeline with other American Symbols books. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [SS2010] LWT2 (2) 3 : 3) Use various primary sources, including calendars and timelines, for reconstructing the past. Examples: historical letters, stories, interviews with elders, photographs, maps, artifacts [MA2015] (2) 19 : 19) Represent whole numbers interviews with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram. [2-MD6] [MA2015] (2) 14 : 14) Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. [2-MD1] [ELA2015] (2) 28 : 28) Recall information from experiences or gather information from provided sources to answer a question. [W.2.8] [ELA2015] (2) 12 12) Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text. [RI.2.3] Subject: Social Studies (2), English Language Arts (2) Title: Time After Time: How Can We Use Timelines to Reconstruct the Past? Part 4 Description: This lesson will focus on creating timelines. Students will use important dates from their lives to create a personal 5 event timeline. Students will include the lesson will include the lesson introduction, work on timelines and time for formative assessments as students work. The second session will be used to complete timelines, share projects, and complete exit tickets. Sample of completed timeline: Video sample of completed timeline: Vide length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. [2-MD1] [ELA2015] (2) 12 : 12) Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text. [RI.2.3] [ELA2015] (2) 28 : 28) Recall information from experiences or gather information from provided sources to answer a question. [W.2.8] [SS2010] LWT2 (2) 3 : 3) Use various primary sources, including calendars and timelines, for reconstructing the past. Examples: historical letters, stories, interviews with elders, photographs, maps, artifacts [MA2015] (2) 19 : 19) Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram. [2-MD6] Subject: Mathematics (2), English Language Arts (2), Social Studies (2) Title: Time After Time: How Can We Use Timelines to Reconstruct the Past? Part 3 Description: The lesson will focus on creating a timeline. This lesson will work to complete a class timeline and formulate guestions to ask others about their completed timeline. This lesson will require four 30-45 minute sessions to complete. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standard(s): [ELA2015] (2) 28 : 28) Recall information from experiences or gather information from provided sources to answer a question. [W.2.8] [ELA2015] (2) 12 : 12) Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text. [RI.2.3] [SS2010] LWT2 (2) 2 : 2) Identify national historical figures and celebrations that exemplify fundamental democratic values, including equality, justice, and responsibility for the common good. Recognizing our country's founding fathers, including George Washington, Thomas Jefferson, Benjamin Franklin, Patrick Henry, John Adams, John Hancock, and James Madison • Recognizing historical female figures, including Abigail Adams, Dolley Madison, Harriet Tubman, and Harriet Beecher Stowe • Describing the significance of national holidays, including the birthday of Martin Luther King, Jr.; Presidents' Day; Memorial Day; the Fourth of July; Veterans Day; and Thanksgiving Day • Describing the history of American symbols and monuments Examples: Liberty Bell, Statue of Liberty, bald eagle, United States flag, Washington Monument, Lincoln Memorial [SS2010] LWT2 (2) 3 : 3) Use various primary sources, including calendars and timelines, for reconstructing the past. Examples: historical letters, stories, interviews with elders, photographs, maps, artifacts Subject: English Language Arts (2), Social Studies (2) Title: Time After Time: How Can We Use Timelines to Reconstruct the Past? Part 1 Description: The lesson will focus on ordering common events by times, days, months, steps, or events. Students will work collaboratively in groups to organize five child-focused events, steps, or times. These titles, events, steps, days, and times will be cut apart so that students need to organize them into a logical sequence. Groups will rotate through the five events to practice daily schedules, holidays, school schedules, weekly events, and procedural texts. Groups may take a picture of completed events as a digital copy or the teacher may check each group for formative assessment. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [SC2015] (0) 6 : 6) Identify and plan possible solutions (e.g., reducing, reusing, recycling) to lessen the human impact on the local environment.* [ELA2015] (0) 38 : 38) Begin to demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.K.2] a. Capitalize the first word in a sentence and the pronoun I. [L.K.2a] b. Recognize and name end punctuation. [L.K.2d] Subject: Science (K), English Language Arts (K) Title: Lesson 2: Informational Writing: How to Lessen Human Impact on the Environment Description: This lesson, the solutions to lessen the human impact on the environment will be explored. Students will communicate their plan during journal writing by producing an informational writing piece that uses the conventions. At the end of the lesson, the students will peer edit their writing using the provided writing anchor chart. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [SC2015] (0) 6 : 6) Identify and plan possible solutions (e.g., reducing, recycling) to lessen the human impact on the local environment.* [ELA2015] (0) 25 : 25) Use a combination of drawing, dictating, and writing to compose informative or explanatory texts in which they name what they are writing about and supply some information about the topic. [W.K.2] [ELA2015] (0) 31 : 31) Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. [SL.K.1] a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). [SL.K.1a] b. Continue a conversation through multiple exchanges. [SL.K.1b] [MA2015] (0) 14 : 14) Describe measurable attributes of a single object. [K-MD1] [MA2015] (0) 16 : 16) Classify objects into given categories; count the number of objects in each category, and sort the category counts to be less than or equal to 10.) [K-MD3] [MA2015] (0) 4 : 4) Understand the relationship between numbers and quantities; connect counting to cardinality. [K-CC4] a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name and each number name and each number name with one and only one object. [K-CC4a] b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. [K-CC4b] c. Understand that each successive number name refers to a quantity that is one larger. [K-CC4c] Subject: Science (K), English Language Arts (K) Title: Lesson 3: Recycle, Recycle, Recycle, Description: This lesson may be taught as part of the Unit Plan - Solutions to Lessen Human Impact on the Environment. In this lesson, students will participate in creating a recycle drive to help collect items to be recycled. Students will decide by voting on which items they will recycle. Students will bring recyclable items to the classroom for the project. Recvclable materials will be sorted, weighed, and graphed to compare the different items. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [SC2015] (0) 6 : 6) Identify and plan possible solutions (e.g., reducing, reusing, recycling) to lessen the human impact on the local environment.* [ELA2015] (0) 31 : 31) Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. [SL.K.1] a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). [SL.K.1a] b. Continue a conversation through multiple exchanges. [SL.K.1b] [ELA2015] (0) 9 : 9) Actively engage in group reading activities with purpose and understanding. [RL.K.10] Subject: Science (K), English Language Arts (K) Title: Lesson 1: Reduce, Reuse, Recycle Description: This lesson may be taught as part of the Unit Plan - Solutions to Lessen Human Impact on the Environment. In this lesson, students will explore solutions that would lessen the human impact on the environment. After reading students will discuss ways they can help their environment through the 3R's (reduce, reuse, recycle). Students will create a reduce, reuse, recycle chart from their discussion. This unit was created as part of the ALEX Interdisciplinary Resource Development. View Standard(s): [SC2015] (0) 6 : 6) Identify and plan possible solutions (e.g., reducing, recycling) to lessen the human impact on the local environment.* [ELA2015] (0) 25 : 25) Use a combination of drawing, dictating, and writing to compose informative or explanatory texts in which they are writing about the topic. [W.K.2] [ELA2015] (0) 31 : 31) Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. [SL.K.1] a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). [SL.K.1a] b. Continue a conversation through multiple exchanges. [SL.K.1b] [MA2015] (0) 14 : 14) Describe measurable attributes of objects such as length or weight. Describe several measurable attributes of a single object. [K-MD1] [MA2015] (0) 16 : 16) Classify objects into given category, and sort the category counts to be less than or equal to 10.) [K-MD3] [MA2015] (0) 4 : 4) Understand the relationship between numbers and quantities; connect counting to cardinality. [K-CC4] a. When counting objects, say the number name and each number name with one and only one object. [K-CC4a] b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. [K-CC4b] c. Understand that each successive number name refers to a quantity that is one larger. [K-CC4c] Subject: Mathematics (K) Title: Lesson 3: Recycle, part of the Unit Plan - Solutions to Lessen Human Impact on the Environment. In this lesson, students will participate in creating a recycle drive to help collect items to be recycled. Students will decide by voting on which items they will recycle. Students will bring recyclable items to the classroom for the project. Recyclable materials will be sorted, weighed, and graphed to compare the different items. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [SC2015] (0) 6 : 6) Identify and plan possible solutions (e.g., reducing, reusing, recycling) to lessen the human impact on the local environment.* [ELA2015] (0) 1 : 1) With prompting and support, ask and answer questions about key details in a text. [RL.K.1] a. Make predictions to determine main idea and anticipate an ending. (Alabama) [ELA2015] (0) 2 : 2) With prompting and support, retell familiar stories, including key details. [RL.K.2] Subject: Science (K), English Language Arts (K) Title: Lesson 4: Recycling Product Lesson may be taught as part of the Unit Plan - Solutions to Lessen Human Impact on the Environment. This lesson will culminate the lessons on recycling that have been previously taught. Students will work collaboratively in groups to discuss texts and factual information they have learned from previous lessons taught on recycling. The students will make a poster or brochure to share with the class. The shared portion of the lesson will be videoed so that the students can share with parents, other family members, and the local city council members. This unit was created as part of the ALEX Interdisciplinary Resource Development. View Standard(s): [ELA2015] (3) 11 : 11) Determine the main idea of a text; recount the key details and explain how they support the main idea. [RI.3.2] [ELA2015] (3) 14 : 14) Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently. [RI.3.5] [SS2010] GHS (3) 9 : 9) Identify ways to prepare for natural disasters. Examples: constructing houses on stilts in flood-prone areas, buying earthquake and flood insurance, providing hurricane or tornado shelters, establishing emergency evacuation routes [DLIT] (3) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (3) 22 : 16) Conduct basic keyword searches to produce valid, appropriate results, and evaluate results for accuracy, relevance, and appropriateness. Examples: Use search techniques, check for credibility and validity. Subject: English Language Arts (3) Title: Preparing for Natural Disasters: Tornado Description: The lesson will begin by students performing a think-aloud as they consider the similarities of five words: tornado, shelter, basement, underground, and safe room. Students will use a pros and cons bhic organizer as they read articles on three different types of tornado shelters: underground shelters, part of the house shelters, and prebuilt shelters. The students will find the advantages of each type of structure. At the end of the lesson, the teacher will create a table that lists all the shelters and the pros and const of each. Students will then determine which shelter they feel is most efficient in an "exit slip" response. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [MA2015] (3) 18 : 18) Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graph might represent 5 pets. [SC2015] (3) 14 : 14) Collect information from a variety of sources to describe climates in different regions of the world. [DLIT] (3) 23 : 17) Describe examples of data sets or databases from everyday life. Examples: Library catalogs, school records, telephone directories, or contact lists. [DLIT] (3) 5 : R5) Locate and curate information from digital sources to answer research questions. Subject: Mathematics (3), Science (3), Digital Literacy and Computer Science (3) Title: Is My State at Risk for a Tornado? Description: This is a third-grade math lesson on the topic of tornadoes occurring in each state into a spreadsheet. Students will analyze and determine which states are the most active in tornado occurrences and create bar graphs and a scaled picture graph from the data collected. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards and explain how they support the main idea. [RI.3.2] [ELA2015] (3) 14 : 14) Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently. [RI.3.5] [SS2010] GHS (3) 9 : 9) Identify ways to prepare for natural disasters. Examples: constructing houses on stilts in floodprone areas, buying earthquake and flood insurance, providing hurricane or tornado shelters, establishing emergency evacuation from digital sources to answer research questions. [DLIT] (3) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (3) 2 : 16) Conduct basic keyword searches to produce valid, appropriate results, and evaluate results for accuracy, relevance, and appropriateness. Examples: Use search techniques, check for credibility and validity. Subject: Social Studies (3), Digital Literacy and Computer Science (3) Title: Preparing for Natural Disasters: Tornado Description: The lesson will begin by students performing a think-aloud as they consider the similarities of five words: tornado, shelters, basement, underground, and safe room. Students will use a pros and cons graphic organizer as they read articles on three different types of tornado shelters; and prebuilt shelters, and prebuilt shelters. The students will find the advantages and disadvantages of each type of structure. At the end of the lesson, the teacher will create a table that lists all the shelters and the pros and cons of each. Students will then determine which shelter they feel is most efficient in an "exit slip" response. This unit was created as part of the ALEX Interdisciplinary Resource Development Summit. View Standards Standard(s): [SC2015] (4) 12 : 12) Construct explanations by citing evidence found in patterns of rock formations and fossils in rock layers containing shell fossils appearing above rock layers containing plant fossils and no shells indicating a change from land to water over time, a canyon with different rock layers in the walls and a river in the bottom indicating that over time a river cut through the rock). [ELA2015] (4) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.4.3] a. Orient the reader by establishing a situation and introducing a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.4.3a] b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. [W.4.3b] c. Use a variety of transitional words and phrases to manage the sequence of events. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences or events. [W.4.3e] Subject: Science (4) Title: How Grand is the Grand Canyon? Description: In this lesson, students will conduct an experiment to compare similarities and differences with wind and water erosion. Students will create a narrative story describing a particular rock formation based on evidence in the rock patterns, including an estimated time frame, plants and animals that may have been living in the environment, and the type of erosion that formed their rock formation. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (4) 11 : 11) Investigate different ways (e.g., skunks lifting tails and spraying an odor when threatened, dogs moving ears when reacting to sound, snakes coiling or striking when sensing vibrations). [ELA2015] (4) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.4.3] a. Orient the reader by establishing a situation and introducing a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.4.3a] b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. [W.4.3b] c. Use a variety of transitional words and phrases to manage the sequence of events. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3e] Subject: Science (4) Title: A Dolphin's Tale Description: In this lesson, students will demonstrate echolocation using only their sense of hearing to locate sounds in their environment by playing a game of Marco Polo. Students will create their own method of echlocation to communicate and to locate things in their environment by playing a game of Marco Polo. environment to aid in their survival. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] ESS (9-12) 12 : 12) Develop a model of Earth's layers using available evidence to explain the role of thermal convection in the movement of Earth's materials (e.g., seismic waves, movement of tectonic plates). Subject: Science (9 - 12) Title: Modeling Earth's Layers: How Can Thermal Convection Cause Earth's Materials to Move? Description: Students will create a labeled sketch of Earth's interior, read a variety of informational texts and complete a jot chart that will utilize available evidence to describe the Earth's interior layers and explain the role of thermal convection in the movement of Earth's materials. Students will create a model to their classmates, explaining the role of thermal convection in the movement of Earth's materials. collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (4) 11 : 11) Investigate different ways (e.g., skunks lifting tails and spraying an odor when threatened, dogs moving ears when reacting to sound, snakes coiling or striking when sensing vibrations). [ELA2015] (4) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.4.3] a. Orient the reader by establishing a situation and introducing a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.4.3a] b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. [W.4.3b] c. Use a variety of transitional words and phrases to manage the sequence of events. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated exp locate sounds in their environment by playing a game of Marco Polo. Students will create their own method of echlocation to communicate with each other. Students will write a narrative, from the viewpoint of a dolphin, describing how a dolphin uses echolocation to communicate and to locate things in their environment to aid in their survival. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Stan opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented. [SC2015] LSC7 (7) 16 : 16) Construct an explanation based on evidence (e.g., cladogram, phylogenetic tree) for the anatomical similarities and differences among modern organisms and between modern and fossil organisms, including living fossils (e.g., alligator, horseshoe crab, nautilus, coelacanth). Subject: Literacy Standards (6-12) (6 - 8) Title: The Tasty T-Rex: How can cladograms provide evidence about the anatomical similarities and differences among modern and ancient organisms? Description: The lesson will begin by students accessing their prior knowledge of the anatomical similarities and differences among modern and fossil organisms. Next, students will complete the online modules found at "What did T. rex Taste Like?" from the University of California Museum of Paleontology, which will explain how a cladogram to infer how a T. rex is related to modern organisms. Lastly, students will construct a written explanation to describe the anatomical similarities and differences between the T. rex and modern organisms based on evidence from the cladograms in a claim-evidence-reasoning format. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (4) 12 : 12) Construct explanations by citing evidence found in patterns of rock formations and fossils in rock layers that Earth changes over time through both slow and rapid processes (e.g., rock layers containing shell fossils appearing above rock layers containing shell fossils appearing above rock layers containing plant fossils and no shells indicating a change from land to water over time, a canyon with different rock layers in the walls and a river in the bottom indicating that over time a river cut through the rock). [ELA2015] (4) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.4.3] a. Orient the reader by establishing a situation and introducing a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.4.3a] b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. [W.4.3b] c. Use a variety of transitional words and phrases to manage the sequence of events. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. compare similarities and differences with wind and water erosion. Students will create a narrative story describing a particular rock formation based on evidence in the rock patterns, including an estimated time frame, plants and animals that may have been living in the environment, and the type of erosion that formed their rock formation This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [LIT2010] WRI (6-8) 1 : 1) Write arguments focused on discipline-specific content. a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented. [SC2015] LSC7 (7) 16 : 16) Construct an explanation based on evidence (e.g., cladogram, phylogenetic tree) for the anatomical similarities and differences among modern

organisms and between modern and fossil organisms, including living fossils (e.g., alligator, horseshoe crab, nautilus, coelacanth). Subject: Science (7) Title: The Tasty T-Rex: How can cladograms provide evidence about the anatomical similarities and differences among modern and ancient organisms? Description: The lesson will begin by students accessing their prior knowledge of the anatomical similarities and differences among modern and fossil organisms. Next, students will complete the online modules found at "What did T. rex Taste Like?" from the University of California Museum of Paleontology, which will explain how a cladogram to infer how a T. rex is related to modern organisms. Lastly, students will construct a written explanation to describe the anatomical similarities and differences between the T. rex and modern organisms based on evidence from the cladograms in a claim-evidence-reasoning format. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [LIT2010] SCI (6-8) 5 : 5) Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic. [SC2015] LSC7 (7) 15 : 15) Analyze and interpret data for patterns of organisms using the fossil record and the chronological order of fossil appearance in rock layers. Subject: Literacy Standards (6-12) (6 - 8), Science (7) Title: Stories From Past Lives: How Can the Fossil Record Provide Data About the Patterns of Change in Anatomical Structures of Organisms? Description: The lesson will begin by students accessing their prior knowledge of fossils and the fossil record by creating a "chain letter" with their classmates. Next, students will participate in an introductory WebQuest which will explain how the anatomical structure of the whale has changed over time. With a collaborative group, students will create a timeline of the Eocene epoch that will depict the chronological order of whale fossil appearance in rock layers. Using the jigsaw strategy, students will read an informational text pertaining to the change in the anatomical structures of the whale over time and complete a data table. Lastly, students will complete a data table. Lastly, students will complete a data table. ASTA. View Standards Standard(s): [SC2015] (1) 7 : 7) Make observations to identify the similarities and differences of offspring to their parents and to other members of the same species (e.g., flowers from the same kind of plant being the same species, but differing in size; dog being same breed as parent, but differing in fur color or pattern). Subject: Science (1) Title: Inherited Traits: How Are Parents and Their Offspring, then the teacher will allow students to describe how they were able to create matches. Next, the teacher will create a T-chart and allow students to share how dogs are similar in appearance in some ways but can also have different characteristics. Lastly, the students will create an illustration of a new animal using a "Trait Table" that includes characteristics of both parent animals. At the conclusion of the lesson, the students should be able to identify similarities and differences between offspring and their parents and other members of the same species. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] ESS (9-12) 8 : 8) Develop a time scale model of Earth's biological and geological history to establish relative and absolute age of major events in Earth's history (e.g., radiometric dating, models of geologic cross sections, sedimentary layering, fossilization, early life forms, folding, faulting, igneous intrusions). Subject: Science (9 - 12) Title: It's All Absolutely Relative: Creating a Geologic Time Scale Description: Students will begin this lesson by ordering the events of their morning using relative and absolute dating techniques. Students will also write a personal definition of the terms absolute age. Next, students will work with collaborative groups to order events in Earth's geologic history by relative age, then order those same events by absolute age in a scaled model timeline. Lastly, students will use the time-scale model created with their group members to analyze events in Earth's geologic history. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [ELA2015] (0) 30 : 30) With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. [W.K.8] [SC2015] (0) 5 : 5) Construct a model of a natural habitat (e.g., terrarium, ant farm, diorama) conducive to meeting the needs of plants and animals native to Alabama. Subject: English Language Arts (K) Title: The Needs of Living Things: Constructing a Model Habitat Description: Students will begin by brainstorming a list of needs that must be met for an animal to survive in its habitat. Next, the students will observe an ant farm, created by the teacher prior to the lesson, and determine how the ants' needs are being met through their environment. Then, students will create a list of needs that must be met for a plant to survive in its habitat and compare this list to animals' survival needs. Lastly, the teacher will assist students in developing a plan to build a natural habitat conducive to meeting the needs of a plant. At the conclusion of the lesson, the students will construct a plant terrarium. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards claims of the cell theory. [LIT2010] SCI (6-8) 1 : 1) Write arguments focused on discipline-specific content. a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented. Subject: Science (7), Literacy Standards (6-12) (6 - 8) Title: The Cell Theory: An Evidence-Based Argument Description: This lesson will require students to research the three tenets of cell theory and describe the scientific evidence that supports this theory. After students complete their research, they will engage in all steps of the writing, revising, and editing. At the conclusion of the lesson, students will create a three-paragraph argumentative essay to examine the cell theory and the scientific evidence that supports this theory. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] LSC7 (7) 14 : 14) Gather and synthesize information regarding the impact of technologies (e.g., hand pollination, selective breeding, genetic engineering, genetic modification, gene therapy) on the inheritance and/or appearance of desired traits in organisms. [LIT2010] WRI (6-8) 4 : 4) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. Subject: Science (7), Literacy Standards (6-12) (6 - 8) Title: Supernatural Seeds: What Are the Positive and Negative Impacts of Genetically Modified Organisms? Description: Students will begin the lesson by viewing a video clip that will explain the difference between classical and transgenic breeding of plants. Next, students will work in groups to identify common foods that contain geneticallymodified organisms (GMOs). Students will further explore this concept by gathering and synthesizing information regarding the impact of genetically modified organisms. Lastly, students will engage in the "RAFT" writing strategy, by taking on the role of a farmer persuading their employees to consider the positive or negative impacts of genetically-modified food crops. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards (s): [SC2015] LSC7 (7) 10 : 10) Use evidence and scientific reasoning to explain how characteristic animal behaviors (e.g., building nests to protect young from cold, herding to protect young from predators, attracting mates for breeding by producing special sounds and displaying colorful plumage, transferring pollen or seeds to create conditions for seed germination and growth) and specialized plant structures (e.g., flower brightness, nectar, and odor attracting birds that transfer pollen; hard outer shells on seeds providing protection prior to germination) affect the probability of successful reproduction of both animals and plants. [LIT2010] SCI (6-8) 4 : 4) Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to Grades 6-8 texts and topics. [LIT2010] WRI (6-8) 1 : 1) Write arguments focused on discipline-specific content. a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources, c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented. Subject: Science (7), Literacy Standards (6-12) (6 - 8) Title: Dressed for Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the Probability of Success: How Do Specialized Plant Structures Increase the P video of time-lapse photographs of flowers blooming, and students will create a T-chart listing the similarities and differences among the appearances of each flower. To formatively assess students' current knowledge of specialized plant structures, the students will sort key vocabulary words related to plants' structures into categories. Then, students will read an informational article on flowering plants and re-sort the key vocabulary words into the correct categories to demonstrate their knowledge of plants' specialized reproductive structures. Next, students will complete a lab activity in which they will carefully dissect a flower and observe the various specialized structures, collect specimens to view under the microscope and create and label scientific sketches of the flower's specialized structures. Lastly, students will have a high probability of reproductive success and provide a written response in a claim-evidence-reasoning format. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] LSC7 (7) 8:8) Construct an explanation to predict patterns of interactions in different ecosystems in terms of the relationships between and among organisms (e.g., competition, predation, mutualism, commensalism, parasitism). Subject: Science (7) Title: Patterns of Interactions: What Relationships Exist Between Organisms may interact within an ecosystem? Description: Students will have an opportunity to share their list with a peer and with the class. Next, students will create a jot chart that will detail the five relationships that may exist between organisms in an ecosystem: competition, predation, mutualism, commensalism, and parasitism. At the conclusion of the lesson, students will examine food webs and predict the patterns of interactions that may exist between and among organisms in an ecosystem. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [ELA2015] (0) 30 : 30) With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. [W.K.8] [SC2015] (0) 5 : 5) Construct a model of a natural habitat (e.g., terrarium, ant farm, diorama) conducive to meeting the needs of Living Things: Constructing a Model Habitat Description: Students will begin by brainstorming a list of needs that must be met for an animal to survive in its habitat. Next, the students will observe an ant farm, created by the teacher prior to the lesson, and determine how the ants' needs are being met through their environment. Then, students will create a list of needs that must be met for a plant to survive in its habitat and compare this list to animals' survival needs. Lastly, the teacher will assist students in developing a plan to build a natural habitat conducive to meeting the needs of a plant. At the conclusion of the lesson, the students will construct a plant terrarium. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] PS8 (8) 2 : 2) Plan and carry out investigations to generate evidence supporting the claim that one pure substance can be distinguished from another based on characteristic properties. Subject: Science (8) Title: Can You Identify the Mystery Substance? An Inquiry-Based Lab Activity Description: Students will begin this inquiry-based lesson by accessing their prior knowledge about the distinguishing characteristics of different substances. Using ideas from the students, the teacher will create a list of physical and chemical properties that can be used to recognize different substances. Next, the teacher will assist the students in planning an investigation that will test methods to determine the identity of substances based on their characteristic properties. Lastly, students will carry out the investigation they planned with the aim of identifying "mystery" substances using their unique physical and chemical properties. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards state Department of Education and ASTA. View Standards state Department of Education and ASTA. space, red fox burrowing to create a den to raise young, humans growing gardens for food and building roads for transportation). [ARTS] VISA (0) 1 : 1) Engage in self-directed exploration and imaginative play with art materials. a. Use motor skills to create two-dimensional art. Examples: Finger painting, watercolors, paper collage, and rubbings. b. Use motor skills to create three-dimensional art. Examples: Rolling, folding, cutting, molding, pinching and pulling clay. Subject: Science (K), Arts Education (K) Title: Animal Alterations: How Do Animals Change Their Habitats? Description: Students will begin by describing how humans change their environment in order to provide for their needs. Students will watch a video clip that explains how several forest animals alter their environment in order to provide for its needs. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] ESS (9-12) 13 : 13) Analyze and interpret data of interactions between the hydrologic and rock cycles to explain the mechanical impacts (e.g., stream transportation and deposition, erosion, frost-wedging) and chemical impacts (e.g., oxidation, hydrolysis, carbonation) of Earth materials by water's properties. Subject: Science (9 - 12) Title: Mechanical and Chemical Impacts of the Hydrologic and Rock Cycles on Earth's Surface: A Geologic Field Study Description: This lesson will begin by introducing students to the impact of the interaction of the hydrologic and rock cycles on Earth's materials. Students will categorize the mechanical and chemical impacts of the hydrologic cycle on Earth's materials. the hydrologic cycle on their school's grounds. Lastly, students will analyze and interpret the data gathered during the geologic field study through the creation of a bar and circle graph. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] ESS (9-12) 11: 11) Obtain and communicate information about significant geologic characteristics (e.g., types of rocks and geologic ages, earthquake zones, sinkholes, caves, abundant fossil fauna, mineral and energy resources) that impact life in Alabama and the southeastern United States. [LIT2010] SCI (9-10) 1: 1) Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or description: The lesson will begin by engaging students with a video of a natural landform in Alabama called Neversink Pit. Students will then research the natural and human-made causes and effects of sinkhole formation in Alabama. Lastly, students will create a video PSA to communicate information between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] ESS (9-12) 2 : 2) Engage in argument from evidence to compare various theories for the formation and changing nature of the universe and our solar system (e.g., Big Bang Theory, Hubble's law, steady state theory, light spectra, motion of distant galaxies, composition of matter in the universe). [LIT2010] SCI (9-10) 1 : 1) Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. [LIT2010] WRI (9-10) 1 : 1) Write arguments focused on discipline-specific content. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major sections of the text, create cohesion, and clauses to link the major secti counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented. Subject: Science (9 - 12), Literacy Standards (6-12) (9 - 10) Title: The Big Bang Theory: An Evidence-Based Argument Description: This lesson will require students to research the Big Bang Theory and the three main pieces of scientific evidence that support this theory. After students complete their research, they will engage in all steps of the writing process, including prewriting, outlining, revising, and editing At the conclusion of the lesson, students will create a five paragraph argumentative essay to examine the Big Bang Theory and the scientific evidence that supports this theory. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] PHYS (9-12) 1:1) Investigate and analyze, based on evidence obtained through observation or experimental design, the motion of an object using both graphical and mathematical models (e.g., creating or interpreting graphs of position, velocity, and acceleration versus time graphs for one- and two-dimensional motion; solving problems using kinematic equations for the case of constant acceleration) that may include descriptors such as position, distance traveled, displacement, speed, velocity, and acceleration. [SC2015] PHYS (9-12) 5 : 5) Construct models that illustrate how energy is related to work performed on or by an object and explain how different forms of energy are transformed from one form to another (e.g., distinguishing between kinetic, potential, and other forms of energy to systems such as roller coasters, falling objects, and spring-mass systems; discussing the effect of frictional forces on energy conservation and how it affects the motion of an object). [SC2015] PSC (9-12) 7 : 7) Analyze and interpret data for one- and two-dimensional motion applying basic concepts of distance, displacement, speed, velocity, and acceleration (e.g., velocity versus time graphs, displacement versus time graphs, acceleration versus time graphs). [SC2015] PSC (9-12) 8 : 8) Apply Newton's laws to predict the resulting motion of a system by constructing force diagrams that identify the external forces acting on the system, including friction (e.g., a book on a table, an object being pushed across a floor, an accelerating car). [SC2015] PSC (9-12) 11 : 11) Design and conduct investigations to verify the law of conservation of energy, including transformations of potential energy, kinetic energy, thermal energy, and the effect of any work performed on or by the system. Subject: Science (9 - 12) Title: Energy and Work Amusement Park Style Description: This is a lesson presenting energy and work. It covers: types of energy, forms of energy, work, law of conservation of energy, and renewable and nonrenewable energy sources. In the activities section, one will find links to Internet sites that explore concepts of energy and work. Interactive labs are also included in this lesson. The lesson can serve as a student-led or teacher-led lesson. It gives a brief statement of facts; therefore, the teacher must provide expansions, if needed. The expansions could come from the Internet sites since many of them go into more detail about the concepts. The teacher will also be expected to supply some form of assessment for the lesson. View Standard(s): [ELA2015] (5) 10 : 10) Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. [RI.5.1] [SC2015] (5) 10 : 10) Construct and interpret models (e.g., diagrams, flow charts) to explain that energy in animals' food is used for body repair, growth, motion, and maintenance of body warmth and was once energy from the sun. Subject: English Language Arts (5), Science (5) Title: Pass the Solar Energy, Please! Description: Students know that humans and other animals must eat food to have the energy to grow, maintain body temperature, heal, and move, but do they realize that all the energy in food was once energy from the sun? In this lesson, students will participate in a simulation regarding the transfer of energy from the sun to plants, the conversion of solar energy between organisms when one organism eats another. Then they will use websites, close reading of nonfiction passages, and vocabulary-building activities to prepare them to construct their own models of the transfer of energy in a food chain to show that energy in a food chain to show that energy in animals' food was once energy from the sun. View Standards Standard(s): [ELA2015] (5) 10 : 10) Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. [RI.5.1] [ELA2015] (5) 23 : 23) Write informative or explanatory texts to examine a topic and convey ideas and information and focus, and group related information logically; include formating (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. [W.5.2a] b. Develop the topic with facts, definitions, concrete details, quotations, or other information using words, phrases, and clauses (e.g., in contrast, especially). [W.5.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.5.2d] e. Provide a concluding statement or section related to the information presented. [W.5.2e] [SC2015] (5) 12 : 12) Defend the claim that one factor determining the apparent brightness of the sun compared to other stars is the relative distance from Earth. Subject: English Language Arts (5), Science (5) Title: Is the Sun the Biggest Star? Description: Young students may think the sun is the biggest star in the sky when viewed from Earth. In this lesson, students will use flashlights to construct a model of the difference in stars' appearances due to their distance from Earth. Then they will use the Internet to research the sun and stars to create a poster, picture book, or digital presentation to explain that the sun is not the biggest or brightest star--it only appears that way due to its proximity to Earth. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] ES6 (6) 15 : 15) Analyze evidence (e.g., databases on human populations, rates of consumption of food and other natural resources) to explain how changes in human population, per capita consumption of natural resources, and other human activities (e.g., land use, resource development, water and air pollution, urbanization) affect Earth's systems. Subject: Science (6) Title: Are We Our Own Worst Enemy? #3 (Air Pollution) Description: In this lesson children will investigate 6 major pollutants in our world and how they can be eliminated or limited. This lesson is a continuation of the other Are We Our Own Worst Enemy? lesson plans. It can stand on its own but if you haven't taught the others you may want to show the World Population Over Time video before starting this lesson. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (5) 9 : 9) Construct an illustration to explain how plants use light energy to convert carbon dioxide and water into a storable fuel, carbohydrates, and a waste product, oxygen, during the process of photosynthesis. Subject: Science (5) Title: Fascinating Photosynthesis Description: In this lesson, students investigate photosynthesis through hands-on experiments, videos, and discussion of text. They work in small groups with picture cards to create a chart showing how plants transform carbon dioxide, water, and light energy into carbohydrates and oxygen. After working collaboratively, students will create their own diagrams of photosynthesis. Because plant observations must occur over time, this lesson will take several days to complete. This lesson results from a collaboration and ASTA. View Standards Standard(s): [SC2015] PSC (9-12) 7 : 7) Analyze and interpret data for one- and two-dimensional motion applying basic concepts of distance, displacement, speed, velocity, and acceleration (e.g., velocity versus time graphs). [SC2015] PSC (9-12) 8:8) Apply Newton's laws to predict the resulting motion of a system by constructing force diagrams that identify the external forces acting on the system, including friction (e.g., a book on a table, an object being pushed across a floor, an accelerating car). Subject: Science (9 - 12) Title: Tower of Terror: Creating a Free Fall Ride Description: In this activity, the students will be engineers who compete to create their own "safe" and fast free fall ride. Using graphing and calculations, the students will calculate the fastest ride and determine the minimum and maximum passenger sizes that their ride will hold. The team that designs the fastest ride that doesn't "hurt" the passenger (s) wins! This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (1) 3 : 3) Investigate materials to determine which types allow light to pass through (e.g., transparent materials such as wax paper), block light (e.g., opaque materials such as construction paper), or reflect light (e.g., shiny materials such as aluminum foil). Subject: Science (1) Title: Light, Can't you See? Investigation to see what materials as opaque, to conduct a hands-on investigation to see what materials as opaque, they will label materials as opaque, they will be a set what materials and the set what materials as opaque, they will be a set what materials as opaque, they will be a set what materials as opaque, they will be a set what materials as opaque, they will be a set what materials as opaque, they will be a set what materials as opaque, they will be a set what materials as opaque, they will be a set what materials as opaque, they will be a set what materials as opaque, they will be a set what materials as opaque, they are set what materials as opaque, they are set with the set will be a set with the set translucent, and transparent. They will operate solar panels and place different materials between the sun and the panel. The panel is attached to a fan which will stop, continue spinning or slow down depending on the material. Learners will record their findings in chart form. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standard(s): [SC2015] ESS (9-12) 1:1) Develop and use models to illustrate the lifespan of the sun, including energy released during nuclear fusion that eventually reaches Earth through radiation. Subject: Science (9 - 12) Title: Photons In The Radiative Zone: Which Way Is Out? Description: In this activity, students try to work their way out of a circular maze, thereby modeling the movement of a photon as it travels through the radiative zone of the sun. Classroom discussion after they complete the activity is focused on the Standard Solar Model and its importance in further scientific studies of the sun. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] CHEM (9-12) 7 : 7) Plan and carry out investigations to explain the behavior of ideal gases in terms of pressure, temperature, and number of particles. a. Use mathematical gases in terms of pressure, temperature, and volume of an enclosed gas when only the amount of gas is constant. b. Use mathematical and computational thinking based on the ideal gas law to determine molar quantities. Subject: Science (9 - 12) Title: Gas Laws in the World of Aeronautics. This lesson is adapted from the NASA Education Guide Pushing the Envelope: A NASA Guide to Engines. The activities used include the following: Gas Laws (pg 27-28); Gas Law Problems - Charles's Law (pg 31-32); Gas Law Problems - Gay Lussac's Law (pg 33-34); Air Density (pg 61-62). This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standard(s): [SC2015] ESS (9-12) 6 : 6) Obtain and evaluate information about Copernicus, Galileo, Kepler, Newton, and Einstein to communicate how their findings challenged conventional thinking and allowed for academic advancements and space exploration. Subject: Science (9 - 12) Title: Using Heavy Lifting to Demonstrate How Conventional Thinking has Changed Over Time Description: In this lesson, students construct balloon-powered rockets to launch the greatest payload possible to the classroom ceiling. Student teams receive identical parts to build rockets. Then the teams compete to launch the greatest number of paper clips to space (the ceiling). By utilizing this lesson, the students begin to understand that the scientific progress achieved is not a static process but a fluid one that has developed and changed overtime. They also begin to realize that scientific advancement has incorporated a variety of scientists throughout history and time periods. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] (3) 4 : 4) Apply scientific ideas about magnets to solve a problem through an engineering design project (e.g., constructing a latch to keep a door shut, creating a device to keep two moving objects from touching each other such as a maglev system).* Subject: Science (3) Title: A Train That Floats! Description: The students will work together to design a magnetic system that can float from one point to another. The students will design a graphic organizer showing the sequence and steps needed to design a Maglev Train system by applying a scientific understanding of the forces between interacting magnets. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] PS8 (8) 3 : 3) Construct explanations to differentiate among compounds, mixtures, and solutions. a. Collect and analyze information to illustrate how synthetic materials (e.g., medicine, food additives, alternative fuels, plastics) are derived from natural resources and how they impact society. Subject: Science (8) Title: Is Plastic Always Fantastic?: Exploring Plastics on the Nanoscale Description: This module was authored by the Auburn University NanoBio MSP Fellows Will Haynes, Hannah Taylor, and Catherine Wolfe under the review and guidance of Drs. Virginia Davis and Chris Schnittka. This lesson is about compounds, mixtures, and solutions and relating those to synthetics, with the focus being plastics. This lesson focuses on how plastics are made and the negative impacts of some plastics. It goes on to explain how the addition of nanoscale particles can be the solution for these problems. This lesson includes a lecture and a hands-on activity where the students are creating plastic from the milk protein casein. View Standards Standard(s): [SC2015] (3) 10 : 10) Investigate how variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing (e.g., plants having larger thorns being less likely to survive and bear offspring). Subject: Science (3) Title: Animal Survival Description: This is an inquiry-based lesson that allows the students to investigate how an animal's color affects its chances of survival in its environment. Students will explore evidence needed to explain the cause-and-effect relationship between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (1) 1 : 1) Conduct experiments to provide evidence that vibrations of matter can create sound (e.g., striking a tuning fork, plucking a quitar string) and sound can make matter vibrate (e.g., holding a piece of paper near a sound system speaker, touching your throat while speaking). Subject: Science (1) Title: Do You Hear What I Hear? Description: The students will create a communication device using everyday resources. The students will explain how vibration is used to create sound and sound waves. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] CHEM (9-12) 11 : 11) Construct an explanation that describes how the release or absorption of energy from a system depends upon changes in the components of the system. a. Develop a model to illustrate how the changes in total bond energy determine whether a chemical reaction is endothermic or exothermic. b. Plan and conduct an investigation that demonstrates the transfer of thermal energy in a closed system (e.g., using heat capacities of two components of differing temperatures). Subject: Science (9 - 12) Title: What Makes a Chemical Reaction Endothermic or Exothermic? Description: Students will analyze the bond energy of the reactants and products in a chemical reaction. Students will develop a model to illustrate how the changes in total bond energy determine whether the reaction is endothermic. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (3) 13:13) Display data graphically and in tables to describe typical weather conditions expected during a particular season (e.g., average temperature, precipitation, wind direction). Subject: Science (3) Title: What's the Weather? Description: Students will use weather data to construct charts and graphs of temperatures in their city in different seasons. Then they will use this data as evidence to determine which temperatures for another U.S. city and compare the data to that of their own city in order to determine which city would be the best vacation spot on a given date. Students will justify their explanations based on temperature data and the desired vacation between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (4) 10 : 10) Obtain and communicate information explaining that humans have systems that interact with one another for digestion, respiration, circulation, excretion, movement, control, coordination, and protection from disease. Subject: Science (4) Title: Human Nervous System Description: This inquiry-based lesson allows students to explore how our bodies use our voluntary and involuntary nervous systems to make our bodies function. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (1) 5 : 5) Design a solution to a human problem by using materials to imitate how plants and/or animals use their external parts to help them survive, grow, and meet their needs (e.g., outerwear imitating animal furs for insulation, gear mimicking tree bark or shells for protection).* Subject: Science (1) Title: Solutions from Nature, Stability Description: This is one of three lessons that can be taught alone, or as the second part of a series, "Solutions from Nature." In this lesson, students explore the structure of plants, and the parts that provide stability. They choose from different materials to construct a house that is sturdy (like the stem) and has a foundation (like the roots). Students test the strength of their design to determine which elements/materials provide increased stability. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards state and manipulate models (e.g., physical, graphical, conceptual) to explain the occurrences of day/night cycles, length of year, seasons, tides, eclipses, and lunar phases based on patterns of the observed motions of celestial bodies. Subject: Science (6) Title: How Are Moon Phases and Tides Related?: A Graphical Model Description: Students will complete a data table using authentic tide predictions from the National Oceanic and Atmospheric Administration. Next, students will use their data table to create a line graph that will show the relationship between the tidal range and moon phases. Lastly, students will analyze their graph to explain how the occurrence of ocean tides is related to the moon's phases. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] ES6 (6) 3 : 3) Develop and use models to determine scale properties of objects in the solar system (e.g., scale model representing sizes and distances of the sun, Earth, moon system based on a one-meter diameter sun). Subject: Science (6) Title: Rollin' Through the Solar System: Creating a Scaled Model Description: First, students will view an engaging video about the recent arrival of the New Horizons spacecraft at Pluto. Students will create a sketch of the solar system to show their current understanding of the relative sizes and distances of the objects in our solar system. Students will then scale the diameters of the Sun, eight main planets, and Pluto, as well as the planets' distances from the sun. Students will be required to utilize mathematical skills, such as division, rounding, and metric system conversions. After scaling the diameters and orbits of the objects in our solar system, students will create a scaled model of the solar system using a roll of toilet paper. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (4) 7 : 7) Develop and use models to show multiple solutions in which patterns are used to transfer information (e.g., using a grid of 1s and 0s representing black and white to send information about a picture, using drums to send coded information through sound waves, using Morse code to send a message).* Subject: Science (4) Title: Secret Messages within text or data known as steganography. Students will compare advantages and disadvantages of different techniques of steganography. Students will create their own secret code to communicate with their group. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (0) 9 : 9) Observe, record, and share findings of local weather patterns over a period of time (e.g., increase in daily temperature from morning to afternoon, typical rain and storm patterns from season). Subject: Science (K) Title: We're Weather Watchers! Description: The students will observe the weather over a five-day period. After observing the local weather, the students will record their observations. The students will use their five senses to observe and record the local weather. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (4) 8 : 8) Construct a model to explain that an object can be seen when light reflected from its surface enters the eyes. Subject: Science (4) Title: When Light Gets in Your Eyes Description: How does light affect sight? In this lesson, students will observe how light reflects off objects and into the eye so we can see They will learn how the pupil controls the amount of light entering the eye, how we perceive color by sensing different wavelengths of light, and dim light. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (5) 1 : 1) Plan and carry out investigations (e.g., adding air to expand a basketball, compressing air in a syringe, dissolving sugar in water is made of particles too small to be seen. But if we can't see these particles, how do we know they exist? In this lesson, students will plan and carry out investigations with air and simple solutions to provide evidence that all types of matter are made of tiny particles that are invisible to the human eye. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (2) 6 : 6) Design and construct models to simulate how animals brushing fur against seed pods and seeds falling off in other areas, birds and bees extracting nectar from flowers and transferring pollen from one plant to another).* Subject: Science (2) Title: Hitching a Ride Description: How can a tree grow in the middle of a field if no one planted it there? In this lesson, students will work to find out the answer to this question by learning how seeds are dispersed. Students will observe different types of seeds and see how they netimes "hitch a ride" in or on animals to travel great distances. Finally, they will use the engineering design process to make models of animals that help disperse seeds. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (1) 5 : 5 Design a solution to a human problem by using materials to imitate how plants and/or animals use their external parts to help them survive, grow, and meet their needs (e.g., outerwear imitating animal furs for insulation, gear mimicking tree bark or shells for protection).* Subject: Science (1) Title: Solutions from Nature. Protection Description: This is one of three lessons that can be taught alone, or as the third part of a series, "Solutions from Nature." In this lesson, students examine outer parts of animals that provide protection (turtles, crabs, pill bugs, snails, etc.). They choose from different materials to construct a "helmet" that can protect an egg from breaking if it is dropped. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standards Standards (a): [SC2015] ES6 (6) 11 : 11) Develop and use models of Earth's interior composition to illustrate the resulting magnetic field (e.g., magnetic poles) and to explain its measureable effects (e.g., protection from cosmic radiation). Subject: Science (6) Title: Earth's Magnetic Shield: An Inquiry-Based Lesson Description: Students will be introduced to the concept of space weather, including cosmic radiation and coronal mass ejections, by watching a video clip from the National Science Foundation. Students will use a dipole bar magnetic field. Students will apply their experience from this inquiry to explain how Earth's magnetic field can protect us from space weather. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] ES6 (6) 9 : 9) Use models to explain how the flow of Earth's internal energy drives a cycling of matter between Earth's surface and deep interior causing plate movements (e.g., mid-ocean ridges, ocean trenches, volcanoes, earthquakes, mountains, rift valleys, volcanic islands). Subject: Science (6) Title: How could the continents of Earth could move over time. Next, students will complete a lab activity in collaborative groups, in which they will create a model showing how Earth's internal heat energy can create convection currents that result in plate movements. Lastly, students will use their model to explain how Earth's tectonic plates move over millions of years. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] ES6 (6) 10 : 10) Use research-based evidence to propose a scientific explanation regarding how the distribution of Earth's resources such as minerals, fossil fuels, and groundwater are the result of ongoing geoscience processes (e.g., past volcanic and hydrothermal activity, burial of organic sediments, active weathering of rock). [ELA2015] (6) 27 : 27) Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate. [W.6.7] [ELA2015] (6) 29 : 29) Draw evidence from literary or informational texts to support analysis, reflection, and research. [W.6.9] a. Apply Grade 6 Reading standards to literature (e.g., "Compare and contrast texts in different forms or genres [e.g., stories] in terms of their approaches to similar themes and topics"). [W.6.9a] b. Apply Grade 6 Reading standards to literative (e.g., "Compare and contrast texts in different forms or genres [e.g., stories] in terms of their approaches to similar themes and topics"). [W.6.9a] b. Apply Grade 6 Reading standards to literative (e.g., "Compare and contrast texts in different forms or genres [e.g., stories] in terms of their approaches to similar themes and topics"). [W.6.9a] b. Apply Grade 6 Reading standards to literative (e.g., "Compare and contrast texts in different forms or genres [e.g., stories] in terms of their approaches to similar themes and topics"). "Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not"). [W.6.9b] [ELA2015] (6) 31 : 31) Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. [SL.6.1] a. Come to discussions prepared, having read or studied required material; explicitly draw on that prepared or studied required material; explicitly draw on that prepared or studied required material; explicitly draw on the topic, text, or issue to probe and reflect on ideas under discussion. [SL.6.1] a. Come to discussions, set specific goals and deadlines, and define individual roles as needed. [SL.6.1b] c. Pose and respond to specific guestions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. [SL.6.1c] d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. [SL.6.1d] Subject: Science (6) Title: The Distribution and Creation of Fossil Fuels: A Collaborative Jigsaw Research Project Description: Students will begin this lesson by accessing their prior knowledge on Earth's natural resources through a brainstorming activity. The teacher will introduce the topic of fossil fuels, which are non-renewable resources such as coal, oil, and natural gas. The teacher will lead students in utilizing the jigsaw literacy strategy, in which students will become members of a home group as they research and discuss their assigned topic. This lesson will culminate with students creating a presentation in the form of a research paper, poster, or slideshow to demonstrate their knowledge of the distribution and creation of fossil fuels. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (1) 1 : 1) Conduct experiments to provide evidence that vibrations of matter can create sound (e.g., striking a tuning fork, plucking a guitar string) and sound can make matter vibrate (e.g., holding a piece of paper near a sound system speaker, touching your throat while speaking). Subject: Science (1) Title: Tuning Forks and Vibrations Description: This is an inquiry-based lesson that allows students to investigate how vibrations of matter can create sound and that sound can make matter vibrate. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standards Standards State Department of Education and ASTA. communication signal over a distance (e.g., using a flashlight and a piece of cardboard to simulate a signal lamp for sending to a classmate).* Subject: Science (1) Title: Sound through String Telephones Description: This is an inquiry-based lesson that allows the students to create a string telephone to investigate how sound can be used to communicate over a given distance. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] ES6 (6) 10 : 10) Use research-based evidence to propose a scientific explanation regarding how the distribution of Earth's resources such as minerals, fossil fuels, and groundwater are the result of organic sediments, active weathering of rock). [ELA2015] (6) 27 : 27) Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate. [W.6.7] [ELA2015] (6) 29 : 29) Draw evidence from literary or informational texts to support analysis, reflection, and research. [W.6.9] a. Apply Grade 6 Reading standards to literature (e.g., "Compare and contrast texts in different forms or genres") [e.g., stories and poems; historical novels and fantasy stories] in terms of their approaches to similar themes and evidence from claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not"). [W.6.9b] [ELA2015] (6) 31 : 31) Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. [SL.6.1] a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussions, set specific goals and deadlines, and define individual roles as needed. [SL.6.1a] b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. detail by making comments that contribute to the topic, text, or issue under discussion, [SL.6.1c] d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. [SL.6.1d] Subject: English Language Arts (6) Title: The Distribution and Creation of Fossil Fuels; A Collaborative Jigsaw Research Project Description: Students will begin this lesson by accessing their prior knowledge on Earth's natural resources through a brainstorming activity. The teacher will introduce the topic of fossil fuels, which are non-renewable resources such as coal, oil, and natural gas. The teacher will lead students in utilizing the jigsaw literacy strategy, in which students will become members of a home group and an expert group as they research and discuss their assigned topic. This lesson will culminate with students creating a presentation in the form of a research paper, poster, or slideshow to demonstrate their knowledge of the distribution and creation of fossil fuels. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards State Department of Education and ASTA. View Standards State Department of Education and ASTA. through the heart and systems of the body, ABO blood groups, anatomy of the heart, types of blood vessels). a. Engage in argument from evidence regarding possible prevention and treatment options related to the pathology of the cardiovascular system (e.g., myocardial infarction, mitral valve prolapse, varicose veins, arteriosclerosis, anemia, high blood pressure). b. Design and carry out an experiment to test various conditions that affect the heart (e.g., heart rate, blood Groups and How They Contribute to Blood Transfusions Description: This lesson will demonstrate why blood transfusions are possible between certain types of blood. ABO blood types will be reviewed and students will determine which blood types activity, Discovery Science Center, 2500 N Main St Santa Ana, CA 92705. This lesson results from a collaboration between the Alabama State Department of Education and ASTA View Standards Standard(s): [SC2015] CHEM (9-12) 3 : 3) Use the periodic trends of the elements, including metal/nonmetal/metalloid behavior, electrical/heat conductivity, electronegativity and electron-pair repulsion in the periodic table. b. Develop and use models (e.g., Lewis dot, 3-D ball-and-stick, space-filling, valence-shell electron-pair repulsion [VSEPR]) to predict the type of bonding and shape of simple compounds, c. Use the periodic table as a model to derive formulas and names of ionic and covalent compounds, [DLIT] (9-12) 31 : 25) Utilize a variety of digital tools to create digital tools to create digital artifacts across content areas. Subject: Science (9 - 12) Title: Bond Polarity and Determining Molecular Geometry Description: In this lesson, students will examine electronegativities of atoms relative to one another to determine if a covalent bond will be classified as polar or nonpolar. Students will use an online simulation to help them understand the importance of lone pairs of electrons as well as bonding pairs of electrons. Students will use ball-and-stick models to examine and identify the shapes of various molecules. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] ESS (9-12) 10 : 10) Construct an explanation from evidence for the processes that generate the transformation of rocks in Earth's crust, including chemical composition of minerals and characteristics of sedimentary, igneous, and metamorphic rocks. [LIT2010] WRI (6-8) 4 : 4) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. [LIT2010] WRI (6-8) 5 : 5) With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, r Description: After researching the formation of each type of rock, students use the evidence from knowledge of the rock changing from magma to each type of rock including igneous, sedimentary, and metamorphic. Students will present their pet rock story to the class. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] CHEM (9-12) 3 : 3) Use the periodic table as a systematic representation to predict properties of elements based on their valence electron arrangement. a. Analyze data such as physical properties to explain periodic trends of the elements, including metal/nonmetal/metalloid behavior, electrical/heat conductivity, electronegativity and atomic-covalent/ionic radii, and how they relate to position in the periodic table. b. Develop and use models (e.g., Lewis dot, 3-D ball-and-stick, space-

filling, valence-shell electron-pair repulsion [VSEPR]) to predict the type of bonding and shape of simple compounds. c. Use the periodic table as a model to derive formulas and names of ionic and covalent compounds. [DLIT] (9-12) 31 : 25) Utilize a variety of digital tools to create digital artifacts across content areas. Subject: Digital Literacy and Computer Science (9 - 12) Title: Bond Polarity and Determining Molecular Geometry Description: In this lesson, students will examine electronegativities of atoms relative to one another to determine if a covalent bond will be classified as polar or nonpolar. Students will use an online simulation to help them understand the importance of lone pairs of electrons as well as bonding pairs of electrons. Students will use ball-and-stick models to examine and identify the shapes of various molecules. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (5) 2 : 2) Investigate matter to provide mathematical evidence, including graphs, to show that regardless of the type of reaction (e.g., new substances, the total weight of the matter is conserved. Subject: Science (5) Title: Changing Matter, Not Weight Description: Matter is not created nor destroyed; it simply changes from one form to another. This law of conservation of mass challenges elementary students' ideas about matter, because many children may think that matter is created or destroyed in a chemical reaction. In this lesson, students will challenge their preconceptions about matter by experimenting with physical and chemical changes to determine that the total weight of the matter does not change. Students will use math to show that the total weight of matter is equal to the sum of the weight of its component parts, and they will graph this information to show that the weight of matter is conserved during physical and chemical changes. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (5) 15 : 15) Identify the distribution of freshwater and salt water on Earth (e.g., oceans, lakes, rivers, glaciers, ground water, polar ice caps) and construct a graphical representation depicting the amounts and percentages found in different reservoirs. Subject: Science (5) Title: Where's the Water? Description: The majority of Earth's surface is covered by water, but only a small percentage of this water is freshwater. In this lesson, students will learn where saltwater and freshwater are found. Then they will use models to show the distribution of different types of water in different types of water 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standard(s): [SC2015] (4) 7 : 7) Develop and use models to show multiple solutions in which patterns are used to transfer information (e.g., using a grid of 1s and 0s representing black and white to send information about a picture, using drums to send coded information through sound waves, using Morse code to send a messages. We may use codes to keep our messages secret from people who do not know the code, or we may use them to change one type of information into another. The key to decoding a message is knowing the rule to crack the code. In this lesson, students will explore different types of codes, create coded messages, and apply rules to decode messages. This lesson provides the background needed for students to then develop their own method for transferring information. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] LSC7 (7) 7 : 7) Use empirical evidence from patterns and data to demonstrate how changes to physical or biological components of an ecosystem (e.g., deforestation, succession, drought, fire, disease, human activities, invasive species) can lead to shifts in populations. [SC2015] LSC7 (7) 9:9) Engage in argument to defend the effectiveness of a design solution that maintains biodiversity and ecosystem services (e.g., using scientific, economic, and social considerations regarding purifying water, recycling nutrients, preventing soil erosion). Subject: Science (7) Title: Exponential Trash Description: Waste disposal is a problem for the entire Earth and must be dealt with in a responsible manner to maintain biodiversity in ecosystems. After investigating the amount of waste they produce as an individual, family, class, school, community, and society, students investigate how items decompose in a landfill and develop argument to defend the effectiveness of a design solution on a proposed method of disposing of waste in their school and community. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (3) 4 : 4) Apply scientific ideas about magnets to solve a problem through an engineering design project (e.g., constructing a latch to keep a door shut, creating a device to keep two moving objects from touching each other such as a maglev system).* Subject: Science (3) Title: Magnets to improve our lives? In this lesson, students explore magnets to determine their strength, polarity, and how they attract and repel each other. Then they use the engineering design process to create inventions that use magnets to accomplish a task. This lesson results from a collaboration and ASTA. View Standards Standard(s): [SC2015] (5) 14 : 14) Use a model to represent how any two systems, specifically the atmosphere, biosphere, geosphere, and/or hydrosphere, influence of the atmosphere on landforms and ecosystems through weather and climate; influence of mountain ranges on winds and clouds in the atmosphere). Subject: Science (5) Title: Connect Four Description: During this lesson, the students will learn how the Earth's spheres interact with one another in order to support life on planet Earth. This lesson can be taught over a two- to three-day period. View Standards Standard(s): [SC2015] CHEM (9-12) 6 : 6) Use mathematics and computational thinking to express the concentrations of solutions quantitatively using molarity. a. Develop and use models to explain how solutes are dissolved in solvents. b. Analyze and interpret data to explain effects of temperature on the solubility of solid, liquid, and gaseous solutes in a solvent and the effects of pressure on the solubility of gaseous solutes. c. Design and conduct experiments to test the concept of pH as a model to predict the relative properties of strong, weak, concentrated, and dilute acids and bases (e.g., Arrhenius and Brønsted-Lowry acids and bases). Subject: Science (9 - 12) Title: Is Gatorade the Only Source of Electrolytes? Description: Students will consider the marketing campaigns of Gatorade to help identify what makes a substance an electrolyte. Students will plan and conduct an investigation to test common ionic and covalent substances to determine if the substance is an electrolyte or non-electrolyte when dissolved in solution. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] ENVS (9-12) 6 : 6) Obtain, evaluate, and communicate information to describe how human activity may affect biodiversity and genetic variation of organisms, including threatened and endangered species. [SC2015] BIOL (9-12) 15 : 15) Engage in argument from evidence (e.g., mathematical models such as distribution graphs) to explain how the diversity of organisms is affected by overpopulation of species, variation due to genetic mutations, and competition for limited resources. [LIT2010] WRI (9-10) 5 : 5) Develop and strengthen writing, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. [LIT2010] WRI (9-10) 4:4) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. [SC2015] BIOL (9-12) 13:13) Obtain, evaluate, and communicate information to explain how organisms are classified by physical characteristics, organized into levels of taxonomy, and identified by binomial nomenclature (e.g., taxonomic classification, dichotomous keys). a. Engage in argument to justify the grouping of viruses in a category separate from living things. [LIT2010] SCI (9-10) 2 : 2) Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text. Subject: Science (9 - 12), Literacy Standards (6-12) (9 - 10) Title: Endangered Species of their choice integrating aspects of math, science, social studies, art, reading and writing. This project allows the students to make connections across the curriculum. Students present their ideas to a group of peers persuading the endangered species. Students are also encouraged to make connections between the activities of the human population and their effect on the natural world. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (2) 5 : 5) Plan and carry out an investigation, using one variable at a time (e.g., water, light, soil, air), to determine the growth needs of plants. [MA2015] (3) 17 : 17) Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). (Excludes compound units such as cm3 and finding the geometric volume of a container.) Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g. by using drawings (such as a beaker with a measurement scale) to represent the problem. (Excludes multiplicative comparison problems (problems as much").) (See Appendix A, Table 2.) [3-MD2] [MA2015] (0) 15 : 15) Directly compare two objects, with a measurable attribute in common, to see which object has "more of" or "less of" the attribute, and describe the difference. [K-MD2] Example: Directly compare the heights of two children, and describe one child as taller or shorter. [MA2015] (0) 16 : 16) Classify objects into given categories; count the number of objects in each category, and sort the categories by count. (Limit category counts to be less than or equal to 10.) [K-MD3] [MA2015] (1) 16 : 16) Express the length of an object as a whole number of length units by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps. [1-MD2] [MA2015] (1) 18 : 18) Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. [1-MD4] [MA2015] (2) 14 : 14) Measure the length of an object by selecting and using appropriate tools such as rulers, vardsticks, meter sticks, and measuring tapes. [2-MD1] [MA2015] (2) 17 : 17) Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. [2-MD4] [MA2015] (2) 22 : 22) Generate measurement data by measuring lengths of several objects to the nearest whole unit or by making repeated measurements of the same object. Show the measurements by making a line plot where the horizontal scale is marked off in whole-number units. [2-MD9] [MA2015] (2) 23 : 23) Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (See Appendix A, Table 1.) [2-MD10] Subject: Science (2), Mathematics (K - 3) Title: What do Plants Need? Description: In this lesson, students will understand that in order to grow healthy plants, soil, water, light, and air must be provided. Students will use math skills such as measurement and science process skills such as observation, comparing, and recording data. View Standard(s): [SC2015] (0) 9 : 9) Observe, record, and share findings of local weather patterns over a period of time (e.g., increase in daily temperature from morning to afternoon, typical rain and storm patterns from season). [DLIT] (0) 5 : R5) Locate and curate information from digital sources to answer research questions. Subject: Science (K), Digital Literacy and Computer Science (K) Title: Weather Detectives Description: This is an introductory lesson to a second grade weather unit. The students will be integrating information from the Internet as well as what they learn in English by using adjectives in their descriptions. After the students have collected data for a week, in cooperative groups, they will predict the weather reports from past years for that particular week in order to guide them in the direction of an accurate prediction. The students will go to a technology lab to look up and record the weather from a teacher-selected web site. View Standard(s): [SC2015] LSC7 (7) 9:9) Engage in argument to defend the effectiveness of a design solution that maintains biodiversity and ecosystem services (e.g., using scientific, economic, and social considerations) regarding purifying water, recycling nutrients, preventing soil erosion). Subject: Science (7) Title: What Do You Know? We've Got Clean H2O!: Nano Filtration. Students will have the opportunity to explore water filtration by filtering water through a variety of materials and using potatoes to grow and test the bacteria levels of the water. With a focus on nanotechnology, this lesson students will have the opportunity to put their knowledge to the test in a written discussion by designing a solution to a mock water crisis. This module was authored by the Auburn University NanoBio MSP Fellows Will Haynes, Chelsea Lindskog, Hannah Taylor, and Catherine Wolfe under the supervision and guidance of Drs. Virginia Davis and Chris Schnittka. View Standard(s): [SC2015] ES6 (6) 15 : 15) Analyze evidence (e.g., databases on human populations, rates of consumption of food and other natural resources) to explain how changes in human population, per capita consumption of natural resources, and other human activities (e.g., land use, resource development, water and air pollution, urbanization) affect Earth's systems. Subject: Science (6) Title: Are We Our Own Worst Enemy? #1 (Land Usage) Description: This lesson deals with human growth and our consumption of land resources. This lesson can be used in conjunction with other Are We Our Own Worst Enemy? lessons, although this should be first since it has the video of population growth. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (1) 5 : 5) Design a solution to a human problem by using materials to imitate how plants and/or animals use their external parts to help them survive, grow, and meet their needs (e.g., outerwear imitating animal furs for insulation, gear mimicking tree bark or shells for protection).* Subject: Science (1) Title: Solutions from Nature, Insulation Description: This is one of three lessons that can be taught alone, or as the first part of a series, "Solutions from Nature." In this lesson, students explore characteristics of animals that provide insulation. They experiment with different materials to build a "glove" that can protect their hands from a cold ice bath. A YouTube link to a similar demonstration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (4) 6 : 6) Develop a model of waves to describe patterns in terms of amplitude and wavelength, and including that waves can cause objects to move. Subject: Science (4) Title: Waves in Slow Motion Description: This inquiry-based lesson provides an introduction to waves by using water waves to explore patterns of amplitude, wavelength, and frequency. Students will investigate water waves in slow motion. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (4) 6 : 6) Develop a model of waves to describe patterns in terms of amplitude and wavelength, and including that waves can cause objects to move. Subject: Science (4) Title: Blow Me Away! Description: This inquiry-based lesson allows students to explore how energy is transferred through a wave. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (4) 16 : 16) Describe patterns of Earth's features on land and in the ocean using data from maps (e.g., topographic maps of Earth's land and ocean floor; maps of locations of mountains, continental boundaries, volcanoes, and earthquakes). Subject: Science (4) Title: Mapping the Mountains Description: Students will describe features shown on topographic maps as they plan a route for a bicycle race around the school neighborhood. First, they will create clay mountains and learn how to make topographic maps of their landforms. Then they will interpret topographic maps made by other students in the class to match each mountain to its map. Finally, they will use topographic maps of the school campus to plan an exciting but safe bike race route. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (3) 2 : 2) Investigate, measure, and communicate in a graphical format how an observed pattern of motion (e.g., a child swinging in a swing, a ball rolling back and forth in a bowl, two children teetering on a see-saw, a model vehicle rolling down a ramp of varying heights, a pendulum swinging) can be used to predict the future motion of an object. Subject: Science (3) Title: Super Swingers Description: Students will construct and test pendulums with varying weights, string types, release positions, and lengths. They will collect, graph, and analyze data to see which variables affect the speed of the pendulums. Then they will then use this data to solve a real-world problem and explain their thinking. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (5) 8 : 8) Defend the position that plants obtain materials needed for growth primarily from air and water. Subject: Science (5) Title: How Does your Garden Grow? Description: In this lesson, the students will learn that plants need water, air, nutrients, and sunlight to grow. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. **This lesson can be taught over a three to five day period. Simply repeat the steps as the students will become more knowledgeable of the target. View Standards Standard(s): [SC2015] (5) 11 : 11) Create a model to illustrate the transfer of matter among producers; consumers, including scavengers and decomposers; and the environment. [ELA2015] (5) 16 : 16) Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. [RI.5.7] [ELA2015] (5) 36 : 36) Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. [SL.5.5] Subject: Science (5), English Language Arts (5) Title: The Circle of Life Description: During this lesson, the students will learn how matter transfers within an ecosystem and within the environment *This lesson can be taught over a two-day period. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [MA2015] (5) 22 : 22) Relate volume to the operations of multiplication and addition, and solve real-world and mathematical problems involving volume. [5-MD5] a. Find the volume of a right rectangular prism with whole-number side lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication. [5-MD5a] b. Apply the formulas V = I x w x h and V = B x h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems. [5-MD5b] c. Recognize volume as additive. Find volumes of solid figures composed of two nonoverlapping right rectangular prisms by adding the volumes of the nonoverlapping parts, applying this technique to solve real-world problems. [5-MD5c] [MA2015] (5) 20 : 20) Recognize volume as an attribute of solid figures, and understand concepts of volume measurement. [5-MD3] a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. [5-MD3a] b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units. [5 MD3b] [SC2015] (5) 5 : 5) Construct explanations from observations to determine how the density of an object affects whether the object: Mathematics (5) Title: My Gummy Bear is Bigger than Your Gummy Bear! Description: Students will develop an understanding of volume and density by analyzing, calculating, and measuring a gummy bear. The students will determine the cause and effect of a water-soaked gummy bear. Students will measure water and gummy bear. Students will measure water and gummy bear. ASTA. View Standards Standard(s): [SC2015] (3) 5 : 5) Obtain and combine information to describe that organisms are classified as living things, taker than nonliving things, rather than nonliving things, taker than nonliving things, rather than nonliving things, based on their ability to obtain and use resources, grow, reproduce, and maintain stable internal conditions while living in a constantly changing external environment. Subject: Science (3) Title: Is George Washington Living, Nonliving, or Dead? Description: In this simplistic, introductory lesson in Life Science, students will converse with peers to prepare a list of seven common characteristics in organisms after determining if pictured items are living or nonliving. Students will use background knowledge and pictures to identify patterns that represent all living organisms. After watching a short video, students will separate living or drawing an outdoor environment. Students will answer this question: Is George Washington Living, Nonliving, or Dead? as an Exit Ticket. This lesson results from collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [MA2015] (5) 22 : 22) Relate volume to the operations of multiplication and addition, and solve real-world and mathematical problems involving volume. [5-MD5] a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the edge lengths, equivalently by multiplying the edge lengths. Apply the formulas V = I x w x h and V = B x h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems. [5-MD5b] c. Recognize volume as additive. Find volumes of solid figures composed of two nonoverlapping right rectangular prisms by adding the volumes of the nonoverlapping parts, applying this technique to solve real-world problems. [5-MD5c] [MA2015] (5) 20 : 20) Recognize volume as an attribute of solid figures, and understand concepts of volume measurement. [5-MD3] a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. [5-MD3a] b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units. [5-MD3b] [SC2015] (5) 5 : 5) Construct explanations from observations to determine how the density of an object affects whether the object sinks or floats when placed in a liquid. Subject: Science (5) Title: My Gummy Bear is Bigger than Your Gummy Bear! Description: Students will develop an understanding of volume and density by analyzing, calculating, and measuring a gummy bear. The students will determine the cause and effect of a water-soaked gummy bear. Students will measure water and gummy bear with accuracy, record data, and communicate their results. This lesson results from collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (4) 14 : 14) Explore information to support the claim that landforms are the result of a combination of constructive forces, including crustal deformation, volcanic eruptions, and sediment deposition as well as a result of destructive forces, including erosion and weathering. [SC2015] (4) 15 : 15) Analyze and interpret data (e.g., angle of slope in downhill movement of water, volume of water flow, cycles of freezing and thawing of water. cycles of heating and cooling of water, speed of wind, relative rate of soil deposition, amount of vegetation) to determine effects of weathering one single form of weathering or erosion at a time. Subject: Science (4) Title: Investigating Erosion Description: In this inquiry-based lesson, students will investigate how rainfall changes the land and causes runoff. The students will simulate a stream table to show how rainfall erodes the land. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (4) 6 : 6) Develop a model of waves to describe patterns in terms of amplitude and wavelength, and including that waves can cause objects to move. Subject: Science (4) Title: Riding the Waves! Description: During this lesson, students will learn the different aspects of a wave, including the crest, trough, wavelength, and amplitude. Additionally, they will learn that waves cause objects to move. At the end of the lesson, they will be able to develop a model of waves and describe patterns. This could be the first lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] ESS (9-12) 3 : 3) Evaluate and communicate scientific information (e.g., Hertzsprung-Russell diagram) in reference to the life cycle of stars using data of both atomic emission and absorption spectra of stars to make inferences about the presence of certain elements. Subject: Science (9 - 12) Title: Hands-on Activity: Can You Locate the Sun on the H-R Diagram? Description: Students will be able to locate the sun by using the Hertzsprung-Russel diagram to plot the sun's location. This lesson can be an opening activity, review activity, or a quick lab. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (5) 6 : 6) Construct an explanation from evidence to illustrate that the gravitational force exerted by Earth on objects is directed downward towards the center of Earth. Subject: Science (5) Title: Gravity on Earth Description: In this lesson, students will share their background knowledge of gravity and how it affects skydivers. After a brief whole group discussion on gravity, students will create a model helicopter to provide evidence that the gravitational force of earth will cause the helicopter to fall downward toward the center of Earth. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] ES6 (6) 7 : 7) Use models to construct explanations of the various biogeochemical cycles of Earth (e.g., water, carbon, nitrogen) and the flow of energy that drives these processes. Subject: Science (6) Title: How do clouds form? Description: The lesson provides an overview of cloud formation results when warm, humid air rises and cools, causing the water vapor in the air to condense and form clouds. In this lesson, students will conduct an activity that demonstrates how this occurs. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. This lesson was modified from NASA series "Investigating the Climate System. They can be freely downloaded at View Standards Standard(s): [SC2015] (0) 10 : 10) Ask questions to obtain information about the purpose of weather forecasts in planning for, preparing for, and responding to severe weather.* [ELA2015] (0) 33 : 33) Ask and answer questions in order to seek help, get information, or clarify something that is not understood. [SL.K.3] Subject: Science (K), English Language Arts (K) Title: Forecasting Severe Weather Description: This lesson increases student knowledge of severe weather and weather forecasting. It emphasizes the importance of student questioning to obtain information. After the introduction to severe weather is made, students will create their own Tornado in a Bottle, and use this exploration to make further connections. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (4) 2 : 2) Plan and carry out investigations that explain transference of energy from place to place by sound, light, heat, and electric currents. a. Provide evidence that heat can be produced in many ways (e.g., rubbing hands together, burning leaves) and can move from one object to another by conduction. b. Demonstrate that electric circuits require a complete loop through which an electric current can pass. [SC2015] (4) 4 : 4) Design, construct, and test a device that changes energy from one form to another (e.g., electric circuits converting electrical energy; a passive solar heater converting light energy into heat energy).* Subject: Science (4) Title: Solar Ovens Description: This investigation allows students to explore the real-life meaning of solar energy. Students designing and engineering a solar oven using a pizza box. Completed projects will be tested and then evaluated for effectiveness. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] BIOL (9-12) 10 : 10) Construct an explanation and design a real-world solutions and ecological succession caused by density-dependent factors.* Subject: Science (9 - 12) Title: Density Independent and/or density-independent factors.* of density-independent and density-dependent factors and how they have an effect on the changing conditions on a lake. After establishing the difference between them, students will play a game where they change several factors and assess the effects of their changes to the environment. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (4) 13 : 13) Plan and carry out investigations to examine properties of soils and soil types (e.g., color, texture, capacity to retain water, ability to support growth of plants). Subject: Science (4) Title: Investigating Soil Description: This lesson provides an introductory-level experience with soil. During the experiment, students will combine soil with water and conduct observations. The observations made will lead to greater understanding of soil's basic properties. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] PS8 (8) 8 : 8) Use Newton's first law to demonstrate and explain that an object is either at rest or moves at a constant velocity unless acted upon by an external force (e.g., model car on a table remaining at rest until pushed). [SC2015] PS8 (8) 9 : 9) Use Newton's second law to demonstrate and explain how changes in an object's motion depend on the sum of the external forces on the object and the mass of the object (e.g., billiard balls moving when hit with a cue stick). [SC2015] PS8 (8) 10 : 10) Use Newton's third law to design a model to demonstrate and explain the resulting motion of two colliding objects (e.g., two cars bumping into each other, a hammer hitting a nail).* Subject: Science (8) Title: Newton's Laws of Motion Part 3: Newton's 2nd Law & Review Description: The third installment of a three-part lesson on Newton's 2nd Law and offers review of all three laws. Students will complete graphic organizers to demonstrate their understanding of the three laws of motion. Students will work in tiered groups to prepare a brief presentation to share with the class on a real-life scenario demonstrating Newton's 2nd Law. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] ES6 (6) 3 : 3) Develop and use models to determine scale properties of objects in the solar system (e.g., scale model representing sizes and distances of the sun, Earth, moon system based on a one-meter diameter sun). Subject: Science (6) Title: Exploring Planet Sizes and Distances Description: This lesson allows students to construct solar system models showing the comparative sizes of the planets to a scale. The students will also use their models to carry out an investigation to analyze and interpret the distances between planets in the Solar System. This lesson uses common objects easily obtained by teachers. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] (5) 11 : 11) Create a model to illustrate the transfer of matter among producers; consumers, including scavengers and decomposers; and the environment. Subject: Science (5) Title: The Transfer of Energy in Ecosystems Description: In this lesson, students will use technology to construct a model of a balanced ecosystem that shows how energy cycles from one organism to the next by completing research and writing short passages about their ecosystem. Students will then compare their balance of their model ecosystem and describe a change or introduce an invasive species to show how the balance of their model ecosystem will change to adapt. As students are designing their model they will also describe the relationships of the components that make up an ecosystem and causes/effects of unbalanced ecosystems. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (5) 4 : 4) Investigate whether the mixing of two or more substances results in new substances (e.g., mixing of baking soda and vinegation between the Alabama State Department of Education and ASTA. resulting in the formation of a new substance, gas; mixing of sand and water resulting in no new substance being formed). Subject: Science (5) Title: Lights, Camera, Action: Creating Videos to Investigate Changes When Mixing Two or More Substances Description: Students will collect data on an investigation where two or more substances are mixed together. Students will analyze the investigation to decide the type of change, chemical or physical, that occurred during the investigation to create a short movie where they will describe the data they used to determine the type of change that occurred during their investigation. This lesson will work best for classrooms equipped with classroom tablets or schools that allow students to bring their own device. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] CHEM (9-12) 4 : 4) Plan and conduct an investigation to classify properties of matter as intensive (e.g., density, viscosity, specific heat, melting point, boiling point point, solubility, phase-change diagrams) to compare the strength of intermolecular forces and how these forces affect physical properties and changes. [LIT2010] WRI (9-10) 7 : 7) Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. [LIT2010] WRI (9-10) 8:8) Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard formational texts to support analysis, reflection, and research. Subject: Science (9 - 12) Title: Comparing Intermolecular Forces Description: Students will be conducting a series of investigations in order to compare and contrast the various intermolecular forces that exist between compounds. First, students will work together using the jigsaw research approach to understand the 4 types of intermolecular forces. And lastly, students will use the information gained to go back to their data collected and compare their original compounds and type of intermolecular bond they exhibit. This lesson plan results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] BIOL (9-12) 14 : 14) Analyze and interpret data to evaluate adaptations resulting from natural and artificial selection that may cause changes in populations over time (e.g., antibiotic-resistant bacteria, beak types, peppered moths, pest-resistant crops). [SC2015] BIOL (9-12) 15 : 15) Engage in argument from evidence (e.g., mathematical models such as distribution graphs) to explain how the diversity of organisms is affected by overpopulation of species, variation for limited resources. Subject: Science (9 - 12) Title: Which Beak is "On Fleek"? Description: In the urban dictionary, "on fleek" is currently a popular slang term that describes something that is "flawlessly styled or groomed." In this lesson, the students will explore the concept of evolution by using their engineering skills to "build" various bird beaks that are "flawlessly styled," or "on fleek," for capturing different types of food. Finally, the students will use argument-driven inquiry to design an experiment and use claim, evidence, and reasoning to justify which "bird" is best adapted to survive during conditions of limited resources. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] CHEM (9-12) 4 : 4) Plan and conduct an investigation to classify properties of matter as intensive (e.g., density, viscosity, specific heat, melting point, boiling p solubility, phase-change diagrams) to compare the strength of intermolecular forces and how these forces affect physical properties and changes. [LIT2010] WRI (9-10) 7 : 7) Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. [LIT2010] WRI (9-10) 8:8) Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation. [LIT2010] WRI (9-10) 9:9) Draw evidence from informational texts to support analysis, reflection, and research. Subject: Literacy Standards (6-12) (9 - 10) Title: Comparing Intermolecular Forces Description: Students will be conducting a series of investigations in order to compare and contrast the various intermolecular forces that exist between compounds. First, students will rank 4 substances according to their melting points. Second, students will work together using the jigsaw research approach to understand the 4 types of intermolecular forces. And lastly, students will use the information gained to go back to their data collected and compare their original compounds and type of intermolecular bond they exhibit. This lesson plan results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (5) 5 : 5) Construct explanations from observations to determine how the density of an object sinks or floats when placed in a liquid. Subject: Science (5) Title: Density Sink or Float Lab Description: This lesson will allow students to experiment with different objects to predict and explain the results of their experiments on the objects as they relate to density. Through this experiment, students will be able to understand the cause and effect relationship to explain the objects sinking or floating. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] PS8 (8) 8 : 8) Use Newton's first law to demonstrate and explain that an object is either at rest or moves at a constant velocity unless acted upon by an external force (e.g., model car on a table remaining at rest until pushed). Subject: Science (8) Title: Newton's Laws Part 1 - Newton's 1st Law Description: This lesson is the first part of a series of lessons based on Newton's Three Laws of Motion. This lesson introduces the laws and specifically centers on developing a video as a model for students to demonstrate and explain Newton's First Law of Motion. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (4) 4 : 4) Design, construct, and test a device that changes energy from one form to another (e.g., electric circuits converting electrical energy into motion, light, or sound energy; a passive solar heater converting light energy into heat energy).* Subject: Science (4) Title: Harnessing The Wind (Part One) Description: In this lesson, students will investigate materials to determine which materials to determine which students will design, construct, and race a puff mobile. Students will create a class chart to record data from the puff mobile race. Students will compare features from the puff mobiles with the best race times. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] ES6 (6) 14 : 14) Analyze and interpret data (e.g., tables, graphs, maps of global and regional temperatures; atmospheric levels of gases such as carbon dioxide and methane; rates of human activities) to describe how various human activities (e.g., solar radiation, greenhouse effect, volcanic activity) may cause changes in local and global temperatures over time. Subject: Science (6) Title: Consequence of Burning Fossil Fuels Description: In this lesson, students will explore a consequence of burning fossil fuels: the greenhouse effect on temperature and how various human activities could cause changes in local and global temperature over time. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. Lesson modified from Global Climate Change and Sea Level Rise plan from the California Academy of Science . View Standard(s): [SC2015] (5) 17 : 17) Design solutions, test, and revise a process for cleaning a polluted environment (e.g., simulating an oil spill in the ocean or a flood in a city and creating a solution for containment and/or cleanup).* Subject: Science (5) Title: It's Crystal Clear! (Water Filtration to the Rescue) Description: The student engineers will design and build a new water filtration system for an overpopulated, poverty-stricken community that is drinking contaminated water from wells, rivers or springs not treated by municipal water systems. Students will be involved in planning, designing, building, collaborating, calculating, budgeting, and reflecting on a real-world design challenge. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards of Practice Project, a collaboration to predict properties of elements based on their valence electron arrangement. a. Analyze data such as physical properties to explain periodic trends of the elements, including metal/nonmetal/metalloid behavior, electrical/heat conductivity, electronegativity and electron affinity, ionization energy, and atomic-covalent/ionic radii, and how they relate to position in the periodic table. b. Develop and use models (e.g., Lewis dot, 3-D ball-and-stick, space-filling, valence-shell electron-pair repulsion [VSEPR]) to predict the type of bonding and shape of simple compounds. c. Use the periodic table as a model to derive formulas and names of ionic and covalent compounds. [DLIT] (9-12) 31 : 25) Utilize a variety of digital tools to create digital artifacts across content areas. [DLIT] (9-12) 37 : 31) Create interactive data visualizations using software tools to help others understand real-world phenomena. Subject: Science (9 - 12) Title: Predicting Periodic Trends Description: In this lesson, students will gather quantitative information to construct a graph to show the period trends in electronegativity, electron affinity, and ionization energy. Once, the trends are recognized they will construct a model of these periodic trends using the Alabama State Department of Education and ASTA. View Standards Standards: Standard(s): [SC2015] PSC (9-12) 11 : 11) Design and conduct investigations to verify the law of conservation of energy, including transformations of potential energy, kinetic energy, thermal energy, and the effect of any work performed on or by the system. [SC2015] PSC (9-12) 12:12) Design, build, and test the ability of a device (e.g., Rube Goldberg Machines, solar cells, solar ovens) to convert one form of energy into another form of energy into another form of energy.* Subject: Science (9 - 12) Title: Rube Goldberg Machines & Energy Description: Students will create a Rube Goldberg Machine while working in a small group through this lesson. They will then explain the energy transformations present in their own machine and in those of their classmates. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] PSC (9-12) 3: 3) Analyze and interpret data from a simple chemical reaction or combustion reaction types and balancing equations. This lesson should not be used as an introduction to these topics. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] PS8 (8) 10 : 10) Use Newton's third law to design a model to demonstrate and explain the resulting motion of two colliding objects (e.g., two cars bumping into each other, a hammer hitting a nail).* Subject: Science (8) Title: Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installment of a series of lessons on Newton's 3rd Law Description: As the second installe exploring the motion of colliding objects. Students will photograph these collisions as a demonstration and explain how Newton's 3rd Law and balanced forces relate to their collision. This lesson results from a collaboration of the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] LSC7 (7) 17:17) Obtain and evaluate pictorial data to compare patterns in the embryological development across multiple species to identify relationships not evident in the adult anatomy. Subject: Science (7) Title: Model Organisms in Medicine: Why Comparative Embryology Matters in the Real World Description: Under the Unity and Diversity DCI, students are asked to evaluate data comparing similarities in developing embryos across different organisms. While this is a classic component of understanding evolution, the modern, real-world reason to learn it is to understand the why and how of using model organisms like zebrafish. Students will learn about how model organisms have been used to find treatments to medical problems in the past, how they are used and selected now, and will be able to draw their own conclusions about the similarities among vertebrates vs. other types of animals. This is a stand-alone lesson/investigation but it would be a great bridge between genetics and evolution and could connect to 7th-grade content. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] CHEM (9-12) 3 : 3) Use the periodic table as a systematic representation to predict properties of elements based on their valence electron arrangement, a. Analyze data such as physical properties to explain periodic trends of the elements, including metal/nonmetal/metalloid behavior, electron affinity, ionization energy, and atomic-covalent/ionic radii, and how they relate to position in the periodic table, b. Develop and use models (e.g., Lewis dot, 3-D ball-and-stick, space-filling, valence-shell electron-pair repulsion [VSEPR]) to predict the type of bonding and shape of simple compounds. C. Use the periodic table as a model to derive formulas and names of ionic and covalent compounds. [DLIT] (9-12) 31 : 25) Utilize a variety of digital tools to create digital artifacts across content areas. [DLIT] (9-12) 37 : 31) Create interactive data visualizations using software tools to help others understand real-world phenomena. Subject: Digital Literacy and Computer Science (9 - 12) Title: Predicting Periodic Trends Description: In this lesson, students will gather quantitative information to construct a graph to show the period trends in electronegativity, electron affinity, and ionization energy. Once, the trends are recognized they will construct a model of these periodic trends using the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (4) 4 : 4) Design, construct, and test a device that changes energy into motion, light, or sound energy; a passive solar heater converting light energy into heat energy).* Subject: Science (4) Title: Light Up Your Drawing! Description: The students will make a drawing that lights up, while investigating circuits using copper tape, batteries and LEDs. They will use templates for the first circuit and then explore by adding more LEDs and copper tape. of Education and ASTA. View Standard(s): [SC2015] BIOL (9-12) 13 : 13) Obtain, evaluate, and communicate information to explain how organisms are classified by physical characteristics, organized into levels of taxonomy, and identified by binomial nomenclature (e.g., taxonomic classification, dichotomous keys), a. Engage in argument to justify the grouping of viruses in a category separate from living things. Subject: Science (9 - 12) Title: "Nailing" Down Classification Description: In this hands-on activity, the students will become Linnaeus by dividing into groups to create their own "Six Kingdom" classification system using various types of fasteners. They will group the fasteners based on similar characteristics and divide them into domains, kingdoms, phyla, classes, orders, families, genera, and species. They will also have to "name" each taxon for their classification system as well as give the scientific name for each "species" of a fastener. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] LSC7 (7) 18 : 18) Construct an explanation from evidence that natural selection acting over generations may lead to the predominance of certain traits that support successful survival and reproduction of a population and to the suppression of other traits. Subject: Science (7) Title: Naturally, I Select You: Tactile Modeling of Natural Selection in the Classroom Description: In terms of life science content, evolution is essentially where genetics meets ecology. In this introduction to evolution, students will take on the role of both research biologists and predators to simulate how environmental conditions affect and changes to the environment affecting the survival as well. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] BIOL (9-12) 8:8) Develop and use models to describe the cycling of matter (e.g., carbon, nitrogen, water) and flow of energy (e.g., food chains, food webs, biomass pyramids, ten percent law) between abiotic and biotic factors in ecosystems. [DLIT] (9-12) 11:5) Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using iterative design process. Examples: Test for infinite loops, check for bad input, check edge-cases. [DLIT] (9-12) 31 : 25) Utilize a variety of digital tools to create digital artifacts across content areas. Subject: Science (9 - 12), Digital Literacy and Computer Coding to Create an Interactive Energy Pyramid Description: During this activity, the students will use drag and drop computer code to create an interactive ecological energy pyramid model that shows how the 10% law applies to the energy available at each trophic level. As part of the hour of Code week during their biology class. This lesson plan results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s); [SC2015] HAP (9-12) 3 : 3) Obtain and communicate information to explain the integrumentary system's structure and function, including layers and accessories of skin and types of membranes, a. Analyze the effects of pathological conditions (e.g., burns, skin cancer, bacterial and viral infections, chemical dermatitis) to determine the body's attempt to maintain homeostasis. [DLIT] (9-12) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (9-12) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. Subject: Science (9) - 12) Title: Disease and Disorders of the Integumentary System Description: This is a Project Based Learning activity of the Integumentary System where students will write a paper and create a visual presentation to share the disease or disorder with the class. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] ES6 (6) 3 : 3) Develop and use models to determine scale properties of objects in the solar system (e.g., scale model representing sizes and distances of the sun, Earth, moon system based on a one-meter diameter sun). Subject: Science (6) Title: Scaling the Sun-Earth-Moon System Description: Students will first interact with a technology-based scaled model and view a video clip on scaling the solar system. Students will then scale the diameter of the Earth and moon. as well as the distance from the Earth to the sun. and from the Earth to the scaled model. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] PS8 (8) 4 : 4) Design and conduct an experiment to determine changes in particle motion, temperature, and state of a pure substance when thermal energy is added to or removed from a

system. Subject: Science (8) Title: Molecules on the Move Description: Students will design and conduct an experiment to see how temperatures of water. The students will test molecular motion in different temperatures of water and observing the motion of the water. molecules. This investigation will allow the students to see the movement of food coloring in water and how an increase or decrease in temperature will affect that movement. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (4) 17 : 17) Formulate and evaluate solutions to limit the effects of natural Earth processes on humans (e.g., designing earthquake, tornado, or hurricane-resistant buildings; improving monitoring of volcanic activity).* Subject: Science (4) Title: Earthquakes in the Classroom Description: Students will learn how engineers construct buildings to withstand damage from earthquakes by buildings are through an earthquake simulation using a pan of Jell-O. This lesson was adapted from Teach Engineering. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] PS8 (8) 9 : 9) Use Newton's second law to demonstrate and explain how changes in an object's motion depend on the sum of the external forces on the object and the mass of the object (e.g., billiard balls moving when hit with a cue stick). Subject: Science (8) Title: Toy Cars and Newton's Second Law Description: Students will conduct an experiment to determine the effect that mass has on the acceleration of the car (the distance the car will roll). Students will also make a prediction of how far the car will roll if more mass is added. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] BIOL (9-12) 3 : 3) Formulate an evidence-based explanation regarding how the composition of deoxyribonucleic acid (DNA) determines the structural organization of proteins. a. Obtain and evaluate experiments of major scientists and communicate their contributions to the development of the structure of DNA and to the structure of DNA and Genome Project, Encyclopedia of DNA Elements [ENCODE] project, 1000 Genomes Project) have contributed to the understanding as to how a genetic change at the DNA level may affect proteins and, in turn, influence the appearance of traits. c. Obtain information to identify errors that occur during DNA replication (e.g., deletion, insertion, translocation, substitution, inversion, frame-shift, point mutations). Subject: Science (9 - 12) Title: DNA Mutations that can occur during DNA replication. Students will complete a virtual lab on DNA Mutations. Mutations involve a physical change to genetic material that results in the abnormal encoding of protein sequences. The students will identify the number of amino acids changed and how they think this mutation will impact the organism. This lesson plan results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] ES6 (6) 15 : 15) Analyze evidence (e.g., databases on human populations, rates of consumption of natural resources) to explain how changes in human population, per capita consumption of natural resources, and other human activities (e.g., land use, resource development, water and air pollution, urbanization) affect Earth's systems. [SC2015] ES6 (6) 16 : 16) Implement scientific principles to design processes for monitoring and minimizing human impact on the environment (e.g., water usage, including withdrawal of water from streams and aquifers or construction of dams and levees; land usage, including urban development, agriculture, or removal of wetlands; pollution of air, water, and land).* Subject: Science (6) Title: Water, Water Everywhere, but Not a Drop to Drink! Description: Students will examine how they use water daily and calculate their daily water consumption. In addition, students will analyze how the changing human population will affect water consumption, and/or design a product or policy that could help citizens decrease their water consumption. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (4) 4 : 4) Design, construct, and test a device that changes energy from one form to another (e.g., electric circuits converting electrical energy into motion, light, or sound energy; a passive solar heater converting light energy into heat energy).* Subject: Science (4) Title: Harnessing the Wind (Part Two) Description: In this lesson, students will design ideas, students will design, construct, and test their own windmill. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] BIOL (9-12) 7:7) Develop and use models to describe the cycling of matter (e.g., carbon, nitrogen, water) and flow of energy (e.g., food chains, food webs, biomass pyramids, ten percent law) between abiotic factors in ecosystems. Subject: Science (9 - 12) Title: Biomes of the World Description: This is a technology-based Biology lesson on the Biomes of the world. Students will work in groups and research their designated terrestrial biome. Students will research abiotic and biotic factors about their biome. Students will create a digital presentation of their biome using Haiku Deck. The presentation will summarize how the abiotic factors interact in their biome. Students will then use the collected data from the presentations to create food chains and food webs for their designated biomes. This lesson plan results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (5) 7 : 7) Design and conduct a test to modify the speed of a falling object due to gravity (e.g., constructing a parachute to keep an attached object from breaking).* Subject: Science (5) Title: I've Fallen...... Description: In this lesson, which was adapted from Gravity and Falling Objects, students predictions. Next, they will observe objects of different masses being dropped and leaking cups being dropped into a bucket. The activities in this lesson will demonstrate that all objects fall at the same rate, regardless of their mass. Finally, students will predict what will happen when two balls of the same mass but different volumes--and then two balls of different masses but the same volume--are dropped at the same time from the same height. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] HAP (9-12) 3 : 3) Obtain and communicate information to explain the integumentary system's structure and function, including layers and accessories of skin and types of membranes. a. Analyze the effects of pathological conditions, chemical dermatitis) to determine the body's attempt to maintain homeostasis. [DLIT] (9-12) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (9-12) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. Subject: Digital Literacy and Computer Science (9 - 12) Title: Disease and Disorders of the Integumentary System Description: This is a Project Based Learning activity of the Integumentary System where students will investigate different diseases that can affect the skin, hair, or nails. Students will write a paper and create a visual presentation to share the disease or disorder with the class. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (4) 2 : 2) Plan and carry out investigations that explain transference of energy from place to place by sound, light, heat, and electric currents. a. Provide evidence that heat can be produced in many ways (e.g., rubbing hands together, burning leaves) and can move from one object to another by conduction. b. Demonstrate that different objects can absorb, reflect, and/or conduct energy. c. Demonstrate that electric circuits require a complete loop through which an electric current can pass. [SC2015] (4) 4 : 4) Design, construct, and test a device that changes energy from one form to another (e.g., electric circuits converting) electrical energy into motion, light, or sound energy; a passive solar heater converting light energy into heat energy).* [ELA2015] (4) 23 : 23) Write information clearly. [W.4.2] a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. [W.4.2a] b. Develop the topic. [W.4.2b] c. Link ideas within categories of information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.4.2d] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2d] (4) 28 : 28) Conduct short research projects that build knowledge through investigation of different aspects of a topic. [W.4.7] [ELA2015] (4) 32 : 32) Engage effectively in a range of collaborative discussions (one-on-one, in groups, and texts, building on others' ideas and expressing their own clearly. [SL.4.1] a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussions and carry out assigned roles. [SL.4.1b] c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. [SL.4.1c] d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. [SL.4.1d] Subject: Science (4), English Language Arts (4) Title: Greeting Card Dissection Description: Engage students in testing their knowledge of circuits in this delightful dissection. Students will apply science practices and content knowledge while conducting hands-on and digital/print research and writing. The actual "dissection" does not take very long, but the writing components can be extended if desired. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] LSC7 (7) 5 : 5) Examine the cycling of matter between abiotic and biotic parts of ecosystems to explain the flow of energy and the conservation of matter. a. Obtain, evaluate, and communicate information about how food is broken down through chemical reactions to create new molecules that support growth and/or release energy as it moves through an organism. b. Generate a scientific explanation in the cycling of matter and flow of energy into and out of organisms. [SC2015] LSC7 (7) 6 : 6) Analyze and interpret data to provide evidence regarding how resource availability impacts individual organisms as well as populations of organisms within an ecosystem. Subject: Science (7) Title: Field Trip to the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Description: Students will participate in a discussion of the Moon Descripting the Moon Description: Stude self-sustaining ecosystem within a lunar station. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standards Standard (s): [SC2015] (4) 9 : 9) Examine evidence to support an argument that the internal and external structures of plants (e.g., thorns, leaves, stems, roots, colored petals, xylem, phloem) and animals (e.g., heart, stomach, lung, brain, skin) function to support survival, growth, behavior, and reproduction. Subject: Science (4) Title: What Do You Do With a Tail Like This? Description: In this lesson, students will explore animal adaptation for that animals. Students will select one adaptation and create a wanted poster describing the specific adaptation for that animal and how it functions to help the animal survive, grow, behave, or reproduce. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (4) 9:9) Examine evidence to support an argument that the internal and external structures of plants (e.g., heart, stomach, lung, brain, skin) function to support survival, growth, behavior, and reproduction. Subject: Science (4) Title: Camouflage, Countershading, & Adaptations Description: The students engage in an experiment to demonstrate the effectiveness of blubber as an insulator against the cold temperatures penguinstrate the effectiveness of blubber as an example of penguin adaptation. typically experience. Students will learn about a variety of external penguin structures and explore the insulating value of an internal structure, blubber. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (0) 1 : 1) Investigate the resulting motion of objects when forces of different strengths and directions act upon them (e.g., object being pulled, two objects colliding). [SC2015] (0) 2 : 2) Use observations and data from investigations to determine if a design solution (e.g., designing a ramp to increase the speed of an object in order to move a stationary object) solves the problem of using force to change the speed or direction of an object.* Subject: Science (K) Title: Tug of War! Description: This lesson, "Tug of War!" is Day 3 in a series of lessons that help to explain how forces affect objects. In this lesson, students describe relative strengths and directions of the push or pull applied to a ball's movement. Students will work in a whole group and then with a flattened palm, from another student. Students will observe the "collision" of the ball and hand. They will then go outdoors or in the gym to kick the ball with the side of the foot to direct the ball in different directions. The ball will be stopped or redirected in the same way. Students will then pull a ball toward themselves and describe the difference in the push and pull of the ball. Students could play a "Kickball Game" to watch the "collision" of the ball. In Day 1, "Move It! students identify objects that can be moved and demonstrate how movement puts objects in motion. In Day 2, "Push Me, Pull You" students demonstrate that objects can be moved by pushing or pulling them. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] ES6 (6) 1 : 1) Create and manipulate models (e.g., physical, graphical, conceptual) to explain the occurrences of day/night cycles, and lunar phases based on patterns of the observed motions of celestial bodies. Subject: Science (6) Title: Eclipses: Solar vs. Lunar Description: In this interdisciplinary lesson about solar and lunar eclipses, students will model and determine the difference between the two eclipses. It involves components of the Sun- Earth- Moon system with NASA resources, hands-on inquiry, and observational data. This lesson results from a collaboration between the Alabama State Departments of Education and ASTA. View Standards Standard(s): [SC2015] HAP (9-12) 2 : 2) Analyze characteristics of tissue types (e.g., epithelial tissue) and construct an explanation of how the chemical and structural organizations of the cells that form these tissues are specialized to conduct the function of that tissue (e.g., lining, protecting). Subject: Science (9 - 12) Title: Body Tissue Portfolio Virtual Lab Description: Students will complete a virtual lab on Human Body Tissues. This lab, students can be in pairs or individual in a computer lab or with tablets. Students will go to the website listed above to view and draw specific body tissues that are outlined in the student e-lab they will have to download. At the end of the assignment, students will make a portfolio of their tissues. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (2) 1 : 1) Conduct an investigation to describe and classify various substances according to physical properties (e.g., milk being a liquid, clear in color, taking shape of its container, floating in water; a brick being a solid, not clear in color, rough in texture, not taking the shape of its container, sinking in water). Subject: Science (2) Title: What's the Matter? A Lesson on Physical Properties Description: This lesson will allow students to investigate matter and its states by describing and classifying substances according to their physical properties. Students will begin their journey with a song. Then identify their thinking with an idea chart. Finally, they will put their learning into practice in the real-world with an explorative scavenger hunt. View Standards Standard(s): [SC2015] (0) 1 : 1) Investigate the resulting motion of objects when forces of different strengths and directions act upon them (e.g., object being pushed, object being pulled, two objects colliding). Subject: Science (K) Title: Push Me, Pull You Description: This lesson, "Push Me, Pull You" is Day 2 in a series of lessons that help to explain how forces affect objects. In this lesson, students will work as a whole group and in pairs to investigate objects that push or pull other objects, or objects that must be pushed or pulled. As a group, the class will decide on a definition of "push" and "pull". They will then go outdoors to identify and explore objects that can be pushed or pulled. They will demonstrate pushing and pulling on the playground by doing "push-ups" and "pull-ups" using playground equipment. In Day 1, "Move It!", students will identify objects that can be moved and demonstrate how movement puts objects in motion In Day 3, "Tug of War!" students describe relative strengths and directions of the push or pull applied to an object. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (0) 1 : 1) Investigate the resulting motion of objects when forces of different strengths and directions act upon them (e.g., object being pulled, two objects colliding). Subject: Science (K) Title: Move It! Description: In this hands-on investigation, students will demonstrate how forces have an effect on objects. This lesson, "Move It!" is Day 1 in a series of lessons that help to explain how forces affect objects. Students will identify objects in motion. In Day 2, "Push Me, Pull You", students demonstrate that objects can be moved by pushing or pulling them. In Day 3, "Tug of War!" students describe relative strengths and directions of the push or pull applied to an object. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards of objects may contain varying types and amounts of potential energy (e.g., observing the movement of a roller coaster cart at various inclines, changing the tension in a rubber band, varying the number of batteries connected in a series, observing a balloon with static electrical charge being brought closer to a classmate's hair). Subject: Science (8) Title: Roller Coaster Design Description: Students will design a roller coaster using marbles and foam pipe insulation to observe the relationship between potential and kinetic energy. Students will calculate the average speed of the marble and relate that speed to the potential and kinetic energy of the marble. Students will use various angles and track designs to see the impact it has on marble speed. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (0) 1 : 1) Investigate the resulting motion of objects when forces of different strengths and directions act upon them (e.g., object being pushed, object being pushed, two objects colliding). Subject: Science (K) Title: What Makes Things Stop and Move? A Lesson on Force and Motion Description: This lesson will engage students in the ways an object can move by applying the forces of push and pull. Students will investigate how to make an object move faster, slower, and stop. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (5) 5 : 5) Construct explanations from observations to determine how the density of an object affects whether the object sinks or floats when placed in a liquid. Subject: Science (5) Title: Diving into Density Description: This inquiry-based lesson provides an introduction to objects floating and sinking. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] LSC7 (7) 12 : 12) Construct and use models (e.g., monohybrid crosses using Punnett squares, diagrams, simulations) to explain that genetic variations between parent and offspring (e.g., different alleles, mutations) occur as a result of genetic differences in randomly inherited genes located on chromosomes and that additional variations may arise from alteration of genetic information. [SC2015] LSC7 (7) 13 : 13) Construct an explanation from evidence to describe how genetic mutations result in harmful, beneficial, or neutral effects to the structure and function of an organism. Subject: Science (7) Title: Sickle Cell: The Sticky Cell Part III of III:Cellular Structure and Function Description: This 7th grade life science educational module is designed to provide a hands-on approach to learning how genetics determine the fate of a cell. This is an interactive "student-centered" module that utilizes technology, manipulatives, and hands-on activities to provide exceptional resources for teachers and a dynamic learning experience for students with various learning styles. Specifically, the lesson focuses on understanding how Sickle Cell Anemia is an inherited genetic disorder, illustrates how the structure of the red blood cells affect blood flow, and explains how possible gene combinations can be passed from parents to offspring. This lesson serves as lesson 3 of a 3 lesson plan module. This lesson was created under Tuskegee University Math and Science Partnership Grant (MSP), NSF Funded. View Standards Standard(s): [SC2015] (1) 3 : 3) Investigate materials to determine which types allow light to pass through (e.g., transparent materials such as clear plastic wrap), allow only partial light to pass through (e.g., translucent materials such as wax paper), block light (e.g., shiny materials such as aluminum foil). Subject: Science (1) Title: Peekaboo, I See You: A Lesson on How Light Passes Through an Object Description: Students will use transparent, translucent, opaque, and reflective items that they find around the classroom or school to investigate how light behaves around objects. The first investigation will take students on a scavenger hunt to find objects that fit each type. Students will classify each object using a flashlight and analyzing how light passes through the object. Then the final investigation will allow students to experiment with how the amount of light that each type allow effects the rate at which ice will melt. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (5) 8 : 8) Defend the position that plants obtain materials needed for growth primarily from air and water. Subject: Science (5) Title: Hydroponics: Can Plants Grow without Soil? Description: In this hands-on investigation, students will utilize the hydroponic method to grow a bean plant from a bean seed. Over the course of a 2 week time period, students will make detailed observations and sketches of the actual bean growth patterns over the weekend time periods. Students will create a cartoon to defend the position that plants obtain materials needed for growth primarily from air and water. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] ES6 (6) 16 : 16) Implement scientific principles to design processes for monitoring and minimizing human impact on the environment (e.g., water usage, including) withdrawal of water from streams and aquifers or construction of dams and levees; land usage, including urban development, agriculture, or removal of wetlands; pollution of air, water, and land).* Subject: Science (6) Title: Pacific Problems: Tackling the Great Pacific Garbage Patch Description: In this interdisciplinary lesson, students will apply the Engineer Design Process to design a structure to remove waste from the Great Pacific Garbage Patch. The lesson involves components of STEM and English Language Arts. This lesson results from collaboration between the Alabama Department of Education and ASTA. View Standard(s): [SC2015] ES6 (6) 14 : 14) Analyze and interpret data (e.g., tables, graphs, maps of global and regional temperatures; atmospheric levels of gases such as carbon dioxide and methane; rates of human activities) to describe how various human activities (e.g., use of fossil fuels, creation of urban heat islands, agricultural practices) and natural processes (e.g., solar radiation, greenhouse effect, volcanic activity) may cause changes in local and global temperatures over time. Subject: Science (6) Title: Global Warming: Fact or Fiction? Description: During this lesson, students will create two line graphs: one that shows how carbon dioxide levels have changed over time, and one that shows how global temperatures have changed over time. Students will read current news article(s) detailing the human activities and natural processes that could change global temperatures. Students will interpret their graphical data, as well as information in the article, to determine if there is any relation between carbon dioxide levels and global temperatures. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (5) 15 : 15) Identify the distribution of freshwater and salt water on Earth (e.g., oceans, lakes, rivers, glaciers, ground water, polar ice caps) and construct a graphical representation depicting the amounts and percentages found in different reservoirs. Subject: Science (5) Title: Why So Blue? Description: If water covers 70-75% of our planet, then why should we be concerned about water quality and conservation? This lesson helps students understand that 97% of our water is present on Earth in the form of salt water, and therefore, unavailable for helping support life on Earth. Another 2% of Earth's water is frozen, which leaves us approximately 1% in groundwater, lakes, streams, and water vapor. This lesson was adapted from a lesson series from 4-H SET (California). This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] BIOL (9-12) 11 : 11) Analyze and interpret data collected from probability calculations to explain the variation of expressed traits within a population. a. Use mathematics and computation to predict phenotypic and genotypic ratios and percentages by constructing Punnett squares, including using both homozygous and heterozygous and heterozygous allele pairs. b. Develop and use models to demonstrate codominance, incomplete dominance, and Mendel's laws of segregation and independent assortment. c. Analyze and interpret data (e.g., pedigree charts, family and population studies) regarding Mendelian and complex genetic disorders (e.g., sickle-cell anemia, cystic fibrosis, type 2 diabetes) to determine patterns of genetic inheritance and disease risks from both genetic and environmental factors. [SC2015] BIOL (9-12) 11 : 11) Analyze and interpret data collected from probability calculations to explain the variation of expressed traits within a population. a. Use mathematics and computation to predict phenotypic ratios and percentages by constructing Punnett squares, including using both homozygous and heterozygous allele pairs. b. Develop and use models to demonstrate codominance, incomplete dominance, and Mendel's laws of segregation and independent assortment. c. Analyze and interpret data (e.g., pedigree charts, family and population studies) regarding Mendelian and complex genetic disorders (e.g., sickle-cell anemia, cystic fibrosis, type 2 diabetes) to determine patterns of genetic inheritance and disease risks from both genetic and environmental factors. Subject: Science (9 - 12) Title: Dragon Genetics Description: Students will construct a model of a dragon based on traits inheritance of dominant and recessive traits, codominance, and incomplete dominance. Students will use Punnett Squares to predict genotypic and phenotypic ratios of the dragon population in the class. This project could serve as a culminating activity for Genetics and the Inheritance of traits. This activity was adapted from Alabama Science in Motion. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standards Standard(s): [SC2015] (2) 1 : 1) Conduct an investigation to describe and classify various substances according to physical properties (e.g., milk being a liquid, clear in color, taking shape of its container, floating in water; a brick being a solid. not clear in color, rough in texture, not taking the shape of its container, sinking in water). Subject: Science (2) Title: All About The Matter!!! Description: Students will discover and explore types of matter. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] LSC7 (7) 7 : 7) Use empirical evidence from patterns and data to demonstrate how changes to physical or biological components of an ecosystem (e.g., deforestation, succession, drought, fire, disease, human activities, invasive species) can lead to shifts in populations. [SC2015] LSC7 (7) 5 : 5) Examine the cycling of matter between abiotic and biotic parts of ecosystems to explain the flow of energy and the conservation of matter. a. Obtain, evaluate, and communicate information about how food is broken down through chemical reactions to create new molecules that support growth and/or release energy as it moves through an organism. b. Generate a scientific explanation in the cycling of matter and flow of energy into and out of organisms. [SC2015] ES6 (6) 7 : 7) Use models to construct explanations of the various biogeochemical cycles of Earth (e.g., water, carbon, nitrogen) and the flow of energy that drives these processes. [SC2015] ES6 (6) 14 : 14) Analyze and interpret data (e.g., tables, graphs, maps of global and regional temperatures; atmospheric levels of gases such as carbon dioxide and methane; rates of human activities) to describe how various human activities (e.g., use of fossil fuels, creation of urban heat islands, agricultural processes (e.g., solar radiation, greenhouse effect, volcanic activity) may cause changes in local and global temperatures over time. [SC2015] ES6 (6) 15 : 15) Analyze evidence (e.g., databases on human populations, rates of consumption of food and other natural resources) to explain how changes in human population, per capita consumption of natural resources, and other human activities (e.g., land use, resource development, water and air pollution, urbanization) affect Earth's systems. Subject: Science (6 -7) Title: Climate Change & The Carbon Cycle Description: Students will explore greenhouse gases, how they effect the carbon cycle and the human role in climate change. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] BIOL (9-12) 8 : 8) Develop and use models to describe the cycling of matter (e.g., food chains, food webs, biomass pyramids, ten percent law) between abiotic and biotic factors in ecosystems. Subject: Science (9 - 12) Title: An Astro-Ventrous Water Cycle! Description: In this lesson students create a laboratory simulation of the water cycle. Indicating the change in states of matter and the flow of energy. Students also compare and contrast the cycle of matter with the flow of energy. STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standard(s): [SC2015] PS8 (8) 9 : 9) Use Newton's second law to demonstrate and explain how changes in an object's motion depend on the sum of the external forces on the object and the mass of the object (e.g., billiard balls moving when hit with a cue stick). Subject: Science (8) Title: Your MA is a Force to be Reckoned With Description: In this lesson, students will investigate the relationship between mass, acceleration, and force as described in Newton's Second Law of Motion. Students will work in teams to use a wooden car and rubber bands to toss a small mass off of a car. The car, resting on rollers, will be propelled in opposite directions. Students will vary the mass that is being tossed by each car and change the number of rubber bands used to toss the mass. Students will then measure how far the car rolls in response to the action force generated. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standards Standards Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. relative properties and trends (e.g., reactivity of metals; types of bonds formed, including ionic, covalent, and polar covalent; numbers of valence electrons in atoms. Subject: Science (9 - 12) Title: It's Elemental: 3-D Models of the Modern Periodic Table Elements Description: Students will construct 3-dimensional representations of each known element of the periodic table using cereal-sized boxes as their mediums. By creating these models, students will gain an in-depth understanding of their chosen element's discovery, history, unique properties, and place on the Modern Periodic Table. Students will also be able to identify and describe basic periodic trends. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] ES6 (6) 13 : 13) Use models (e.g., diagrams, maps, globes, digital representations) to explain how the rotation of Earth and unequal heating of its surface create patterns of atmospheric and oceanic circulation that determine regional climates. a. Use experiments to investigate how energy from the sun is distributed between Earth's surface and its atmosphere by convection and radiation (e.g., warmer water in a pan rising as cooler water sinks, warming one's hands by a campfire). Subject: Science (6) Title: It's Getting Hot in Here! Description: In this interdisciplinary lesson about atmospheric heating, students investigate the three transfers of heat: radiation, conduction and convection. This lesson results from a collaboration between the Alabama State Department of Education and ASTA. View Standard(s): [SC2015] (5) 17:17) Design solutions, test, and revise a process for cleaning a polluted environment (e.g., simulating an oil spill in the ocean or a flood in a city and creating a solution for containment and/or cleanup).* Subject: Science (5) Title: Filtered or Not Filtered That's the Question! Description: Students will collaborate, design, and construct a device that filters contaminated water. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] PHYS (9-12) 1:1) Investigate and analyze, based on evidence obtained through observation or experimental design, the motion of an object using both graphical and mathematical models (e.g., creating or interpreting graphs of position, velocity, and acceleration versus time graphs for one- and two-dimensional motion; solving problems using kinematic equations for the case of constant acceleration) that may include descriptors such as position, distance traveled, displacement, speed, velocity, and acceleration. [SC2015] PHYS (9-12) 2 : 2) Identify external forces in a system and apply Newton's laws graphically by using models such as free-body diagrams to explain how the motion. a. Use mathematical computations to derive simple equations of motion for various systems using Newton's second law. b. Use mathematical computations to explain the nature of forces (e.g., tension, friction, normal) related to Newton's second and third laws. Subject: Science (9 - 12) Title: Rocket Activity: Heavy Lifting Description: Raising heavy payloads to orbit is challenging. Rockets require powerful engines and massive amounts of propellants. NASA is looking for creative ideas for launching heavy lift vehicles to deliver supplies to Mars. Student teams receive identical parts to build rockets. The team that is able to lift the greatest payload into space (the ceiling) is the winner. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] (5) 8:8) Defend the position that plants obtain materials needed for growth primarily from air and water. Subject: Science (5) Title: What Does Life Require? Description: By growing organisms in a variety of environments, students will explore different materials that living things need to survive. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [MA2015] (3) 18: 18) Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many less" problems using information presented in scaled bar graphs. [3-MD3] Example: Draw a bar graph in which each square in the bar graph might represent 5 pets. [SC2015] (3) 14 : 14) Collect information from a variety of sources to describe climates in different regions of the world. Subject: Mathematics (3), Science (3) Title: Climate Trackers Description: In this lesson, the students will use the technology resource Mission: Biomes to research and gather data for precipitation and temperatures for assigned biomes. The students will use the data to create a bar graph to display climate data for each biome. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] (3) 1 : 1) Plan and carry out an experiment to determine the effects of balanced and unbalanced forces on the motion of an object using one variable at a time, including number, size, direction, speed, position, friction, or air resistance (e.g., balanced forces pushing from both sides on an object, such as a box, producing no motion; unbalanced force on one side of an object, such as a ball, producing motion), and communicate these findings graphically. [SC2015] (3) 3 : 3) Explore objects that can be manipulated in order to determine cause-and-effect relationships (e.g., distance between objects affecting strength of a force, orientation of magnets affecting direction of a magnetic force) of electrical forces between two objects not in contact with one another (e.g., force between a charged rod and pieces of paper) or magnetic interactions between two objects not in contact with one another (e.g., force between two permanent magnets or between an electromagnet and steel paperclips, force exerted by two magnets). [SC2015] (4) 1 : 1) Use evidence to explain the relationship of the speed of an object to the energy of that object. [SC2015] (4) 3 : 3) Investigate to determine changes in energy resulting from increases or decreases in speed that occur when objects collide. [SC2015] (5) 6 : 6) Construct an explanation from evidence to illustrate that the gravitational force exerted by Earth on objects is directed downward towards the center of Earth. [SC2015] (5) 7 : 7) Design and conduct a test to modify the speed of a falling object due to gravity (e.g., constructing a parachute to keep an attached object from breaking).* Subject: Science (3 - 5) Title: Marble Run", from the NASA Education Guide Amusement Park Physics with a NASA Twist. Students will explore the effects of force, speed, motion, and gravity in creating a roller coaster track for a marble. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] (5) 13 : 13) Analyze data and represent with graphs to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky (e.g., shadows and the position and motion of Earth with respect to the sun, visibility of select stars only in particular months). Subject: Science (5) Title: Shadow Plots: Length and Direction of Shadows Description: Students will create sun shadow plots to demonstrate how the position and motion of Earth with respect to the sun causes changes in the length and direction of shadows. Students will observe and record shadow data for an entire day. After collecting the data, students will analyze the data and create a line graph to determine at which time of the day the longest shadows are created. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standard(s): [SC2015] (3) 15: 15) Evaluate a design solution (e.g., flood barriers, wind resistant roofs, lightning rods) that reduces the impact of a weather-related hazard.* [MA2015] (3) 11: 11) Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. [3-NBT2] Subject: Science (3), Mathematics (3) Title: The 4th Little Pig - Designing a Hurricane-Proof Roof Description: The goal of this lesson is for students to use their knowledge of hurricanes to design and build a hurricane-proof roof for Piggy Sue, The Three Little Pig's cousin. She has just moved to town and she needs a house that will withstand a hurricane. Students will test various materials and designs to determine the best design for her roof. Students will work in groups and use the engineering design method to design and build their roofs. Each group will have a budget to purchase materials for their roofs. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standard(s): [SC2015] (4) 13 : 13) Plan and carry out investigations to examine properties of soils and soil types (e.g., color, texture, capacity to retain water, ability to support growth of plants). Subject: Science (4) Title: Investigating Properties of Soil Description: This is a 4th grade science lesson that requires students to investigate the capacity of different soils to retain water and to categorize the types of plants that will grow in different compositions of soil through the use of inquiry, technology, and reading skills. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standards Standards (3): [SC2015] (3) 11: 11) Construct an argument from evidence to explain the likelihood of an organism's ability to survive well, less well, or not at all in woodlands). a. Construct explanations that forming groups helps some organisms survive. b. Create models that illustrate how organisms and their habitats make up a system in which the parts depend on each other. c. Categorize resources in various habitats as basic materials (e.g., soil), produced materials (e.g., food, fuel, shelter), or as nonmaterial (e.g., safety, instinct, nature-learned behaviors). Subject: Science (3) Title: Imaginary Species Biome Activity Description: This lesson is meant to be used as a culminating project after students have learned about different plants into their respective biomes. Students will start out by separating different plants into their respective biomes based on their characteristics. assigned biome. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards St (e.g., circulatory, digestive, respiratory, muscular, skeletal, nervous) to demonstrate how multiple interacting organs and systems work together to accomplish specific functions. [SC2015] LSC7 (7) 4 : 4) Construct models and representations of organ systems (e.g., circulatory, digestive, respiratory, muscular, skeletal, nervous) to demonstrate how multiple interacting organs and systems work together to accomplish specific functions. Subject: Science (7) Title: The Ins and Outs of Digestion Description: In this lesson which emphasizes hands-on, inquiry-based activities, students will create two models of the digestive system and determine the correct placement of various organs of the digestive system. Students will use the model to compare mechanical and chemical digestion. Students will use information provided by the model to explain why food spends various amounts of time in a particular organ. To extend the learning of this module, students will design an experiment to determine the effect of introducing new foods to a baby's diet. The module also includes a presentation, a word search puzzle, and a bingo game emphasizing vocabulary words related to the digestive tract. View Standard(s): [ELA2015] (7) 2 : 2) Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text. [RL.7.2] [ELA2015] (8) 2 : 2) Determine a theme or central idea of a text and analyze its development over the course of the text. [RL.7.2] [ELA2015] (8) 2 : 2) Determine a theme or central idea of a text and analyze its development over the course of the text. [RL.7.2] [ELA2015] (8) 2 : 2) Determine a theme or central idea of a text and analyze its development over the course of the text. [RL.7.2] [ELA2015] (8) 2 : 2) Determine a theme or central idea of a text and analyze its development over the course of the text. [RL.7.2] [ELA2015] (8) 2 : 2) Determine a theme or central idea of a text and analyze its development over the course of the text. [RL.7.2] [ELA2015] (8) 2 : 2) Determine a theme or central idea of a text and analyze its development over the course of the text. [RL.7.2] [ELA2015] (8) 2 : 2) Determine a theme or central idea of a text and analyze its development over the course of the text. [RL.7.2] [ELA2015] (8) 2 : 2) Determine a theme or central idea of a text and analyze its development over the course of the text. [RL.7.2] [ELA2015] (8) 2 : 2) Determine a theme or central idea of a text and analyze its development over the course of the text. [RL.7.2] [ELA2015] (8) 2 : 2) Determine a theme or central idea of a text and analyze its development over the course of the text. [RL.7.2] [ELA2015] (8) 2 : 2) Determine a theme or central idea of a text and analyze its development over the course of the text. [RL.7.2] [ELA2015] (8) 2 : 2) Determine a theme or central idea of a text and analyze its development over the course of the text. [RL.7.2] [ELA2015] (8) 2 : 2) Determine a theme or central idea of a text and analyze its development over the course of the text. [RL.7.2] [ELA2015] (8) 2 : 2) Determine a text and analyze its development over the course of text and analyze its development over text and analyze its development ov Interactive Reading Project Description: Students are motivated to read and learn to discuss literature by discussing books they are reading via e-mail. View Standard(s): [SC2015] PS8 (8) 8 : 8) Use Newton's first law to demonstrate and explain that an object is either at rest or moves at a constant velocity unless acted upon by an external force (e.g., model car on a table remaining at rest until pushed). [SC2015] PS8 (8) 10 : 10) Use Newton's third law to design a model to demonstrate and explain the resulting motion of two colliding objects (e.g., two cars bumping into each other, a hammer hitting a nail).* Subject: Science (8) Title: Touchdown Challenge: A Physical Science Mission to Mars Description: This is a hands-on, cooperative learning activity where students are using items purchased from a grocery store to design a device and construct a shock-absorbing system out of paper, straws, and miniature marshmallows that will protect two astronauts when landing on Mars. Students are able to develop engineering skills to develop a spacecraft to land on Mars, a mission NASA is currently working on. Students propose a model of a spacecraft to land astronauts safely on the moon, test it, and then revise. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standard(s): [SC2015] ES6 (6) 1 : 1) Create and manipulate models (e.g., physical, graphical, conceptual) to explain the occurrences of day/night cycles, length of year, seasons, tides, eclipses, and lunar phases based on patterns of the observed motions of celestial bodies. Subject: Science (6) Title: Hello, Moon Description: In this interdisciplinary lesson about the moon across the sky. The lesson involves components of the Sun- Earth- Moon system, English Language Arts and Science. This lesson will involve NASA resources, hands-on inquiry and observational data. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] (4) 14 : 14) Explore information to support the claim that landforms are the result of a combination of constructive forces, including crustal deformation, volcanic eruptions, and sediment deposition as well as a result of destructive forces, including crustal deformation, volcanic eruptions, and sediment deposition and weathering. this activity is for students to simulate the constructive forces of a volcanic eruption, observe how lava flows build up layers of a landform, and connect the simulation to events in the natural world. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards = Standard(s): [SC2015] LSC7 (7) 6 : 6) Analyze and interpret data to provide evidence regarding how resource availability impacts individual organisms as well as populations of organisms within an ecosystem. [SC2015] LSC7 (7) 11 : 11) Analyze and interpret data to predict how environmental conditions (e.g., weather, availability of nutrients, location) and genetic factors (e.g., selective breeding of cattle or crops) influence the growth of organisms (e.g., drought decreasing plant growth, adequate supply of nutrients for maintaining normal plant growth, identical plant seeds growing at different rates in different rates designed to provide a unique approach to learning what is actually considered dead or alive, and how we interact differently with living and non-living things. This lesson plan is designed with the "student in mind", and our goal is to reach all the various learning styles. It will meet the students where they are and assist them in understanding a new scientific concept. Alexandria Bufford-Tuskegee University, helped with the experiment write-up and testing. Gerald Griffin-Hope College, and De'Shayla Chappell, Adrinece Beard, Angela Player-Tuskegee University produced the "bacteria vs viruses" powerpoint. View Standards Standard(s): [SC2015] (2) 4 : 4) Provide evidence that some changes in matter caused by heating or cooling can be reversed (e.g., baking a cake, boiling an eqg). [SC2015] (2) 10 : 10) Collect and evaluate data to identify water found on Earth and determine whether it is a solid or a liquid (e.g., baking a cake, boiling an eqg). glaciers as solid forms of water; oceans, lakes, rivers, streams as liquid forms of water). [MA2015] (2) 23 : 23) Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (See Appendix A, Table 1.) [2-MD10] [MA2015] (2) 1 : 1) Use addition and subtraction within 100 to solve one- and two-step word problems involving situations, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (See Appendix A, Table 1.) [2-OA1] Subject: Science (2) Title: Whoa! Where'd It Go? (States of Matter Data Collection) Description: This lesson allows students to use the properties and characteristics of solids, liquids, and gases to determine how different variables affect states of matter. Students predict what will happen and spend short amounts of time daily to observe and record data. Students will graph their data into charts to see patterns and solve math problems. This lesson was created as a part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] (0) 7 : 7) Observe and describe the effects of sunlight on Earth's surface (e.g., heat from the sun causing evaporation of water or increased temperature of soil, rocks, sand, and water). [SC2015] (0) 8 : 8) Design and construct a device (e.g., hat, canopy, umbrella, tent) to reduce the effects of sunlight.* Subject: Science (K) Title: Sunlight, Shade, and Sand Description: How can we protect the Earth's surface. Students will engineer a covering to reduce exposure to the sun. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] (2) 4 : 4) Provide evidence that some changes in matter caused by heating or cooling can be reversed (e.g., heating or freezing of water) and some changes are irreversible (e.g., baking a cake, boiling an egg). [SC2015] (2) 10 : 10) Collect and evaluate data to identify water found on Earth and determine whether it is a solid or a liquid (e.g., glaciers as solid forms of water), [MA2015] (2) 23 23) Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (See Appendix A, Table 1.) [2-MD10] [MA2015] (2) 1:1) Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknown number to represent the problem. (See Appendix A, Table 1.) [2-OA1] Subject: Mathematics (2) Title: Whoa! Where'd It Go? (States of Matter Data Collection) Description: This lesson allows students to use the properties and characteristics of solids, liquids, and gases to determine how different variables affect states of matter. Students will graph their data into charts to see patterns and solve math problems. This lesson was created as a part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] (2) 9 : 9) Create models to identify physical features of Earth (e.g., mountains, valleys, plains, deserts, lakes, rivers, oceans). Subject: Science (2) Title: Edible Landform Creations" is a hands-on lesson designed to allow the students to create models of Earth's physical features, including mountains, valleys, plains, deserts, lakes, rivers, oceans). lakes, rivers, oceans, canyons and plateaus. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] (0) 7 : 7) Observe and describe the effects of sunlight on Earth's surface (e.g., heat from the sun causing evaporation of water or increased temperature of soil, rocks, sand, and water). Subject: Science (K) Title: Want S'mores using a solar oven. Teacher will construct a solar oven for students to observe. Students will observe and describe what happens to the chocolate and marshmallow over time. View Standard(s): [SC2015] (2) 9 : 9) Create models to identify physical features of Earth (e.g., mountains, valleys, plains, deserts, lakes, rivers, oceans).

[ELA2015] (2) 29 : 29) Participate in collaborative conversations with diverse partners about Grade 2 topics and texts with peers and adults in small and larger groups. [SL.2.1] a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). [SL.2.1a] b. Build on others' talk in conversations by linking their comments to the remarks of others. [SL.2.1c] [ELA2015] (2) 34 : 34) Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See Grade 2 Language standards 35 and 37 for specific expectations.) [SL.2.6] Subject: Science (2) Title: Can you form a landform? Description: The students will create a landform using modeling clay in a small group setting. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standard(s): [SC2015] (2) 2 : 2) Collect and evaluate data to determine appropriate uses of materials based on their properties (e.g., strength, flexibility, hardness, texture, absorbency).* [SC2015] (2) 11 : 11) Examine and test solutions that address changes caused by Earth's events (e.g., dams for minimizing flooding, plants for controlling erosion).* Subject: Science (2) Title: Who Can Stop the Rain? Description: The purpose of the lesson is to identify suitable porous materials for the sidewalk. The students should test and evaluate the material that best reduces erosion caused during excessive rainfall. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [MA2015] (1) 17 : 17) Tell and write time in hours and half-hours using analog and digital clocks. [1-MD3] [MA2015] (1) 18 : 18) Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. [1-MD4] [SC2015] (1) 9 : 9) Observe seasonal patterns of sunrise and sunset to describe the relationship between the number of hours of daylight and the time of year (e.g., more hours of daylight during summer as compared to winter). Subject: Mathematics (1), Science (1) Title: The Changing Sun Description: Students will observe the changes and then over a 4 month period. Students will see the relationship between the patterns of the sun and the effect the pattern has on our daily lives. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standard(s): [SC2015] (2) 8 : 8) Make observations from media to obtain information about Earth's events that happen over a short period of time (e.g., tornados, volcanic explosions, earthquakes) or over a time period longer than one can observe (e.g., erosion of rocks, melting of glaciers). Subject: Science (2) Title: Storming The Earth With Tornadoes and Hurricanes Description: "Storming The Earth" is a hands on, technology based, inquiry lesson that is designed to help students. obtain information about weather events that happen over a short period of time. It will provide information via media about tornadoes and hurricanes. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standards Standards Standards the sky, move across the sky, and set; stars other than our sun being visible at night, but not during the day). Subject: Science (1) Title: Cookie Moon Description: As part of the students will observe, describe and predict the patterns of the moon's phases to introduce the topic. The students will represent the moon's phases using black and white sandwich cookies and record the phases in their Science journals. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] (2) 5 : 5) Plan and carry out an investigation, using one variable at a time (e.g., water, light, soil, air), to determine the growth needs of plants. Subject: Science (2) Title: Too Much Light, Too Little Growth Description: During this lesson, students will observe and record the various effects of different durations of light on plants. Students will additionally be able to understand the common misconception that constant light on plants will result in constant growth of the plant. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] (1) 9 : 9) Observe seasonal patterns of sunrise and sunset to describe the relationship between the number of hours of daylight and the time of year (e.g., more hours of daylight during summer as compared to winter). [SC2015] (1) 8 : 8) Observe, describe, and predict patterns of the sun, moon, and stars as they appear in the sky (e.g., sun and moon appearing to rise in one part of the sky, move across the sky, and set; stars other than our sun being visible at night, but not during the day). [SC2015] (1) 2 : 2) Construct explanations from observations that objects can be seen only when light is available to illuminate them (e.g., moon being illuminated by the sun, colors and patterns in a kaleidoscope being illuminated when held toward a light). Subject: Science (1) Title: Can you catch your shadow? Description: This is an interdisciplinary lesson about shadows and light where we track the motion of the sun across the sky. It involves components of sunrise, sunset, involving Mathematics, Science, and English Language Arts. This lesson will involve NASA resources, hands- on inquiry, and observational data. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] (0) 3 : 3) Distinguish between living and nonliving things and verify what living things need to survive (e.g., animals needing food, water, sunlight, and air). Subject: Science (K) Title: Dead or Alive?...Exploration of living and nonliving things Description: In this lesson, students will compare and contrast characteristics of living and nonliving things via pictures, class projects, videos and whole-group discourse. Students will record their findings in Science journals. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] (2) 9 : 9) Create models to identify physical features of Earth (e.g., mountains, valleys, plains, deserts, lakes, rivers, oceans). [ELA2015] (2) 29 : 29) Participate in collaborative conversations with diverse partners about Grade 2 topics and texts with peers and adults in small and larger groups. [SL.2.1] a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). [SL.2.1a] b. Build on others' talk in conversations by linking their comments to the remarks of others. [SL.2.1b] c. Ask for clarification and further explanation as needed about the topics and texts under discussion. [SL.2.1c] [ELA2015] (2) 34 : 34) Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See Grade 2 Language standards 35 and 37 for specific expectations.) [SL.2.6] Subject: English Language Arts (2) Title: Can you form a landform? Description: The students will create a landform using modeling clay in a small group setting. This lesson was created as part of the 2016 NASA STEM Standards of Practice Project, a collaboration between the Alabama State Department of Education and NASA Marshall Space Flight Center. View Standards Standard(s): [SC2015] PS8 (8) 1 : 1) Analyze patterns within the periodic table to construct models, including drawings; computer representations) that illustrate the structure, composition, and characteristics of atoms and molecules. Subject: Science (8) Title: Big Science of the Small World of Atom Description: This module provides 8th grade middle school students a basic understanding of the atomic structure. With the knowledge evolution of the atom structure, modern sciences and technologies, particularly nanoscience and nanotechnology, have been revolutionarily advanced. In this module development the structure of an atom and its constituents will be demonstrated with the help of the 3D visualization and hands-on activities. View Standard(s): [SC2015] LSC7 (7) 5 : 5) Examine the cycling of matter between abiotic and biotic parts of ecosystems to explain the flow of energy and the conservation of matter. a. Obtain, evaluate, and communicate information about how food is broken down through an organism. b. Generate a scientific explanation based on evidence for the role of photosynthesis and cellular respiration in the cycling of matter and flow of energy into and out of organisms. Subject: Science (7) Title: The Barn Owl Pellet Lab includes hands-on, inquiry-based activities. During this lab activity, students will dissect two Barn Owl pellets. The dissection allows students to compare the data collected from the two pellets. The student worksheets that accompany this lesson require students to: make predictions, perform mathematical calculations, construct a graph, classify bones into types, separate bones by prey type, and draw conclusions about the owl's environment based on the dissection findings. View Standards Standard(s): [DLIT] (8) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. Subject: Digital Literacy and Computer Science (8) Title: IPA is Cool![ai pi e 12 kul] Description: Students will be introduced to the International Phonetic Alphabet and learn how to apply it to songs in foreign languages. In this particular lesson, they will learn the symbols for vowels used in Italian and apply them to a simple, seventeenth-century Italian art song, "Star Vicino". Students will be evaluated through individual podcasts created and edited using Audacity. View Standards Standard(s): [SC2015] ES6 (6) 4 : 4) Construct explanations from geologic evidence (e.g., change or extinction of particular living organisms; field evidence or representations, including models of geologic cross-sections; sedimentary layering) to identify patterns of Earth's major historical events (e.g., formation of mountain chains and ocean basins, significant volcanic eruptions, fossilization, folding, faulting, igneous intrusion, erosion). [SC2015] ES6 (6) 6 : 6) Provide evidence from data of the distribution of fossils and rocks, continental shapes, and seafloor structures to explain past plate motions. Subject: Science (6) Title: Plate Tectonics: Slip, Slidin' Away Description: This lesson is the second of a three-part unit on plate tectonics, which includes hands-on, inquiry-based activities. Students will use a hard-boiled egg to model the movement of tectonic plates at the different types of plate boundaries. View Standard(s): [SC2015] ES6 (6) 8 : 8) Plan and carry out investigations that demonstrate the chemical and physical processes that form rocks and cycle Earth's materials (e.g., processes of crystallization, heating and cooling, weathering, deformation, and sedimentation). [SC2015] (4) 15 : 15) Analyze and interpret data (e.g., angle of slope in downhill movement of water, volume of water, speed of wind, relative rate of soil deposition, amount of vegetation) to determine effects of weathering and rate of erosion by water, ice, wind, and vegetation using one single form of weathering or erosion at a time. Subject: Science (4 - 6) Title: Weathering and Erosion Description: This module includes seven hands-on, inquiry-based activities that will investigate the effects of weathering, erosion, and deposition using various materials such as aquarium gravel, square pretzels, chalk, vinegar, modeling clay, sand, and a hairdryer. This module will provide instruction on the effects of water on land; the effects of different wave actions on land; the effects of different wave actions on land; the effects of water on land; the effects of different wave actions on land; the effects of water on land; the effects of different wave actions on land; the effects of water on land; the effects of the students will create a model that will demonstrate how groundwater can cause a sinkhole. View Standards Sta Science (7) Title: Modeling Mitosis Description: This module provides three different methods for learning about mitosis and includes hands-on, inquiry-based activities. Students will prepare and examine slides of their cheek cells and compare them to those of other students. and function of cells and the similarity of the same types of cells within the same species. Using yarn and popsicle sticks, students will observe prepared slides of onion root tips and whitefish blastula to discover the differences in mitosis in plant and animal cells. View Standards Standard(s): [SC2015] LSC7 (7) 2 : 2) Gather and synthesize information to explain how prokaryotic cells differ in structure and function, including the methods of asexual and sexual reproduction. Subject: Science (7) Title: Modeling Meiosis and Gamete Formation Description: This module includes hands-on and inquiry-based activities related to the processes of meiosis and gamete formation. Using yarn and pop beads, students will use Playdough to model the formation of the sperm and egg cells. Students will denote the differences in cytokinesis and explain the reasoning for the differences. View Standards Standard(s): [SC2015] ES6 (6) 9 : 9) Use models to explain how the flow of Earth's internal energy drives a cycling of matter between Earth's surface and deep interior causing plate movements (e.g., mid-ocean ridges, ocean trenches, volcanoes, earthquakes, mountains, rift valleys, volcanic islands). Subject: Science (6) Title: Plate Tectonics: Convection Model- Plates Go With the Flow Description: This lesson is the third of a three-part unit on plate tectonics, which includes hands-on, inquiry-based activities. Students will learn about the relationship between temperature and density using lava lamps. The students will also model a theory for the mechanism that drives tectonic plate movement by using a hot plate and water to produce convection cells or currents, and food coloring gels to make the currents visible. View Standards Standard(s): [SS2010] USS6 (6) 9 : 9) Critique major social and cultural changes in the United States since World War II. • Identifying key persons and events of the modern Civil Rights Movement Examples: persons—Martin Luther King Jr.; Rosa Parks; Fred Shuttlesworth; John Lewis (Alabama) events—Brown versus Board of Education, Montgomery Bus Boycott, student protests, Freedom Rides, Selma-to-Montgomery Voting Rights March, political assassinations (Alabama) • Describing the changing role of women in United States' society and how it affected the family unit Examples: women in the workplace, latchkey children • Recognizing the impact of music genres and artists on United States' culture since World War II Examples: genres—protest songs; Motown, rock and roll, rap, folk, and country music artists—Elvis Presley, the Beatles, Bob Dylan, Aretha Franklin, Hank Williams (Alabama) • Identifying the impact of media, including newspapers, AM and FM radio, television, twenty-four hour sports and news programming, talk radio, and Internet social networking, on United States' culture since World War II [SS2010] USS6 (6) 4 : 4) Identify cultural and economic developments in the United States from 1900 through the 1930s. • Describing the impact of various writers, musicians, and artists on American culture during the Harlem Renaissance and the Jazz Age Examples: Langston Hughes, Louis Armstrong, Ernest Hemingway, F. Scott Fitzgerald, Andrew Wyeth, Frederic Remington, W. C. Handy, Erskine Hawkins, George Gershwin, Zora Neale Hurston (Alabama) • Identifying contributions of turn-of-the-century inventors Examples: George Washington Carver, Henry Ford, Alexander Graham Bell, Thomas Alva Edison, Wilbur and Orville Wright (Alabama) • Describing the emergence of the modern woman during the early 1900s Examples: Amelia Earhart, Zelda Fitzgerald, Helen Keller, Susan B. Anthony, Margaret Washington, suffragettes, suffragists, flappers (Alabama) • Identifying notable persons of the early 1900s Examples: Babe Ruth, Charles A. Lindbergh, W. E. B. Du Bois, John T. Scopes (Alabama) • Comparing results of the economic policies of the Warren G. Harding, Calvin Coolidge, and Herbert Hoover Administrations Examples: higher wages, increase in consumer goods, collapse of farm economy, extension of personal credit, stock market crash, Immigration Act of 1924 [SS2010] US11 (11) 2 : 2) Evaluate social and political origins, accomplishments, and limitations of Progressivism. [A.1.a., A.1.b., A.1.c., A.1.b., A.1.c., A.1.b., A.1.c., A.1.b., A.1.c., A.1.b., A.1.c., during the Progressive movement, including Upton Sinclair, Jacob A. Riis, and Ida M. Tarbell Examples: women's suffrage, Ida B. Wells-Barnett, temperance movement, including the Sherman Antitrust Act • Determining the influence of the Niagara Movement, the National Association for the Advancement of Colored People (NAACP), Booker T. Washington, W. E. B. Du Bois, Marcus Garvey, and Carter G. Woodson on the Progressive Era • Assessing the significance of the public education movement initiated by Horace Mann • Comparing the presidential leadership of Theodore Roosevelt, William Howard Taft, and Woodrow Wilson in obtaining passage of measures regarding trust-busting, the Federal Reserve Act, and conservation Subject: Social Studies (6 - 11) Title: W.E.B. DuBois, Booker T. Washington, and Jim Crow Description: Students will use primary sources to compare and contrast the viewpoints of two notable persons (Booker T. Washington & W.E.B. Du Bois) of the early 1900s and identify the influence they had on the civil rights movement, especially the Jim Crow Laws. This lesson was created as a part of the Alabama History Education Initiative, funded by a generous grant from the Malone Family Foundation in 2009. Author Information: Tammy Brown (Cohort 1: 2009-2010) Central Elementary School Madison County School System Huntsville, AL View Standards Standards Standards Information: Tammy Brown (Cohort 1: 2009-2010) Central Elementary School Madison County School Madison County School System Huntsville, AL View Standards nineteenth and early twentieth centuries for their impact on Alabama. Examples: social—implementation of the Plessey versus Ferguson "separate but not equal" court decision, birth of the National Association for the Advancement of Colored People (NAACP) educational—establishment of normal schools and land-grant colleges such as Huntsville Normal School (Alabama Agricultural and Mechanical [A&M] University), Agricultural and Mechanical College of Alabama (Auburn University), Lincoln Normal School (Alabama State University) • Explaining the development and changing role of industry, trade, and agriculture in Alabama during the late nineteenth and early twentieth centuries, including the rise of Populism • Explaining the Jim Crow laws • Identifying Alabamians who made contributions in the fields of science, education, the arts, politics, and business during the late nineteenth and early twentieth centuries Subject: Social Studies (4) Title: Working in Birmingham's Iron Industry Description: Students will use primary sources to gain a perspective of the living and working in the iron industry. Students will explore the role of the iron industry with regard to the initial fast growth rate of Birmingham and how this growth was the result of location, transportation, and resources. This lesson was created as a part of the Alabama History Education Initiative, funded by a generous grant from the Malone Family Foundation in 2009. Author Information: Kris White (Cohort 2: 2010-2011) Bear Exploration Center Elementary School Montgomery County School System Montgomery, AL View Standards Standard(s): [SS2010] US11 (11) 4 : 4) Describe causes, events, and the impact of military involvement of the United States in World War I, including mobilization and economic and political changes. [A.1.a., A.1.b., A.1.d., A.1.f., A.1.i., A.1.j., A.1.k.] • Identifying the role of militarism, alliances, imperialism, and nationalism in World War I • Explaining controversies over the Treaty of Versailles led to worsening economic and political conditions in Europe, including greater opportunities for the rise of fascist states in Germany, Italy, and Spain • Comparing short- and long-term effects of changing boundaries in pre- and post-World War I in Europe and the Middle East, leading to the creation of new countries Subject: Social Studies (11) Title: Yellow Journalism Description: In this lesson, students will describe causes of involvement of the United States in Wold War I by defining yellow journalism, and its effect on the United States becoming involved in a war with Spain over its territories in the Caribbean Sea and the Philippine Islands. By viewing primary source documents of newspaper articles from Alabama, the students will make judgments as to the effectiveness of the newspaper articles. This lesson was created as a part of the Alabama History Education Initiative, funded by a generous grant from the Malone Family Foundation in 2009. AuthorInformation: Ronald Shephard (Cohort 2: 2010-2011)Central High School Phenix City, AL View Standards Standard(s): [SC2015] ES6 (6) 6 : 6) Provide evidence from data of the distribution of fossils and rocks, continental shapes, and seafloor structures to explain past plate motions. Subject: Science (6) Title: Plate Tectonics: Pangaea- The Supercontinent Description: This lesson is the first of a three-part unit on plate tectonics, which includes hands-on, inquiry-based activities. In this lesson, students will construct a model of continental separation and the ancient supercontinent, Pangaea. After completing this module, students will be able to explain Alfred Wegener's theory of continental drift and the evidence used to support this theory. This lesson presented as part of the Alabama State University, Math. Science Partnership. View Standards Standard(s): [SS2010] LWT1 (1) 8 : 8) Identify land masses, bodies of water, and other physical features on maps and globes. • Explaining the use of cardinal directions and the compass rose • Measuring distance using nonstandard units Example: measuring with pencils, strings, hands, feet • Using vocabulary associated with geographical features, including river, lake, ocean, and mountain Subject: Social Studies (1) Title: Which Directions game. Then students will draw and label a map of the classroom using cardinal directions. View Standard(s): [SC2015] LSC7 (7) 3:3) Construct an explanation of the function (e.g., mitochondria releasing energy during cellular respiration) of specific cell structures (i.e., nucleus, cell membrane, cell wall, ribosomes, mitochondria, chloroplasts, and vacuoles) for maintaining a stable environment. Subject: Science (7) Title: Osmosis and Diffusion Lab Description: This lesson plan includes several hands-on, inquiry-based lab activities exploring the concepts of osmosis and diffusion. The lesson plan is divided into three modules. First, the teacher will demonstrate osmosis and diffusion using gummy bears, salt, celery, food coloring, and hot and cold water. Next, students will participate in a hands-on lab activity that will demonstrate diffusion using dialysis tubing, sucrose solution, cornstarch, phenolphthalein, ammonia, vinegar, and universal indicator solution. View Standards Standards Standards, militarism, and reasons for the United States' entry into the war. Examples: sinking of the Lusitania, Zimmerman Note, alliances, militarism, imperialism, nationalism • Describing military and civilian roles in the United States during World War I • Explaining roles of important persons associated with World War I • Explaining roles of the World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with World War I • Explaining roles of important persons associated with weight persons associated wi machine gun, tank, submarine, airplane, poisonous gas, gas mask • Locating on a map major countries involved in World War I and boundary changes after the war • Explaining the intensification of isolationism in the United States after World War I explaining the intensification of isolationism in the United States after World War I explaining the intensification of isolationism in the United States after World War I explaining the intensification of isolationism in the United States after World War I explaining the intensification of isolationism in the United States after World War I explaining the intensification of isolationism in the United States after World War I explaining the intensification of isolationism in the United States after World War I explaining the intensification of isolationism in the United States after World War I explaining the intensification of isolationism in the United States after World War I explaining the intensification of isolationism in the United States after World War I explaining the intensification of isolationism in the United States after World War I explaining the intensification of isolationism in the United States after World War I explaining the intensification of isolationism in the United States after World War I explaining the intensification of isolation of isola League of Nations, and Red Scare • Recognizing the strategic placement of military bases in Alabama (Alabama) [SS2010] ALA (4) 11 : 11) Describe the impact of World War I on Alabamians, including the migration of African Americans from Alabama to the North and West, utilization of Alabama's military installations and training facilities, and increased production of goods for the war effort. • Recognizing Alabama participants in World War I, including Alabama's 167th Regiment of the Rainbow Division • Identifying World War I technologies, including airplanes, machine guns, and chemical warfare Subject: Social Studies (4 - 6) Title: Dear Father: A College Student's Perspective on WWI Description: This lesson will introduce students to an Alabama connection to World War I. The primary document that will be used is a letter to a father from a University of Alabama student, written on March 2, 1917, exactly one month before the United States declared war on Germany. The student discusses typical family topics before ending with his concerns about the possibility of war. This lesson was created as a part of the Alabama History Education in 2009. Author Information:Dr. Lesa Roberts (Cohort 1: 2009-2010) Hampton Road Middle School; Huntsville City School System; Huntsville, AL View Standards Standard(s): [MA2015] (4) 4 : 4) Find all factor pairs for a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite. [4-OA4] Subject: Mathematics (4) Title: Creative Factor Trees Description: Students will also build a factor tree model by displaying how to write out a prime factorization of a number correctly, how to identify prime and composite numbers, and how to check their results. This hands-on approach allows students to use different mediums and practice their understanding of mathematics. View Standards Standard(s): [SS2010] ALA (4) 9 : 9) Analyze political and economic issues facing Alabama during Reconstruction for their impact on various social groups. Examples: political—military rule, presence of Freedmen's Bureau, Alabama's readmittance to the Union economic—sharecropping, tenant farming, scarcity of goods and money • Interpreting the Thirteenth, Fourteenth, and Fifteenth Amendments to the Constitution of the United States • Identifying African Americans who had an impact on Alabama during Reconstruction in Alabama • Identifying major political parties in Alabama • Identifying major political parties in Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Represents Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Represents Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Represents Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Represents Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Represents Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Represents Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Represents Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Represents Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Represents Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Represents Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Represents Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Represents Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Studies (4) Title: An African American Represents Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Represents Alabama during Reconstruction Subject: Social Studies (4) Title: An African American Represents Alabama during Reconstruction Studies (4) Title: An African American Represents Alabama during Reconstruction Studies (4) Title: An African American Represents Alabama during Reconstruction Studies (4) Title: An African American Reconstruction Studies (4) Title: An African American Reconstruction Studies (4) Title: An African American Reconstruction Studies (4) Title: An Af prominent African American and his role in politics during Reconstruction in Alabama. Photographic primary sources are used in this lesson. This lesson was created as a part of the Alabama History Education Initiative, funded by a generous grant from the Malone Family Foundation in 2009. Author Information: Rebecca Campbell (Cohort 2: 2010-2011); Uniontown Elementary School; Perry County School System; Uniontown, AL View Standards States since World War II. • Identifying key persons and events of the modern Civil Rights Movement Examples: persons -Martin Luther King Jr.; Rosa Parks; Fred Shuttlesworth; John Lewis (Alabama) events-Brown versus Board of Education, Montgomery Bus Boycott, student protests, Freedom Rides, Selma-to-Montgomery Voting Rights March, political assassinations (Alabama) • Describing the changing role of women in United States' society and how it affected the family unit Examples: women in the workplace, latchkey children • Recognizing the impact of music genres and artists on United States' culture since World War II Examples: genres—protest songs; Motown, rock and roll, rap, folk, and country music artists—Elvis Presley, the Beatles, Bob Dylan, Aretha Franklin, Hank Williams (Alabama) • Identifying the impact of media, including newspapers, AM and FM radio, television, twenty-four hour sports and news programming, talk radio, and Internet social networking, on United States' culture since World War II [LIT2010] HIS (6-8) 7 : 7) Integrate visual information (e.g., in charts, graphs, photographs, photographs, special networking, on United States' culture since World War II [LIT2010] HIS (6-8) 7 : 7) Integrate visual information (e.g., in charts, graphs, photographs, special networking, on United States' culture since World War II [LIT2010] HIS (6-8) 7 : 7) Integrate visual information (e.g., in charts, graphs, photographs, special networking, on United States' culture since World War II [LIT2010] HIS (6-8) 7 : 7) Integrate visual information (e.g., in charts, graphs, photographs, special networking, on United States' culture since World War II [LIT2010] HIS (6-8) 7 : 7) Integrate visual information (e.g., in charts, graphs, photographs, special networking, on United States' culture since World War II [LIT2010] HIS (6-8) 7 : 7) Integrate visual information (e.g., in charts, graphs, photographs, special networking, on United States' culture since World War II [LIT2010] HIS (6-8) 7 : 7) Integrate visual information (e.g., in charts, graphs, photographs, special networking, on United States' culture since World War II [LIT2010] HIS (6-8) 7 : 7) Integrate visual information (e.g., in charts, graphs, photographs, special networking, on United States' culture since World War II [LIT2010] HIS (6-8) 7 : 7) Integrate visual information (e.g., in charts, graphs, photographs, special networking, on United States' culture since World War II [LIT2010] HIS (6-8) 7 : 7) Integrate visual information (e.g., in charts, graphs, special networking, on United States' culture since World War II [LIT2010] HIS (6-8) 7 : 7) Integrate visual information (e.g., in charts, graphs, special networking, on United States' culture since World War II [LIT2010] HIS (6-8) 7 : 7) Integrate visual inf videos, or maps) with other information in print and digital texts. [ELA2015] (6) 17 : 17) Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue. [RI.6.7] [ELA2015] (6) 32 : 32) Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study. [SL.6.2] Subject: Social Studies (6), Literacy Standards (6-12) (6 - 8), English Language Arts (6) Title: For the Love of Ruby Description: After viewing various videos and images, the students will deepen their understandings of the desegregation movement and its continuing influence on today's society. The students will defend their opinions using an open-mic forum and will creatively demonstrate their understanding to the American Standards Standards Standard(s): [SS2010] USS5 (5) 7 : 7) Determine causes and events leading to the American Revolution, including the French and Indian War, the Stamp Act, the Intolerable Acts, the Boston Massacre, and the Boston Tea Party. Subject: Social Studies (5) Title: No Taxation Without Representation Description: This lesson will help students determine the causes and events leading to the American Revolutionary War. Students will participate in a whole class "game" to understand taxes and the phrase "taxation without representation". Then students will illustrate their views of the causes of the Revolutionary War using comic strips. View Standards socioeconomic groups in Alabama. Examples: 1920s—increase in availability of electricity, employment opportunities, wages, products, consumption of goods; stock market crash Great Depression—overcropping of land, unemployment, poverty, establishment of new federal programs • Explaining how supply and demand impacted economics of Alabama and the United States during the 1920s and the Great Depression on the people of the United States. Examples: economic failure, loss of farms, rising unemployment, building of Hoovervilles • Identifying patterns of migration during the Great Depression • Locating on a map the area of the United States known as the Dust Bowl • Describing the importance of the election of Franklin D. Roosevelt as President of the United States, including the New Deal alphabet agencies • Locating on a map the river systems utilized by the Tennessee Valley Authority (TVA) (Alabama) Subject: Social Studies (4 - 6) Title: Alabama Farm Life in the Great Depression Description: This lesson will include the use of a primary document and period photographs for a cross-curriculum lesson analyzing setting to identify some adverse effects of the Great Depression for farmers. The student will create a postcard which depicts an understanding of the impact of the Great Depression on farmers. This lesson was created as a part of the Alabama History Education Initiative, funded by a generous grant from the Malone Family Foundation in 2009. Author Information: April Mitchell (Cohort 2: 2010-2011); Greenwood Elementary; Bessemer City Schools; Bessemer, AL View Standards Standards Standard(s): [SS2010] US10 (10) 16: 16) Explain the transition of the United States from an agrarian society to an industrial nation prior to World War I. [A.1.a., A.1.b., A.1.c., A.1.d., A.1.e., A.1.h., A.1.i., A.1.k.] • Describing the impact of Manifest Destiny on the economic and technological development of the post-Civil War West, including mining, the cattle industry, and the transcontinental railroad • Identifying the changing role of the American farmer, including the establishment of the Granger movement and the Populist Party and agrarian rebellion over currency issues • Evaluating the Dawes Act for its effect on tribal identity, land ownership, and assimilation of American Indians between Reconstruction and World War I • Comparing population percentages, motives, and settlement patterns of immigrants from Asia, Africa, Europe, and Latin America, including the Chinese Exclusion Act regarding immigration quotas Subject: Social Studies (10) Title: Alabama Tenant Farmers and Sharecroppers, 1865 to Present Description: This lesson explores the reasons for the development of the tenant farming and sharecropping system in the post-Civil War era. Using primary sources (pictures and labor contracts), the lesson presents some of the situations that caused the system to develop. It covers the lifestyle of the farmers and investigates the reasons for the decrease in the system of tenant farming and sharecropping after the Depression and World War II. This lesson was created as a part of the Alabama History Education Initiative, funded by a generous grant from the Malone Family Foundation in 2009. Author Information: Vicki Looser (Cohort 1: 2009-2010); Lanett High School; Lanett City Schools Lanett, AL View Standard(s): [SS2010] WH8 (8) 17: 17) Explain how events and conditions fostered political and economic changes in the late Middle Ages and led to the origins of the Renaissance. Examples: the Crusades, Hundred Years' War, Black Death, rise of the middle class, commercial prosperity • Identifying changes in the arts, architecture, literature, and science in the late Middle Ages (1300-1400 A.D.) Subject: Social Studies (8) Title: "Pocket full of Posies" Description: The Black Death affected every member of society in the Middle Ages. In this lesson, students will watch a video about The Black Death and read an excerpt from Sarah Himes' diary to be able to understand how The Black Death brought about political and economic changes in the late Middle Ages. Students will discover the true meaning behind the children's song "Ring Around the Rosy". Finally, students will collaborate with a partner to compose their own song about the impact the Black Death had on either the family, the church, or the economy during the Middle Ages. View Standards Standard(s): [SS2010] ALA (4) 14 : 14) Analyze the modern Civil Rights Movement to determine the social, political, and economic impact on Alabama. • Recognizing important persons of the modern Civil Rights Movement, including Martin Luther King, Jr.; George C. Wallace; Rosa Parks; Fred Shuttlesworth; John Lewis; Malcolm X; Thurgood Marshall; Hugo Black; and Ralph David Abernathy • Describing events of the modern Civil Rights Movement, including Martin Luther King, Jr.; George C. Wallace; Rosa Parks; Fred Shuttlesworth; John Lewis; Malcolm X; Thurgood Marshall; Hugo Black; and Ralph David Abernathy • Describing events of the modern Civil Rights Movement, including Martin Luther King, Jr.; George C. Wallace; Rosa Parks; Fred Shuttlesworth; John Lewis; Malcolm X; Thurgood Marshall; Hugo Black; and Ralph David Abernathy • Describing events of the modern Civil Rights Movement, including Martin Luther King, Jr.; George C. Wallace; Rosa Parks; Fred Shuttlesworth; John Lewis; Malcolm X; Thurgood Marshall; Hugo Black; and Ralph David Abernathy • Describing events of the modern Civil Rights Movement, including Martin Luther King, Jr.; George C. Wallace; Rosa Parks; Fred Shuttlesworth; John Lewis; Malcolm X; Thurgood Marshall; Hugo Black; and Ralph David Abernathy • Describing events of the modern Civil Rights Movement, including Martin Luther King, Jr.; George C. Wallace; Rosa Parks; Fred Shuttlesworth; John Lewis; Malcolm X; Thurgood Marshall; Hugo Black; and Ralph David Abernathy • Describing events of the modern Civil Rights Movement, including Martin Luther King, Jr.; George C. Wallace; Rosa Parks; Fred Shuttlesworth; John Lewis; Malcolm X; Thurgood Marshall; Hugo Black; Abernathy • Describent events of the modern Civil Rights Movement, including Martin Luther King, Jr.; George C. Wallace; Rosa Parks; Fred Shuttlesworth; John Lewis; Malcolm X; Thurgood Marshall; Hugo Black; Abernathy • Describent event including the Montgomery Bus Boycott, the Sixteenth Street Baptist Church bombing in Birmingham, the Freedom Riders bus bombing, and the Selma-to-Montgomery March • Explaining benefits of the Civil Rights Act of 1964, the Voting Rights Act of 1965, and Brown versus Board of Education Supreme Court case of 1954 • Using vocabulary associated with the modern Civil Rights Movement, including discrimination, prejudice, segregation, integration, suffrage, and rights Subject: Social Studies (4) Title: Change of View: George C. Wallace Description: This lesson will use primary sources to compare and contrast the perspectives of George C. Wallace at the beginning and in the latter part of his life as a political figure in Alabama. The students will develop a hypothesis about the effect that Wallace's views and the changes in his character over time. This lesson was created as a part of the Alabama History Education Initiative, funded by a generous grant from the Malone Family Foundation in 2009. Author Information: Misty Freeman (Cohort 2: 2010-2011); Rehobeth Elementary; Houston County Schools; Dothan, AL View Standards Standard(s): [SS2010] LWT1 (1) 10 : 10) Describe the role of money in everyday life. • Categorizing purchases families make as needs or wants • Explaining the concepts of saving and borrowing • Identifying differences between buyers and sellers • Classifying specialized jobs of workers with regard to the production of goods and services • Using vocabulary associated with the function of money, including barter, trade, spend, and save Subject; Social Studies (1) Title: Do I Want It Or Need It? Description: In this lesson, students will listen as the teacher reads Something Good by Robert Munsch. In the story, the characters make choices about the foods they should purchase at the grocery store and learn a lesson about needs and wants. As a whole class, students classify needs and wants from the story. Then students will use local grocery store sales papers and create their own grocery list with needs and wants. View Standard(s): [SS2010] LWT1 (1) 1 : 1) Construct daily schedules, calendars, and timelines. • Using vocabulary associated with time, including past, present, and future Subject: Social Studies (1) Title: Does Time Really Stand in Line? Learning About a Timeline. Description: In this lesson, students will learn the purpose of a timeline and how to create one. Students will also be able to apply timeline skills to reading comprehension. View Standards Standard(s): [SS2010] GHS (3) 10 : 10) Recognize functions of the Declaration of Independence and the Constitution of the United States. • Describing the process by which a bill becomes law • Explaining the relationship between the federal governments, including the three branches of government (Alabama) • Defining governmental systems, including democracy, monarchy, and dictatorship Subject: Social Studies (3) Title: That's Not Fair! There Should Be a Law Against That! Discovering How a Bill Becomes a Law Description: Students will choose a topic that they think should be a law. As a class, they will re-enact the steps necessary to make a new law. View Standard(s): [SS2010] GHS (3) 9 : 9) Identify ways to prepare for natural disasters. Examples: constructing houses on stilts in flood-prone areas, buying earthquake and flood insurance, providing hurricane or tornado shelters, establishing emergency evacuation routes [SS2010] GHS (3) 9 : 9) Identify ways to prepare for natural disasters. Examples: constructing houses on stilts in flood-prone areas, buying earthquake and flood insurance, providing hurricane or tornado shelters, establishing emergency evacuation routes Subject: Social Studies (3) Title: Be Prepared! You're the Teacher--How Will You Teach Others to be Prepared for an Emergency? Description: Students will create a commercial, song, poster or skit to inform others about what to do to prepare for a natural disaster. Students will complete an online activity about disaster preparedness. View Standards Standards Standards Standards Standards Standard (a): [SC2015] (4) 16 : 16) Describe patterns of Earth's features on land and in the ocean using data from maps (e.g., topographic maps of Earth's land and ocean floor; maps of locations of mountains, continental boundaries, volcanoes, and earthquakes). [SS2010] ALA (4) 1 : 1) Compare historical and current economic, political, economic development, land-use, and population maps. • Describing types of migrations as they affect the environment, agriculture, economic development, and population changes in Alabama Description: In this lesson, students will learn the characteristics of the five geographic regions of Alabama by researching the regions using maps, the Internet, and books. The students will also make a salt dough map depicting Alabama's land regions. This lesson was created as a part of the Alabama History Education Initiative, funded by a generous grant from the Malone Family Foundation: Ivy Murry Education Initiative, funded by a generous grant from the Malone Family Foundation in 2009. Author Information: Ivy Murry Education Initiative, funded by a generous grant from the Malone Family Foundation in 2009. and DeShaundra Johnson (Cohort 1: 2009-2010); Holly Hill Elementary and Hall-Kent; Elementary Enterprise City Schools; Enterprise, AL and Homewood, AL View Standards Standard(s): [SS2010] USS5 (5) 8:8) Identify major events of the American Revolution, including the battles of Lexington and Concord, Bunker Hill, Saratoga, and Yorktown. • Describing principles contained in the Declaration of Independence • Explaining contributions, Paul Revere, Patrick Henry, Thomas Paine, George Washington, Haym Solomon, and supporters from other countries to the American Revolution • Explaining contributions of ordinary citizens, including African Americans and women, to the American Revolution • Describing efforts to mobilize support for the American Revolution by the Minutemen, Committees of Correspondence, First Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress • Locating on a map major battle sites of the American Revolution, including the battles of Lexington and Concord, Bunker Hill, Saratoga, and Yorktown • Recognizing reasons for colonial victory in the American Revolution • Explaining the effect of the Treaty of Paris of 1783 on the development of the United States [ELA2015] (5) 4 : 4) Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes. [RL.5.4] [DLIT] (5) 23 : 17) Publish organized information in different ways to make it more useful or relevant. Examples: Infographic, student created website. Subject: Social Studies (5), English Language Arts (5) Title: Declaring Independence Description: Students will develop an understanding of the purpose of the Declaration of Independence by synthesizing the grievances listed by the founding fathers. View Standards Standard(s): [SS2010] GHS (3) 12 : 12) Explain the significance of representations of American values and beliefs, including the Statue of Liberty, the statue of Lady Justice, the United States flag, and the national anthem. [DLIT] (3) 5 : R5) Locate and curate information from digital sources to answer research questions. Subject: Social Studies (3) Title: Let's Tour Lady Liberty! Description: In this lesson, students will embark on a virtual field trip tour will enable students to make observations related to the statue's iconic history. These observations will allow students to gain an appreciation of the statue represents, and how it is an important symbol to our country. View Standards Standard(s): [SS2010] USS5 (5) to the Statue of Liberty. This exciting 3:3) Distinguish differences among major American Indian cultures in North America according to geographic region, natural resources, community organization, economy, and belief systems. • Locating on a map American Indian nations according to geographic region, natural resources, community organization, economy, and belief systems. between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical texts, at the high end of the Grades 4-5 text including history/social studies, science, and technical texts, at the high end of the Grades 4-5 text complexity band independently and proficiently. [RI.5.10] [ELA2015] (5) 23 : 23) Write information clearly. [W.5.2] a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. [W.5.2a] b. Develop the topic with facts, definitions, concrete details, quotations, or other information using words, phrases, and clauses (e.g., in contrast, especially). [W.5.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.5.2d] e. Provide a concluding statement or section related to the information from digital sources to answer research questions. [DLIT] (5) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (5) 25 : 19) Conduct advanced keyword searches to produce valid, appropriate results and evaluate results for accuracy, relevance, and appropriateness. Examples: Search techniques, check for credibility and validity. Subject: Social Studies (5), English Language Arts (5) Title: Compare and Contrast Native American Regions Description: There are many Native American regions throughout the United States. In this lesson students are given two different Native American regions to research and learn about their geographic region, natural resources, community organization, economy, and belief systems. Students will then create a venn diagram that will allow them to see the similarities and differences in the two assigned regions. View Standards Standard(s): [SS2010] US11 (11) 5:5) Evaluate the impact of social changes and the influence of key figures in the United States from World War I through the 1920s, including Prohibition, the passage of the Nineteenth Amendment, the Scopes Trial, limits on immigration, Ku Klux Klan activities, the Red Scare, the Harlem Renaissance, the Great Migration, the Jazz Age, Susan B. Anthony, Margaret Sanger, Elizabeth Cady Stanton, W. C. Handy, and Zelda Fitzgerald. (Alabama) [A.1.a., A.1.b., A.1.b creation of mass culture • Analyzing works of major American artists and writers, including F. Scott Fitzgerald, Ernest Hemingway, Langston Hughes, and H. L. Mencken, to characterize the era of the 1920s • Determining the relationship between technological innovations and the creation of increased leisure time Subject: Social Studies (11) Title: "I Too, Sing America" - Harlem Renaissance. Students will discuss major themes of the Harlem Renaissance. Then, students will write their own poems reflecting these themes through the website StoryJumper. View Standards Standard(s): [SS2010] CIV (7) 6 : 6) Explaining rights of citizens as guaranteed by the Bill of Rights under the Constitution of the United States • Explaining what is meant by the term rule of law • Justifying consequences of committing a civil or criminal offense • Contrasting juvenile and adult laws at local, state, and federal levels (Alabama) Subject: Social Studies (7) Title: You Have the Right to Remain Silent! Description: In this lesson, students will watch a video on Miranda rights and the Bill of Rights. Students will discuss rights they think should have been included in the Miranda. Then students will rewrite the Miranda and create a presentation with VoiceThread. View Standard(s): [SS2010] GHS (3) 2 : 2) Locate the continents on a map or globe • Using vocabulary associated with geographical features of Earth, including hill, plateau, valley, peninsula, island, isthmus, ice cap, and glacier • Locating major mountain ranges, oceans, rivers, and lakes throughout the world (Alabama) [DLIT] (3) 19 : 13) Communicate key ideas and details collaboratively in a way that informs, persuades, and/or entertains, using digital tools. Example: Create a digital presentation to persuade school administrators to allow additional time for lunch. [DLIT] (3) 22 : 16) Conduct basic keyword searches to produce valid, appropriate results, and evaluate results, and evaluate results for accuracy, relevance, and appropriateness. Examples: Use search techniques, check for credibility and validity. Subject: Social Studies (3) Title: Oh, The Geographic Features We Can Explore! Using QR Codes and Google Slides Description: In this lesson, students will work collaboratively to create a presentation showcasing the various geographic features around the world and use the appropriate academic vocabulary. Students will present their group slide to the class. Students will independently write a compare and contrast paragraph about two geographic features. View Standards Standard(s): [SS2010] ECON (12) 5 : 5) Explain that a country's standard of living depends upon its ability to produce goods and services. Explaining productivity as the amount of outputs, or goods and services, produced from inputs, or factors of production • Describing how investments in factories, equipment, education, new technology, training, and health improve economic growth and living standards Subject: Social Studies (12) Title: Country Investigations using the Human Development Index Description: Students will use the United Nations Human Development Index database to research a country's social and economic development. Specifically, students will research for the "ingredients" of economic growth - human capital, physical capital, labor productivity, technology, infrastructure, natural resources, political stability, etc. Then, students will prepare a one-page Google Doc report on the country. View Standards geographical features of Earth, including hill, plateau, valley, peninsula, island, isthmus, ice cap, and glacier • Locating major mountain ranges, oceans, rivers, and lakes throughout the world (Alabama) [DLIT] (3) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (3) 19 : 13) Communicate key ideas and details collaboratively in a way that informs, persuades, and/or entertains, using digital tools. Example: Create a digital presentation to persuade school administrators to allow additional time for lunch. [DLIT] (3) 22 : 16) Conduct basic keyword searches to produce valid, appropriate results, and evaluate results for accuracy, relevance, and appropriateness. Examples: Use search techniques, check for credibility and validity. Subject: Digital Literacy and Computer Science (3) Title: Oh, The Geographic Features We Can Explore! Using QR Codes and Google Slides Description: In this lesson, students will work collaboratively to create a presentation showcasing the various geographic features around the world and use the appropriate academic vocabulary. Students will present their group slide to the class. Students will independently write a compare and contrast paragraph about two geographic features. View Standards Standard(s): [SS2010] USS5 (5) 3: 3) Distinguish differences among major American Indian cultures in North America according to geographic region, natural resources, community organization, economy, and belief systems. • Locating on a map American Indian nations according to geographic region [ELA2015] (5) 12 : 12) Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical texts including history/social studies, science, and technical texts, at the high end of the Grades 4-5 text complexity band independently and proficiently. [RI.5.10] [ELA2015] (5) 23 : 23) Write informative or explanatory texts to examine a topic and convey ideas and information clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. [W.5.2a] b. Develop the topic with facts, definitions, concrete details, quotations, or other information using words, phrases, and clauses (e.g., in contrast, especially). [W.5.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.5.2d] e. Provide a concluding statement or section related to the information from digital sources to answer research questions. [DLIT] (5) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (5) 25 : 19) Conduct advanced keyword searches to produce valid, appropriate results and evaluate results for accuracy, relevance, and appropriateness. Examples: Search techniques, check for credibility and validity. Subject: Digital Literacy and Computer Science (5) Title: Compare and Contrast Native American Regions Description: There are many Native American regions throughout the United States. In this lesson students are given two different Native American regions to research and learn about their geographic region, natural resources, community organization, economy, and belief systems. Students will then create a venn diagram that will allow them to see the similarities and differences in the two assigned regions. View Standards Standards Standards Standards (3) 12 : 12) Explain the significance of representations of American values and beliefs, including the Statue of Liberty, the statue of Lady Justice, the United States flag, and the national anthem. [DLIT] (3) 5 : R5) Locate and curate information from digital sources to answer research questions. Subject: Digital Literacy and Computer Science (3) Title: Let's Tour Lady Liberty. This exciting tour will enable students to make observations related to the statue's iconic history. These observations will allow students to gain an appreciation of the size of the statue, what the statue represents, and how it is an important symbol to our country. View Standards Standards Standards and Concord, Bunker Hill, Saratoga, and Yorktown. • Describing principles contained in the Declaration of Independence • Explaining contributions of ordinary citizens. including African Americans and women, to the American Revolution • Describing efforts to mobilize support for the American Revolution by the Minutemen, Committees of Correspondence, First Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress • Locating on a map major battle sites of the American Revolution, including the battles of Lexington and Concord, Bunker Hill, Saratoga, and Yorktown • Recognizing reasons for colonial victory in the American Revolution • Explaining the effect of the Treaty of Paris of 1783 on the development of the United States [ELA2015] (5) 4 : 4) Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes. [RL.5.4] [DLIT] (5) 23 : 17) Publish organized information in different ways to make it more useful or relevant. Examples: Infographic, student created website. Subject: Digital Literacy and Computer Science (5) Title: Declaring Independence Description: Students will develop an understanding of the purpose of the Declaration of Independence by synthesizing the grievances listed by the founding fathers. View Standard(s): [SS2010] USS5 (5) 7 : 7) Determine causes and events leading to the American Revolution, including the French and Indian War, the Stamp Act, the Intolerable Acts, the Boston Massacre, and the Boston Tea Party. [SS2010] USS5 (5) 8 : 8) Identify major events of the American Revolution, including the battles of Lexington and Concord, Bunker Hill, Saratoga, and Yorktown. • Describing principles contained in the Declaration of Independence • Explaining contributions of Thomas Jefferson, Samuel Adams, Paul Revere, Patrick Henry, Thomas Paine, George Washington, Haym Solomon, and supporters from other countributions of ordinary citizens, including African Americans and women, to the American Revolution • Describing efforts to mobilize support for the American Revolution by the Minutemen, Committees of Correspondence, First Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, boycotts, and the Second Continental Congress, Sons of Liberty, Boycotts, and the Second Continental Congress, Sons of Liberty, Boycotts, and Second Continental Congress, Sons of Liberty, Boycotts, and Second Continental Congress, Sons of Liberty, Boycotts, Sons of Liberty, Boycotts, Sons of Liberty, So

reasons for colonial victory in the American Revolution • Explaining the effect of the Treaty of Paris of 1783 on the development of the United States [DLIT] (5) 23 : 17) Publish organized information in different ways to make it more useful or relevant. Examples: Infographic, student created website. [DLIT] (5) 25 : 19) Conduct advanced keyword searches to produce valid, appropriateness. Examples: Search techniques, check for credibility and validity. Subject: Social Studies (5), Digital Literacy and Computer Science (5) Title: Technology Timeline! Major Events and Battles of the American Revolution Description: The students will be able to identify certain major events and battle of the American Revolutionary War. Creativity and collaboration are included when making timelines. The students should understand that events happen in chronological order and they can be represented using a timeline. View Standards Standard(s): [ELA2015] (7) 5:5) Analyze how a drama's or poem's form or structure (e.g., soliloquy, sonnet) contributes to its meaning. [RL.7.5] [ELA2015] (7) 11:11) Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text. [RI.7.2] [ELA2015] (7) 7 : 7) Compare and contrast a written story, drama, or poem to its audio, filmed, staged, or multimedia version, analyzing the effects of techniques unique to each medium (e.g., lighting, sound, color, or camera focus and angles in a film). [RL.7.7] Subject: English Language Arts (7) Title: Writing for Catharsis: How Do We Survive? Description: This lesson is an internet-based inquiry into the Virginia Tech Massacre and Nikki Giovanni's poetic response. This lesson ties informative reading and inquiry with the craft of poetry and the role of poetry as catharsis. Students will also understand firsthand the difference in reading a poem and the experiencing it as a public performance. View Standard(s): [ELA2015] (8) 20 : 20) Write arguments to support claims with clear reasons and relevant evidence. [W.8.1] a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. [W.8.1a] b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text. [W.8.1b] c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. [W.8.1c] d. Establish and maintain a formal style. [W.8.1d] e. Provide a concluding statement or section that follows from and supports the argument presented. [W.8.1e] [ELA2015] (8) 6 : 6) Analyze how differences in the points of view of the characters and the audience or reader (e.g., created through the use of dramatic irony) create such effects as suspense or humor. [RL.8.6] [ELA2015] (8) 1 : 1) Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text. [RL.8.1] [ELA2015] (8) 3 : 3) Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision. [RL.8.3] Subject: English Language Arts (8) Title: Guilty or Innocence as they discover the Western town of Moon Dance, Montana, home of AI, a young man who begins to doubt the innocence of his mentor and father figure. Could Mr. Baumer be guilty of murder? Students are introduced to all the elements of a short story and forget that they are learning how to write an argumentative essay in their zeal to defend their opinion with evidence from the text. View Standards Standard(s): [ELA2015] (3) 4 : 4) Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language. [RL.3.4] [ELA2015] (3) 34 : 34) Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace. [SL.3.4] [DLIT] (3) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (3) 19 : 13) Communicate key ideas and details collaboratively in a way that informs, persuades, and/or entertains, using digital tools. Example: Create a digital presentation to persuade school administrators to allow additional time for lunch. [DLIT] (3) 22 : 16) Conduct basic keyword searches to produce valid, appropriate results, and evaluate results for accuracy, relevance, and appropriateness. Examples: Use search techniques, check for credibility and validity. Subject: English Language Arts (3) Title: Fun With Idioms Description: This lesson is designed to help students become comfortable with idioms. Students will work closely with idioms to discover meanings and present them to the class. Students will use technology to present the information. View Standards Standard(s): [CE] (0-12) 3 : 3) Citizenship [CE] (0-12) 1 : 1) Courage [CG1] (0-12) 1 : 1) Courage [CG1] (0-12) 1 : 1) Courage [CG1] (0-12) 2 : 2) Patriotism [CE] (0-12) 3 : 3) Citizenship [CE] (0-12) 1 : 1) Courage [CG1] (12) 33 : 33) A:C1.5 - understand that school success is the preparation to make the transition from student to community member [ELA2015] (2) 27 : 27) Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). [W.2.7] [ELA2015] (2) 29 : 29) Participate in collaborative conversations with diverse partners about Grade 2 topics and texts with peers and adults in small and larger groups. [SL.2.1] a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion) [SL.2.1a] b. Build on others' talk in conversations by linking their comments to the remarks of others. [SL.2.1b] c. Ask for clarification and further explanation as needed about the topics and texts under discussion. [SL.2.1c] [ELA2015] (2) 30 : 30) Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. [SL.2.2] [ELA2015] (2) 31 : 31) Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional historical figures and celebrations that exemplify fundamental historical hi democratic values, including equality, justice, and responsibility for the common good. • Recognizing our country's founding fathers, including Abigail Adams, John Adams, Joh Dolley Madison, Harriet Tubman, and Harriet Beecher Stowe • Describing the significance of national holidays, including the birthday of Martin Luther King, Jr.; Presidents' Day; the Fourth of July; Veterans Day; and Thanksgiving Day • Describing the history of American symbols and monuments Examples: Liberty Bell, Statue of Liberty, bald eagle, United States flag, Washington Monument, Lincoln Memorial [DLIT] (2) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (2) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [DLIT] (2) 18 : 12) Conduct basic keyword searches to gather information. [DLIT] (2) 19 : 13) Create a research-based product using online digital tools. Subject: Character Education (K - 12), English Language Arts (2), Social Studies (2), Digital Literacy and Computer Science (2) Title: What Makes a Leader? Description: In this lesson, students will learn about various leadership qualities and historical American leaders. Each student will research an American leader of their choice and create a presentation about their life and impact on our country using the iPad app Educreations. Students will then participate in a class discussion about their thoughts on the researched leaders and how they can show leadership in their everyday lives. View Standards Standard(s): [ELA2015] (3) 4 : 4) Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language. [RL.3.4] [ELA2015] (3) 34 : 34) Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace. [SL.3.4] [DLIT] (3) 5 : R5) Locate and curate information from digital sources to answer research questions. [DLIT] (3) 19 : 13) Communicate key ideas and details collaboratively in a way that informs, persuades, and/or entertains, using digital tools. Example: Create a digital presentation to persuade school administrators to allow additional time for lunch. [DLIT] (3) 22 : 16) Conduct basic keyword searches to produce valid, appropriate results, and evaluate results for accuracy, relevance, and appropriateness. Examples: Use search techniques, check for credibility and validity. Subject: Digital Literacy and Computer Science (3) Title: Fun With Idioms Description: This lesson is designed to help students become comfortable with idioms. Students will work closely with idioms to discover meanings and present them to the class. Students will use technology to present the information. View Standards Standard(s): [DLIT] (4) 18 : 12) Use basic features of digital tools to communicate key ideas and details in a way that informs and/or persuades. [DLIT] (4) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [ELA2015] (4) 1 : 1) Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. [RL.4.1] [ELA2015] (4) 6 : 6) Compare and contrast the point of view from which difference between first- and third-person narrations. [RL.4.6] [ELA2015] (4) 3 : 3) Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions). [RL.4.3] [ELA2015] (4) 2 : 2) Determine a theme of a story, drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 8 : 8) Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures. [RL.4.9] [ELA2015] (4) 2 : 2) Determine a theme of a story, drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 8 : 8) Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures. [RL.4.9] [ELA2015] (4) 2 : 2) Determine a theme of a story, drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 8 : 8) Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures. [RL.4.9] [ELA2015] (4) 2 : 2) Determine a theme of a story, drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story drama, or poem from details in the text. [RL.4.2] [ELA20 story, drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 8 : 8) Compare and contrast the treatment of similar themes and topics (e.g., the quest) in stories, myths, and traditional literature from different cultures. [RL.4.9] [ELA2015] (4) 8 : 8) Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures. [RL.4.9] [ELA2015] (4) 20 : 20) Know and apply grade-level phonics and word analysis skills in decoding words. [RF.4.3] a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context. [RF.4.3a] [ELA2015] (4) 21 : 21) Read with sufficient accuracy and fluency to support comprehension. [RF.4.4] a. Read on-level text with purpose and understanding. [RF.4.4a] b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. [RF.4.4b] c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary. [RF.4.4c] [ELA2015] (4) 25 : 25) Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 22-24 above.) [W.4.4] [ELA2015] (4) 34 : 34) Identify the reasons and evidence a speaker provides to support particular points. [SL.4.3] [ELA2015] (4) 38 : 38) Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking. [L.4.1] a. Use relative pronouns (who, whose, whom, which, that) and relative adverbs (where, when, why). [L.4.1a] b. Form and use the progressive (e.g., I was walking; I am walking; I am walking; I will be walking) verb tenses. [L.4.1b] c. Use modal auxiliaries (e.g., can, may, must) to convey various conditions. [L.4.1c] d. Order adjectives within sentences according to conventional phrases. [L.4.1e] f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.* [L.4.1f] g. Correctly use frequently confused words (e.g., to, too, two; there, their).* [L.4.1g] [ELA2015] (4) 39 : 39) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.4.2] a. Use correct capitalization. [L.4.2a] b. Use commas and quotation marks to mark direct speech and quotations from a text. [L.4.2b] c. Use a comma before a coordinating conjunction in a compound sentence. [L.4.2c] d. Spell grade-appropriate words correctly, consulting references as needed. [L.4.2d] [ELA2015] (4) 40 : 40) Use knowledge of language and its conventions when writing, speaking, reading, or listening. [L.4.3] a. Choose words and phrases to convey ideas precisely.* [L.4.3a] b. Choose punctuation for effect.* [L.4.3b] c. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion). [L.4.3c] [ELA2015] (4) 43 : 43) Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., wildlife, conservation, and endangered when discussing animal preservation). [L.4.6] Subject: Digital Literacy and Computer Science (4) Title: What's the Theme? Description: This lesson is a beginning lesson to use to introduce the skill of theme. Students will read two picture books "Ranita, the Frog Princess" and "Frankly, I Never Wanted to Kiss Anybody!", determine the theme for each, and then compare them in a writing assignment. View Standards Standard(s): [DLIT] (2) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [ELA2015] (2) 8 : 8) Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures. [RL.2.9] [ELA2015] (2) 22 : 22) Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section. [W.2.1] a. Write free verse poetry to express ideas. (Alabama) [ELA2015] (2) 24:24) Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure. [W.2.3] [ELA2015] (2) 31:31) Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue. [SL.2.3] Subject: Digital Literacy and Computer Science (2) Title: Who's Side Are You On? Description: In this lesson, students will compare and contrast two versions of The Three Little Pigs. Students will use the Story Kit app on iPads in groups to recreate the story of The Three Little Pigs and The True Story of the Three Little Pigs. Students will "judge" in "court" which version of the story is true based on evidence provided. View Standards Standard(s): [ELA2015] (3) 3 : 3) Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events. [RL.3.3] [DLIT] (3) 19 : 13) Communicate key ideas and details collaboratively in a way that informs, persuades, and/or entertains, using digital tools. Example: Create a digital presentation to persuade school administrators to allow additional time for lunch. Subject: English Language Arts (3) Title: The Many People of Charlotte's Web Description: Students will work together in groups to discuss the different character traits their character displays. After developing many traits, students will collaborate to create a PowerPoint of at least 4 slides with sentences that describe the character displaying these traits throughout the book. After completing the PowerPoint presentations, students will head back to their groups and create a timeline of their character's events throughout the story. View Standards Standards Standard (s): [DLIT] (4) 18 : 12) Use basic features of digital tools to communicate key ideas and details in a way that informs and/or persuades. [DLIT] (4) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [ELA2015] (4) 1 : 1) Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. [RL.4.1] [ELA2015] (4) 6 : 6) Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations. [RL.4.6] [ELA2015] (4) 3 : 3) Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions). [RL.4.3] [ELA2015] (4) 2 : 2) Determine a theme of a story, drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 8 : 8) Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures. [RL.4.9] [ELA2015] (4) 2 : 2) Determine a theme of a story, drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 8 : 8) Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures. [RL.4.9] [ELA2015] (4) 2 : 2) Determine a theme of a story, drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 8 : 8) Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures. [RL.4.9] [ELA2015] (4) 2 : 2) Determine a theme of a story, drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 2 : 2) Determine a theme of a story, drama, or poem from details in the text; summarize the text. [RL.4.2] [ELA2015] (4) 8 : 8) Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures. [RL.4.9] [ELA2015] (4) 8 : 8) Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures. [RL.4.9] [ELA2015] (4) 20 : 20) Know and apply grade-level phonics and word analysis skills in decoding words. [RF.4.3] a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context. [RF.4.3a] [ELA2015] (4) 21 : 21) Read with sufficient accuracy and fluency to support comprehension. [RF.4.4] a. Read on-level text with purpose and understanding. [RF.4.4] b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. [RF.4.4b] c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary. [RF.4.4c] [ELA2015] (4) 25 : 25) Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 22-24 above.) [W.4.4] [ELA2015] (4) 34 : 34) Identify the reasons and evidence a speaker provides to support particular points. [SL.4.3] [ELA2015] (4) 38 : 38) Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking. [L.4.1] a. Use relative pronouns (who, whose, whom, which, that) and relative adverbs (where, when, why). [L.4.1a] b. Form and use the progressive (e.g., I was walking; I will be walking) verb tenses. [L.4.1b] c. Use modal auxiliaries (e.g., can, may, must) to convey various conditions. [L.4.1c] d. Order adjectives within sentences according to conventional patterns (e.g., a small red bag rather than a red small bag). [L.4.1d] e. Form and use prepositional phrases. [L.4.1f] g. Correctly use frequently confused words (e.g., to, too, two; there, their).* [L.4.1g] [ELA2015] (4) 39 : 39) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.4.2] b. Use commas and quotation marks to mark direct speech and quotations from a text. [L.4.2b] c. Use a comma before a coordinating conjunction in a compound sentence. [L.4.2c] d. Spell grade-appropriate words correctly, consulting references as needed. [L.4.2d] [ELA2015] (4) 40 : 40) Use knowledge of language and its conventions when writing, speaking, reading, or listening. [L.4.3] a. Choose words and phrases to convey ideas precisely.* [L.4.3a] b. Choose punctuation for effect.* [L.4.3b] c. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate general academic and domain-specific words and phrases, and situations where informal discourse is appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., wildlife, conservation). [L.4.6] Subject: English Language Arts (4) Title: What's the Theme? Description: This lesson is a beginning lesson to use to introduce the skill of theme. Students will read two picture books "Ranita, the Frog Princess" and "Frankly, I Never Wanted to Kiss Anybody!", determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes. [RL.5.4] [ELA2015] (5) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.5.3] a. Orient the reader by establishing a situation and introducing a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.5.3a] b. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations. [W.5.3b] c. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.5.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.5.3e] Subject: English Language Arts (5) Title: People Things- The Power of Personification in Literature Description: This lesson teaches personification as a form of figurative language. Students will be introduced to characteristics. This topic can be used as a stand-alone lesson or with a unit on figurative language. View Standard(s): [ELA2015] (4) 3 : 3) Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions). [RL.4.3] [ELA2015] (4) 32 : 32) Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 4 topics and texts, building on others' ideas and expressing their own clearly. [SL.4.1] a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. [SL.4.1a] b. Follow agreed-upon rules for discussions and carry out assigned roles. [SL.4.1b] c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. [SL.4.1c] d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. [SL.4.1d] Subject: English Language Arts (4) Title: True Identity Description: After reading a chapter book together as class, table groups will each be given a different story character to analyze in more detail. Student groups will each be given a different story character to analyze in more detail. groups must guess the character being presented and base their guess upon text evidence. The table group that everyone guesses accurately wins. View Standard(s): [ELA2015] (2) 18 : 18) Compare and contrast the most important points presented by two texts on the same topic. [RI.2.9] Subject: English Language Arts (2) Title: Going Batty Description: In this lesson, students will learn characteristics of bats. The students will be able to see that different texts can present points in different texts can present points and the other non-field text. characteristics of bats from both stories. Students will turn and talk with a partner after each book to discuss characteristics they learned about bats. Once they have heard both stories they will complete a Venn Diagram comparing and contrasting the two books. Students will use Edmodo as a means to publish their writing and share with their classmates. They will have the chance to read other students' posts and reply back with meaningful text connections. This lesson would work well around Halloween. View Standards Standard(s): [DLIT] (2) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [ELA2015] (2) 8:8) Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures. [RL.2.9] [ELA2015] (2) 22:22) Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g. because, and, also) to connect opinion and reasons, and provide a concluding statement or section. [W.2.1] a. Write free verse poetry to express ideas. (Alabama) [ELA2015] (2) 24 : 24) Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure. [W.2.3] [ELA2015] (2) 31 : 31) Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue. [SL.2.3] Subject: English Language Arts (2) Title: Who's Side Are You On? Description: In this lesson, students will compare and contrast two versions of The Three Little Pigs. Students will use the story of The Three Little Pigs and The True Story of the Three Little Pigs. Students will write a brief explanation of which story they believe is true and why. Students will "judge" in "court" which version of the story is true based on evidence provided. View Standard(s): [ELA2015] (3) 6 : 6) Distinguish their own point of view from that of the narrator or those of the characters. [RL.3.6] [ELA2015] (3) 31 : 31) Engage effectively in a range of collaborative discussions (one-on-one in groups, and teacher-led) with diverse partners on Grade 3 topics and texts, building on others' ideas and expressing their own clearly. [SL.3.1] a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion [SL.3.1a] b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). [SL.3.1b] c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. [SL.3.1c] d. Explain their own ideas and understanding in light of the discussion. [SL.3.1d] Subject: English Language Arts lesson that focuses on first, second, and third-grade English and Language Arts lesson that focuses on first, second, and third-grade English and Language Arts lesson that focuses on first, second, and third-grade English and Language Arts lesson that focuses on first, second, and third-grade English Language Arts lesson that focuses on first, second, and third-grade English Language Arts lesson that focuses on first, second, and third-grade English Language Arts lesson that focuses on first, second, and third-grade English Language Arts lesson that focuses on first, second, and third-grade English Language Arts lesson that focuses on first, second, and third-grade English Language Arts lesson that focuses on first, second, and third-grade English Language Arts lesson that focuses on first, second, and third-grade English Language Arts lesson that focuses on first, second, and third-grade English Language Arts lesson that focuses on first, second, and third-grade English Language Arts lesson that focuses on first, second, and third-grade English Language Arts lesson that focuses on first, second, and third-grade English Language Arts lesson that focuses on first, second, and the focus english Language Arts lesson that focu three points of view. During the video, the teacher will stop the video for students to take notes. Then, the teacher and students will use Shel Silverstein's "Boa Constrictor," Maurice Sendak's Where The Wild Things Are, and Adam's Rubin's Secret Pizza Party and determine the point of view of each. Next, students will partner up and create three separate comic strips on MakeBeliefsComix.com. The students will use one point of view per comic strip. Lastly, students will present their comic strips to the class. View Standards Standard(s): [ELA2015] (3) 3 : 3) Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events. [RL.3.3] [DLIT] (3) 19 : 13) Communicate key ideas and details collaboratively in a way that informs, persuades, and/or entertains, using digital tools. Example: Create a digital presentation to persuade school administrators to allow additional time for lunch. Subject: Digital Literacy and Computer Science (3) Title: The Many People of Charlotte's Web Description: Students will collaborate to create a PowerPoint of at least 4 slides with sentences that describe the character displaying these traits throughout the book. After completing the PowerPoint presentations, students will head back to their groups and create a timeline of their character's events throughout the story. View Standard(s): [DLIT] (5) 23 : 17) Publish organized information in different ways to make it more useful or relevant. Examples: Infographic, student created website. [DLIT] (5) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [SS2010] USS5 (5) 7 : 7) Determine causes and events leading to the American Revolution, including the French and Indian War, the Stamp Act, the Intolerable Acts, the Boston Massacre, and the Boston Tea Party. Subject: Digital Literacy and Computer Science (5) Title: A Step Into the Boston Massacre Description: In this lesson, the students will understand that when governments are unjust, sometimes people revolt. The students will compare and contrast the two sides of the American colonists in the 1770's, "Colonists Should Fight the British for Independence." In addition, the students will create a web video on one event that led to the American Revolution. This lesson is designed to integrate technology, such as WeVideo, with social studies. View Standards Standards Standards Standard(s): [DLIT] (4) 18 : 12) Use basic features of digital tools to communicate key ideas and details in a way that informs and/or persuades. [ELA2015] (4) 1 : 1) Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. [RL.4.1] [ELA2015] (4) 2 : 2) Determine a theme of a story, drama, or poem from details in the text; summarize the text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. [SL.4.4] Subject: Digital Literacy and Computer Science (4) Title: Book Boxes: Analyzing Elements of a Story Description: In this lesson, students will listen to a read aloud and view a model of the project expected related to the first read aloud. Students will then complete a group project based on a story read as a class. (This can be done as a read aloud or in literature circle groups.) The books used in this particular activity are Bud, Not Buddy and The Watsons go to Birmingham. View Standard(s): [DLIT] (5) 23 : 17) Publish organized information in different ways to make it more useful or relevant. Examples: Infographic, student created website. [DLIT] (5) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [SS2010] USS5 (5) 7 : 7) Determine causes and events leading to the American Revolution, including the French and Indian War, the Stamp Act, the Intolerable Acts, the Boston Massacre, and the Boston Massacre and how this event led to the American Revolution. The students will understand that when governments are unjust, sometimes people revolt. The students will compare and contrast the two sides of the American colonists in the 1770's, "Colonists Should Fight the British for Independence." In addition, the students will create a web video on one event that led to the American Revolution. This lesson is designed to integrate technology, such as WeVideo, with social studies. View Standards Standard(s): [DLIT] (4) 18 : 12) Use basic features of digital tools to communicate key ideas and details in a way that informs and/or persuades. [ELA2015] (4) 1 : 1) Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. [RL4.1] [ELA2015] (4) 2 : 2) Determine a theme of a story, drama, or poem from details in the text. [RL4.2] [ELA2015] (4) 35 : 35) Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. [SL.4.4] Subject: English Language Arts (4) Title: Book Boxes: Analyzing Elements of a Story Description: In this lesson, students will listen to a read aloud and view a model of the project expected related to the first read aloud. Students will then complete a group project based on a story read as a class. (This can be done as a read aloud or in literature circle groups.) The books used in this particular activity are Bud, Not Buddy and The Watsons go to Birmingham. View Standard(s): [ELA2015] (3) 6 : 6) Distinguish their own point of view from that of the narrator or those of the characters. [RL.3.6] [ELA2015] (3) 31 : 31) Engage effectively in a range of collaborative discussions (one-on-one, in groups, and texts, building on others' ideas and expressing their own clearly. [SL.3.1] a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topics and texts under discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). [SL.3.1b] c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. [SL.3.1d] Subject: English Language Arts (3) Title: The Other Side of the Fence: Point of View at the Zoo Description This is a third grade English Language Arts project lesson focused on point of view using the zoo as a theme. The lesson includes a zoo field trip, class discussions, mini scrapbook point of view project, and a short presentation to the class. This lesson could be modified for upper or lower grade levels. View Standards Standard(s): [ELA2015] (1) 22 : 22) Know and apply grade-level phonics and word analysis skills in decoding words. [RF.1.3] a. Know the spelling-sound correspondences for common consonant digraphs. [RF.1.3] b. Decode regularly spelled one-syllable words. [RF.1.3] c. Know final -e and common vowel team conventions for representing long vowel sounds. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. [RF.1.3d] e. Decode two-syllable words following basic patterns by breaking the words into syllables. [RF.1.3e] f. Read words with inflectional endings. [RF.1.3f] g. Recognize and read grade-appropriate irregularly spelled words. [RF.1.3g] Subject: English Language Arts (1) Title: Long e with Sheep in a Jeep Description: This lesson. Using Sheep in a Jeep Students will learn that ee says /e/. Students will read and write long e words and read the story Sheep in a Jeep. View Standards Standard(s): [ELA2015] (3) 3 : 3) Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events. [RL.3.3] [ELA2015] (4) 3 : 3) Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions). [RL.4.3] [ELA2015] (4) 6 : 6) Compare and contrast the point of view from which difference between first- and third-person narrations. [RL.4.6] Subject: English Language Arts (3 - 4) Title: Is the Big, Bad Wolf Really Big and Bad? Description: This lesson compares and contrasts the traditional Three Little Pigs, by Golden Books to The True Story of the Three Little Pigs, by Jon Scieszka and Lane Smith. Students will discover how an author's point of view can influence how a reader feels. View Standards Standard(s): [DLIT] (7) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [DLIT] (7) 5 : R5) Locate and curate information from digital sources to answer research questions. [SS2010] CIV (7) 6 : 6) Explain the importance of juvenile, adult, civil, and criminal laws within the judicial system of the United States. • Explaining rights of citizens as guaranteed by the Bill of Rights under the Constitution of the United States • Explaining what is meant by the term rule of law • Justifying consequences of committing a civil or criminal offense • Contrasting juvenile and adult laws at local, state, and federal levels (Alabama) [DLIT] (7) 22 : 16) Construct content designed for specific audiences through an appropriate medium. Examples: Design a multi-media children's e-book with an appropriate readability level. Subject: Digital Literacy and Computer Science (7) Title: Read All About It! Supreme Court Case Makes Headlines! Description: This is a project to conclude the study of the Judicial Branch of our government. The students, working in pairs, will be assigned a landmark Supreme Court case to research in a computer lab setting. They will then construct a one-page newsletter on the case which will include a summary of the case, two pictures, a short biography on one of the justices on the Court at that time, and an editorial describing their reaction to the case. View Standards Standard(s): [DLIT] (7) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [SS2010] CIV (7) 8 : 8) Appraise the relationship between the consumer and the marketplace in the economy of the United States regarding scarcity, opportunity cost, trade-off decision making, and the stock market. • Describing effects of government policies on the free market • Identifying laws protecting rights of consumers and avenues of recourse when those rights are violated • Comparing economic systems, including market, command, and traditional [SS2010] CIV (7) 9:9) Apply principles of money management to the preparation of a personal budget that addresses housing, transportation, food, clothing, medical expenses, insurance, checking and savings accounts, loans, investments, credit, and comparison shopping. Subject: Digital Literacy and Computer Science (7) Title: Personal Economics Description: Students will be able to explain the various services available to protect consumer rights. They will develop a PowerPoint presentation will then be used in class for a review activity prior to testing. View Standards Standard(s): [DLIT] (5) 5 : R5) Locate and curate information from digital sources to answer research questions. [ELA2015] (5) 19 : 19) By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the Grades 4-5 text complexity band independently and proficiently. [RI.5.10] [ELA2015] (5) 24 : 24) Write narratives to develop real or imagined experiences or events sequences. [W.5.3] a. Orient the reader by establishing a situation and introducing a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.5.3a] b. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3b] c. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use a variety of transitional words, phrases, and and sensory details to convey experiences and events precisely. [W.5.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.5.3e] [ELA2015] (5) 26 : 26) With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of the first three Language standards in Grades K-5.) [W.5.5] [ELA2015] (5) 27 : 27) With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting. [W.5.6] [ELA2015] (5) 35 : 35) Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. [SL.5.4] [ELA2015] (5) 36 : 36) Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. [SL.5.5] [SS2010] USS5 (5) 4 : 4) Determine the economic and cultural impact of European exploration during the Age of Discovery upon European society and American Indians. • Identifying significant early European patrons, explorers, and their countries of origin, including early settlements in the New World Examples: patrons, explorers, and their countries of origin, including early settlements in the New World Examples: patrons, explorers, and their countries of origin, including early settlements in the New World Examples: patrons, explorers, and their countries of origin, including early settlements in the New World Examples: patrons, explorers, and their countries of origin, including early settlements in the New World Examples: patrons, explorers, and their countries of origin, including early settlements in the New World Examples: patrons, explorers, and their countries of origin, including early settlements in the New World Examples: patrons, explorers, and their countries of origin, including early settlements in the New World Examples: patrons, explorers, explore and impact of the Columbian Exchange Subject: Digital Literacy and Computer Science (5) Title: Exploring Explorers Description: Students will answer who, what, when, where, and why questions and then use that information to write a script for the video. View Standards Standard(s): [DLIT] (4) 5 : R5) Locate and curate information from digital sources to answer research questions. [ELA2015] (4) 19 : 19) By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the Grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range. [RI.4.10] [ELA2015] (4) 23 : 23) Write informative or explanatory texts to examine a topic and convey ideas and information clearly. [W.4.2] a. Introduce a topic clearly and g related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. [W.4.2a] b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. [W.4.2b] c. Link ideas within categories of information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to inform about or explanation presented. [W.4.2c] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2c] d. Use precise language and domain-specific vocabulary to inform about or explanation presented. [W.4.2c] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2c] d. Use precise language and domain-specific vocabulary to inform about or explanation presented. [W.4.2c] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2c] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2c] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2c] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2c] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2c] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2c] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2c] e. Provide a concluding statement or section related to the information presented. [W.4.2c] e. Provide a concluding statement or section related to the information presented. [W.4.2c] e. Provide a concluding statement or section related to the information presented. [W.4.2c] e. Provide a concluding statement or section related to the information presented. [W.4.2c] e. Provide a concluding statement or section related to the information presented. [W.4.2c] e. Provide a conclusion presented information presented infor topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. [SL.4.4] [SS2010] ALA (4) 10 : 10) Analyze social and educational changes during the late nineteenth and early twentieth centuries for their impact on Alabama. Examples: social—implementation of the Plessey versus Ferguson "separate but not equal" court decision, birth of the National Association for the Advancement of Colored People (NAACP) educational—establishment of normal schools and land-grant colleges such as Huntsville Normal School (Alabama Agricultural and Mechanical [A&M] University), Agricultural and Industrial Institute (Tuskegee University), Lincoln Normal School (Alabama during the development and changing role of industry, trade, and agriculture in Alabama during the late nineteenth and early twentieth centuries, including the rise of Populism • Explaining the Jim Crow laws • Identifying Alabamians who made contributions in the fields of science, education, the arts, politics, and business during the late nineteenth and early twentieth centuries [SS2010] ALA (4) 14 : 14) Analyze the modern Civil Rights Movement to determine the social, political, and economic impact on Alabama. • Recognizing important persons of the modern Civil Rights Movement, including Martin Luther King, Jr.; George C. Wallace; Rosa Parks; Fred Shuttlesworth; John Lewis; Malcolm X; Thurgood Marshall; Hugo Black; and Ralph David Abernathy • Describing events of the modern Civil Rights Movement, including the Montgomery Bus Boycott, the Sixteenth Street Baptist Church bombing in Birmingham, the Freedom Riders bus bombing, and the Selma-to-Montgomery March • Explaining benefits of the Civil Rights Act of 1964, the Voting Rights Act of 1965, and Brown versus Board of Education Supreme Court case of 1954 • Using vocabulary associated with the modern Civil Rights Movement, including discrimination, prejudice, segregation, integration, suffrage, and rights Subject: Digital Literacy and Computer Science (4) Title: Alabama Biographies of the 20th Century Description: In this lesson, students will recognize and examine the lives of Alabamians who have impacted the lives of others and the history of the state with their notable contributions during the first half of the twentieth century. This interdisciplinary lesson relates social studies, language arts and reading. famous Alabamians, research the person's contributions, write a short biographical summary, and as an extension, create a 3-D scan picture relating to the life and times of the individual. View Standard(s): [DLIT] (7) 22 : 16) Construct content designed for specific audiences through an appropriate medium. Examples: Design a multi-media children's e-book with an appropriate readability level. [DLIT] (7) 5 : R5) Locate and curate information from digital sources to answer research questions. [SS2010] GEOG (7) 4 : 4) Evaluate spatial patterns and the demographic structure of population on Earth's surface in terms of density, dispersion, growth and mortality rates, natural increase, and doubling time. Examples: spatial patterns—major population clusters demographic structure—age and sex distribution using population pyramids • Predicting reasons and consequences of migration, including push and pull factors Examples: push—politics, war, famine pull—potential jobs, family [SS2010] GEOG (7) 5 : 5) Explain how cultural features, traits, and diffusion help define regions, including types and sizes of settlement patterns. Examples: types—linear, clustered, grid sizes—large urban, small urban, and rural areas • Explaining human activities that resulted in the development of settlements at particular locations due to trade, political importance, or natural resources Examples: Timbuktu near caravan routes; Pittsburgh, Pennsylvania, and Birmingham, Alabama, as manufacturing centers near coal and iron ore deposits; Singapore near a major ocean transportation with the location of resources Examples: fall line settlements near waterfalls used as a source of energy for mills, European industrial settlements near coal seams, spatial arrangement of towns and cities in North American Corn Belt settlements • Describing ways in which urban areas interact and influence surrounding regions Examples: daily commuters from nearby regions; communication centers that service nearby and distant locations through television, radio, newspapers, and the Internet; regional specialization in services or production [SS2010] GEOG (7) 12 : 12) Explain ways geographic features and environmental issues have influenced historical events. Examples: geographic features—fall line, Cumberland Gap, Westward Expansion in the United States, weather conditions at Valley Forge and the outcome of the American Revolution, role of ocean currents and winds during exploration by Christopher Columbus environmental issues—boundary disputes, ownership of ocean resources, revitalization of downtown areas Subject: Digital Literacy and Computer Science (7) Title: Our World is Like a Rainbow Description: Americans continue to adapt to different ethnic and cultural groups who move into their communities. It is vital that children become aware of and appreciate cultural diversities in people. People move to different areas for reasons such as religion, climate, employment, economics, and for a better way of life. View Standards Standard(s): [DLIT] (4) 5 : R5) Locate and curate informational texts, including history/social studies, science, and technical texts, in the Grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range. [RI.4.10] [ELA2015] (4) 23 : 23) Write informations, and multimedia when useful to aiding comprehension. [W.4.2a] b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. [W.4.2b] c. Link ideas within categories of information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.4.2d] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2e] [ELA2015] (4) 35 : 35) Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. [SL.4.4] [SS2010] ALA (4) 10 : 10) Analyze social and educational changes during the late nineteenth and early twentieth centuries for their impact on Alabama. Examples: social—implementation of the Plessey versus Ferguson "separate but not equal" court decision, birth of the National Association for the Advancement of Colored People (NAACP) educational—establishment of normal school (Alabama Agricultural and Mechanical [A&M] University), Agricultural and Mechanical College of Alabama (Auburn University), Tuskegee Normal and Industrial Institute (Tuskegee University), Lincoln Normal School (Alabama State University) • Explaining the late nineteenth and early twentieth centuries, including the rise of Populism • Explaining the Jim Crow laws • Identifying Alabamians who made contributions in the fields of science, education, the arts, politics, and business during the late nineteenth and early twentieth centuries [SS2010] ALA (4) 14 : 14) Analyze the modern Civil Rights Movement to determine the social, political, and economic impact on Alabama. • Recognizing important persons of the modern Civil Rights Movement, including Martin Luther King, Jr.; George C. Wallace; Rosa Parks; Fred Shuttlesworth; John Lewis; Malcolm X; Thurgood Marshall; Hugo Black; and Ralph David Abernathy • Describing events of the modern Civil Rights Movement, including the Montgomery Bus Boycott, the Sixteenth Street Baptist Church bombing in Birmingham, the Freedom Riders bus bombing, and the Selma-to-Montgomery March • Explaining benefits of the Civil Rights Act of 1964, the Voting Rights Act of 1965, and Brown versus Board of Education Supreme Court case of 1954 • Using vocabulary associated with the modern Civil Rights Movement, including discrimination, prejudice, segregation, integration, suffrage, and rights Subject: English Language Arts (4) Title: Alabama Biographies of the state with their notable contributions during the first half and last half of the twentieth century. This interdisciplinary lesson relates social studies, language arts and reading. Through this inquiry study, students will choose one of the famous Alabamians, research the person's contributions, write a short biographical summary, and as an extension, create a 3-D scan picture relating to the life and times of the individual. View Standards Standard(s): [DLIT] (5) 5 : R5) Locate and curate information from digital sources to answer research questions. [ELA2015] (5) 19 : 19) By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the Grades 4-5 text complexity band independently and proficiently. [RI.5.10] [ELA2015] (5) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.5.3] a. Orient the reader by establishing a situation and introducing a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.5.3a] b. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations. [W.5.3b] c. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use concrete words and phrases and sensory details to convey experiences or events. [W.5.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.5.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.5.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.5.3d] e. Provide a conclusion that follows from the narrated experiences and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, revising, editing, revising, editing for conventions should demonstrate command of the first three Language standards in Grades K-5.) [W.5.5] [ELA2015] (5) 27 : 27) With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting. [W.5.6] [ELA2015] (5) 35 : 35) Report on a topic or text or present an opinion, sequencing ideas or themes; speak clearly at an understandable pace. [SL.5.4] [ELA2015] (5) 36 : 36) Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. [SL.5.5] [SS2010] USS5 (5) 4 : 4) Determine the economic and cultural impact of European exploration during the Age of Discovery upon European society and American Indians. • Identifying significant early settlements in the New World Examples: patrons, explorers, and their countries of origin, including early settlements in the New World Examples: patrons, explorers, and their countries of origin, including early settlements in the New World Examples: patrons, explorers, and their countries of origin, including early settlements in the New World Examples: patrons, explorers, expl settlements—St. Augustine, Quebec, Jamestown • Tracing the development and impact of the Columbian Exchange Subject: English Language Arts (5) Title: Exploring Explorers from the 15th-17th centuries. They will utilize books, the Alabama Virtual Library, and the Internet for reference. Groups of students will answer who, what, when, where, and why guestions and then use that information to write a script for the video. View Standard(s): [DLIT] (7) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [DLIT] (7) 5 : R5) Locate and curate information from digital sources to answer research questions. [SS2010] CIV (7) 6 : 6) Explain the importance of juvenile, adult, civil, and criminal laws within the judicial system of the United States. • Explaining rights of citizens as guaranteed by the Bill of Rights under the Constitution of the United States • Explaining

what is meant by the term rule of law • Justifying consequences of committing a civil or criminal offense • Contrasting juvenile and adult laws at local, state, and federal levels (Alabama) [DLIT] (7) 22 : 16) Construct content designed for specific audiences through an appropriate medium. Examples: Design a multi-media children's e-book with an appropriate readability level. Subject: Social Studies (7) Title: Read All About It! Supreme Court Case Makes Headlines! Description: This is a project to conclude the study of the Judicial Branch of our government. The students, working in pairs, will be assigned a landmark Supreme Court case to research in a computer lab setting. They will then construct a one-page newsletter on the case which will include a summary of the case, two pictures, a short biography on one of the justices on the Court at that time, and an editorial describing their reaction to the case. View Standards Standard(s): [DLIT] (7) 22 : 16) Construct content designed for specific audiences through an appropriate medium. Examples: Design a multi-media children's e-book with an appropriate readability level. [DLIT] (7) 5 : R5) Locate and curate information from digital sources to answer research questions. [SS2010] GEOG (7) 4 : 4) Evaluate spatial patterns and the demographic structure of population on Earth's surface in terms of density, dispersion, growth and mortality rates, natural increase, and doubling time. Examples: spatial patterns—major population using population pyramids • Predicting reasons and consequences of migration, including push and pull factors Examples: push politics, war, famine pull—potential jobs, family [SS2010] GEOG (7) 5 : 5) Explain how cultural features, traits, and diffusion help define regions, including religious structures, agricultural patterns, ethnic restaurants, and the spread of Islam. [SS2010] GEOG (7) 7 : 7) Classify spatial patterns of settlement in different regions of the world, including types and sizes of settlement patterns. Examples: types—linear, clustered, grid sizes—large urban, and rural areas • Explaining human activities that resulted in the development of settlements at particular locations due to trade, political importance, or natural resources Examples: Timbuktu near caravan routes; Pittsburgh, Pennsylvania, and Birmingham, Alabama, as manufacturing centers near coal and iron ore deposits; Singapore near a major ocean transportation corridor (Alabama) • Describing settlement patterns in association with the location of resources Examples: fall line settlements near waterfalls used as a source of energy for mills, European industrial settlements • Describing ways in which urban areas interact and influence surrounding regions Examples: daily commuters from nearby regions; communication centers that service nearby and distant locations through television, radio, newspapers, and the Internet; regional specialization in services or production [SS2010] GEOG (7) 12 : 12) Explain ways geographic features and environmental issues have influenced historical events. Examples: geographic features—fall line, Cumberland Gap, Westward Expansion in the United States, weather conditions at Valley Forge and the outcome of the American Revolution, role of ocean currents and winds during exploration by Christopher Columbus environmental issues—boundary disputes, ownership of ocean resources, revitalization of downtown areas Subject: Social Studies (7) Title: Our World is Like a Rainbow Description: Americans continue to adapt to different ethnic and cultural groups who move into their communities. It is vital that children become aware of and appreciate cultural diversities in people. People move to different areas for reasons such as religion, climate, employment, economics, and for a better way of life. View Standards Standard(s): [DLIT] (7) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [SS2010] CIV (7) 8 : 8) Appraise the relationship between the consumer and the marketplace in the economy of the United States regarding scarcity, opportunity cost, trade-off decision making and the stock market. • Describing effects of government policies on the free market • Identifying laws protecting rights of consumers and avenues of recourse when those rights are violated • Comparing economic systems, including market, command, and traditional [SS2010] CIV (7) 9 : 9) Apply principles of money management to the preparation of a personal budget that addresses housing, transportation, food, clothing, medical expenses, insurance, checking and savings accounts, loans, investments, credit, and comparison shopping. Subject: Social Studies (7) Title: Personal Economics Description: Students will be able to explain the various services available to protect consumer rights. They will develop a PowerPoint presentation in their student achievement teams which contains the required information along with a question. This presentation will then be used in class for a review activity prior to testing. View Standards Standard(s): [DLIT] (4) 5 : R5) Locate and curate information from digital sources to answer research questions. [ELA2015] (4) 19 : 19) By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, including history/social studies, science, and technic Write informative or explanatory texts to examine a topic and convey ideas and information clearly. [W.4.2] a. Introduce a topic vith facts, include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. [W.4.2a] b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. [W.4.2b] c. Link ideas within categories of information using words and phrases (e.g., another, for example, also, because). [W.4.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.4.2d] e. Provide a concluding statement or section related to the information or explanation presented. [W.4.2e] [ELA2015] (4) 35 : 35) Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. [SL.4.4] [SS2010] ALA (4) 10 : 10) Analyze social and educational changes during the late nineteenth and early twentieth centuries for their impact on Alabama. Examples: social—implementation of the Plessey versus Ferguson "separate but not equal" court decision, birth of the National Association for the Advancement of Colored People (NAACP) educational—establishment of normal schools and land-grant colleges such as Huntsville Normal and Mechanical College of Alabama (Auburn University), Tuskegee Normal and Industrial Institute (Tuskegee University), Lincoln Normal School (Alabama State University) • Explaining the late nineteenth and early twentieth centuries, including the rise of Populism • Explaining the Jim Crow laws • Identifying Alabamians who made contributions in the fields of science, education, the arts, politics, and business during the late nineteenth and early twentieth centuries [SS2010] ALA (4) 14 : 14) Analyze the modern Civil Rights Movement to determine the social, political, and economic impact on Alabama. • Recognizing important persons of the modern Civil Rights Movement, including Martin Luther King, Jr.; George C. Wallace; Rosa Parks; Fred Shuttlesworth; John Lewis; Malcolm X; Thurgood Marshall; Hugo Black; and Ralph David Abernathy • Describing events of the modern Civil Rights Movement, including the Montgomery Bus Boycott, the Sixteenth Street Baptist Church bombing in Birmingham, the Freedom Riders bus bombing, and the Selma-to-Montgomery March • Explaining benefits of the Civil Rights Act of 1964, the Voting Rights Act of 1965, and Brown versus Board of Education Supreme Court case of 1954 • Using vocabulary associated with the modern Civil Rights Movement, including discrimination, prejudice, segregation, integration, suffrage, and rights Subject: Social Studies (4) Title: Alabama Biographies of the 20th Century Description: In this lesson, students will recognize and the history of the state with their notable contributions during the first half and last half of the twentieth century This interdisciplinary lesson relates social studies, language arts and reading. Through this inquiry study, students will choose one of the famous Alabamians, research the person's contributions, write a short biographical summary, and as an extension, create a 3-D scan picture relating to the life and times of the individual. View Standards Standard(s): [DLIT] (5) 5 : R5) Locate and curate information from digital sources to answer research questions. [ELA2015] (5) 19 : 19) By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the Grades 4-5 text complexity band independently and proficiently. [RI.5.10] [ELA2015] (5) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.5.3] a. Orient the reader by establishing a situation and introducing a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.5.3a] b. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations. [W.5.3b] c. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. [W.5.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.5.3d] e. Provide a conclusion that follows from the narrated experiences and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of the first three Language standards in Grades K-5.) [W.5.5] [ELA2015] (5) 27 : 27) With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting. [W.5.6] [ELA2015] (5) 35 : 35) Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. [SL.5.4] [ELA2015] (5) 36 : 36) Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. [SL.5.5] [SS2010] USS5 (5) 4 : 4) Determine the economic and cultural impact of European exploration during the Age of Discovery upon European society and American Indians. • Identifying significant early European patrons, explorers, and their countries of origin, including early settlements in the New World Examples: patrons, explorers, and their countries of origin, including early settlements in the New World Examples: patrons, explorers, and their countries of origin, including early settlements and impact of the Columbian Exchange Subject: Social Studies (5) Title: Exploring Explorers Description: Students will create a video in talk-show format about explorers from the 15th-17th centuries. They will utilize books, the Alabama Virtual Library, and the Internet for reference. Groups of students will answer who, what, when, where, and why questions and then use that information to write a script for the video. View Standards Standard(s): [SS2010] USS5 (5) 9 : 9) Explain how inadequacies of the Articles of Confederation led to the creation and eventual ratification of the United States. • Describing major ideas, concepts, and limitations of the Constitution of the United States, including duties and powers of the three branches of government • Identifying factions in favor of and opposed to ratification of the Constitution of the Constitution of the United States Example: Federalist factions • Identifying main principles in the Bill of Rights • Analyzing the election of George Washington as President of the United States for its impact on the role of president in a republic Subject: Social Studies (5) Title: Learning About Our Government. Students will be introduced to the three branches of American government and the responsibilities of each. They will discuss the requirements for becoming President and take a "virtual tour" of the White House. All of this is done through the use of a digital slideshow, which includes a direct link to the Internet for further study. View Standards Standard(s): [CE] (0-12) 9 : 9) Self-respect [CE] (0-12) 9 : 9) Self-respect [CE] (0-12) 9 : 9) 12) 5 : 5) Fairness [CE] (0-12) 1 : 1) Courage [CE] (0-12) 6 : 6) Respect for others [CE] (0-12) 13 : 13) Tolerance [SS2010] LWT (0) 11 : 11) Identify symbols, customs, famous individuals, and celebrations representative of our state and nation. (Alabama) Examples: symbols—United States flag, Alabama flag, bald eagle (Alabama) customs—pledging allegiance to the United States flag, singing "The Star-Spangled Banner" individuals—George Washington; Abraham Lincoln; Squanto; Martin Luther King, Jr. celebrations within the local community and throughout Alabama. (Alabama) Examples: Selma Bridge Crossing Jubilee, Mardi Gras, Boll Weevil Festival, Montgomery Bus Boycott, Black History Month (Alabama) • Differentiating between fact and fiction when sharing stories or retelling events using primary and secondary sources Example: fictional version of Pocahontas compared to an authentic historical account Subject: Character Education (K - 12) Title: Martin Luther King, Jr. for Early Elementary Description: This lesson in Character Education Made Easy. It helps early elementary students (especially kindergartners) learn about the influence of Martin Luther King, Jr., why he is remembered, and the problems he worked to change. View Standards Standard(s): [CE] (0-12) 4 : 4) Honesty [ELA2015] (1) 25 : 25) Write informative or explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. [W.1.2] [ELA2015] (1) 31 : 31) Participate in collaborative conversations with diverse partners about Grade 1 topics and texts with peers and adults in small and larger groups. [SL.1.1] a. Follow agreed-upon rules for discussion). [SL.1.1a] b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. [SL.1.1c] [ELA2015] (1) 32 : 32) Ask and answer questions about the topics and texts under discussion. [SL.1.1c] [ELA2015] (1) 33 : 33) Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood. [SL.1.3] [ELA2015] (1) 34 : 34) Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly. [SL.1.4] [ELA2015] (1) 36 : 36) Produce complete sentences when appropriate to task and situation. (See Grade 1 Language standard 37 for specific expectations.) [SL.1.6] [ELA2015] (2) 28 : 28) Recall information from provided sources to answer a question. [W.2.8] [ELA2015] (2) 34 : 34) Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See Grade 2 Language standards 35 and 37 for specific expectations.) [SL.2.6] [ELA2015] (2) 36 : 36) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.2.2] a. Capitalize holidays, product names, and geographic names. [L.2.2a] b. Use commas in greetings and closings of letters. [L.2.2b] c. Use an apostrophe to form contractions and frequently occurring possessives. [L.2.2d] e. Form uppercase and lowercase letters in cursive. (Alabama) f. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings. [L.2.2e] [SS2010] LWT (0) 11 : 11) Identify symbols, customs, famous individuals, and celebrations representative of our state and nation. (Alabama) Examples: symbols—United States flag, Alabama flag, bald eagle (Alabama) customs—pledging allegiance to the United States flag, singing "The Star-Spangled Banner" individuals—George Washington; Abraham Lincoln; Squanto; Martin Luther King, Jr. celebrations that exemplify fundamental democratic values, including equality, justice, and responsibility for the common good. • Recognizing our country's founding fathers, including Abigail Adams, Dolley Madison, Harriet Tubman, and Harriet Beecher Stowe • Describing the significance of national holidays, including the birthday of Martin Luther King, Jr.; Presidents' Day; the Fourth of July; Veterans Day; and Thanksgiving Day • Describing the history of American symbols and monuments Examples: Liberty Bell, Statue of Liberty, bald eagle, United States flag, Washington Monument, Lincoln Memorial Subject: Character Education/Early Elementary Description: This lesson helps special education/early elementary students learn about George Washington and Abraham Lincoln and discuss how each demonstrated the character trait of honesty. View Standards Standard(s): [CE] (0-12) 9:9) Self-respect [CE] (0-12) 1:1) Courage [CE] (0-12) 6:6) Respect for others [CE] (0-12) 1:13) Tolerance [SS2010] LWT (0) 11:11) Identify symbols, customs, famous individuals, and celebrations representative of our state and nation. (Alabama) Examples: symbols—United States flag, Alabama flag, bald eagle (Alabama) customs—pledging allegiance to the United States flag, singing "The Star-Spangled Banner" individuals—George Washington; Abraham Lincoln; Squanto; Martin Luther King, Jr. celebrations—Fourth of July, Memorial Day, Veterans Day [SS2010] LWT1 (1) 5 : 5) Identify historical events and celebrations within the local community and throughout Alabama. (Alabama) Examples: Selma Bridge Crossing Jubilee, Mardi Gras, Boll Weevil Festival, Montgomery Bus Boycott, Black History Month (Alabama) • Differentiating between fact and fiction when sharing stories or retelling events using primary and secondary sources Example: fictional version of Pocahontas compared to an authentic historical account Subject: Social Studies (K - 1) Title: Martin Luther King, Jr. for Early Elementary Description: This lesson is an adaptation of a lesson in Character Education Made Easy. It helps early elementary students (especially kindergartners) learn about the influence of Martin Luther King, Jr., why he is remembered, and the problems he worked to change. View Standards Standard(s): [CE] (0-12) 4 : 4) Honesty [ELA2015] (1) 25 : 25) Write informative or explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. [W.1.2] [ELA2015] (1) 31 : 31) Participate in collaborative conversations with diverse partners about Grade 1 topics and texts with peers and adults in small and larger groups. [SL.1.1] a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). [SL.1.1a] b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. [SL.1.1b] c. Ask questions to clear up any confusion about the topics and texts under discussion. [SL.1.1c] [ELA2015] (1) 32 : 32) Ask and answer questions about key details in a text read aloud or information presented orally or through other media. [SL.1.2] [ELA2015] (1) 33 : 33) Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood. [SL.1.3] [ELA2015] (1) 34 : 34) Describe people. places, things, and events with relevant details, expressing ideas and feelings clearly. [SL.1.4] [ELA2015] (1) 36 : 36) Produce complete sentences when appropriate to task and situation. (See Grade 1 Language standard 37 for specific expectations.) [SL.1.6] [ELA2015] (2) 28 : 28) Recall information from experiences or gather information from provided sources to answer a question. [W.2.8] [ELA2015] (2) 34 : 34) Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See Grade 2 Language standards 35 and 37 for specific expectations.) [SL.2.6] [ELA2015] (2) 36 : 36) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.2.2] a. Capitalize holidays, product names, and geographic names, and geographic names. [L.2.2b] c. Use an apostrophe to form contractions and frequently occurring possessives. [L.2.2c] d. Generalize learned spelling patterns when writing words (e.g., cage > badge; boy > boil). [L.2.2d] e. Form uppercase and lowercase letters in cursive. (Alabama) f. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings. [L.2.2e] [SS2010] LWT (0) 11 : 11) Identify symbols, customs, famous individuals, and celebrations representative of our state and nation. (Alabama) Examples: symbols—United States flag, singing "The Star-Spangled Banner" individuals—George Washington; Abraham Lincoln; Squanto; Martin Luther King, Jr. celebrations—Fourth of July, Memorial Day, Veterans Day [SS2010] LWT2 (2) 2 : 2) Identify national historical figures and celebrations that exemplify fundamental democratic values, including George Washington, Thomas Jefferson, Benjamin Franklin, Patrick Henry, John Adams, John Hancock, and James Madison, e Recognizing historical female figures, including the significance of national holidays, including the birthday of Martin Luther King, Jr.; Presidents' Day; Memorial Day; the Fourth of July; Veterans Day; and Thanksgiving Day • Describing the history of American symbols and monument, Lincoln Memorial Subject: Social Studies (K - 2) Title: President's Day for Special Education/Early Elementary Description: This lesson helps special education/early elementary students learn about George Washington and Abraham Lincoln and discuss how each demonstrated the character trait of honesty. View Standards Standard(s): [SS2010] US10 (10) 2 : 2) Compare regional differences among early New England, Middle and Southern colonies regarding economics, geography, culture, government, and American Indian relations. [A.1.a., A.1.b., A.1.d., A.1.g., A.1.i.] • Explaining the role of essential documents in the establishment of colonial governments, including the Magna Carta, the English Bill of Rights, and the Mayflower Compact • Explaining the significance of the House of Burgesses and New England town meetings in colonial politics • Describing the impact of the Great Awakening on colonial Studies (10) Title: Learning About Colonial Life Description: This is a group activity that allows students to use predictions to learn about the lifestyle of American colonists. View Standards Standards Standards (2) 10 : 10) Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. [RI.2.1] [ELA2015] (2) 11 : 11) Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text. [RI.2.2] [ELA2015] (2) 16 : 16) Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text. [RI.2.7] [ELA2015] (2) 15 : 15) Identify the main purpose of a text, including what the author wants to answer, explain, or describe. [RI.2.6] [ELA2015] (2) 28 : 28) Recall information from experiences or gather information from provided sources to answer a question. [W.2.8] Subject: English Language Arts (2) Title: Reading Like a Detective skills to be better nonfiction readers. Students will gather clues from the text to make assumptions and connections that will solve, and make meaning about the text. The students will use nonfiction text context clues, and pictures to realize that the author's purpose is for them to find ALL the clues and make meaning of a topic. Students use key details such as text evidence to gather information about a topic or the authors intended purpose. View Standards Standard(s): [ELA2015] (1) 7 : 7) Use illustrations and details in a story to describe its characters, setting, or events. [RL.1.7] [ELA2015] (1) 40 : 40) With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings. [L.1.5] a. Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent. [L.1.5a] b. Define words by category and by one or more key attributes (e.g., a duck is a bird that swims; a tiger is a large cat with stripes). [L.1.5b] c. Identify real-life connections between words and their use (e.g., note places at home that are cozy). [L.1.5c] d. Distinguish shades of meaning among verbs differing in manner (e.g., look, peek, glance, stare, gigantic) by defining or choosing them or by acting out the meanings. [L.1.5d] [ELA2015] (1) 38 : 38) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.1.2] a. Capitalize dates and names of people. [L.1.2b] c. Use commas in dates and to separate single words in a series. [L.1.2c] d. Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words. [L.1.2d] e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions. [L.1.2e] [ELA2015] (1) 37 : 37) Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking. [L.1.1] a. Print all uppercase and lowercase letters. [L.1.1a] b. Use common, proper, and possessive nouns. [L.1.1b] c. Use singular and plural nouns with matching verbs in basic sentences (e.g., He hops; We hop). [L.1.1c] d. Use personal, possessive, and indefinite pronouns (e.g., I, me, my; they, them, their; anyone, everything). [L.1.1d] e. Use verbs to convey a sense of past, present, and future (e.g., Yesterday I walked home; Today I walk home; Tomorrow I will walk home). [L.1.1e] f. Use frequently occurring adjectives. [L.1.1f] g. Use frequently occurring adjectives. [L.1.1f] g. Use frequently occurring adjectives. [L.1.1f] g. Use frequently occurring adjectives. [L.1.1e] f. Use frequently occurring adjectives. [L.1.1f] g. Use frequently prepositions (e.g., during, beyond, toward). [L.1.1i] j. Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts. [L.1.1j] [ELA2015] (1) 36 : 36) Produce complete sentences when appropriate to task and situation. (See Grade 1 Language standard 37 for specific expectations.) [SL.1.6] [ELA2015] (1) 35 : 35) Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. [SL.1.5] [ELA2015] (1) 34 : 34) Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly. [SL.1.4] [ELA2015] (1) 16 : 16) Use the illustrations and details in a text to describe its key ideas. [RI.1.7] Subject: English Language Arts (1) Title: Let's Describe! (Adjectives using an interactive sorting game. Students will compete with each other by categorizing adjectives by color, shape, size, and kind. Students will have to read and sort the adjective word cards. The student with no adjective word cards first, wins! Furthermore, students will use magazine photographs to describe nouns and write sentences. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [DLIT] (2) 19 : 13) Create a research-based product using online digital tools. [DLIT] (2) 18 : 12) Conduct basic keyword searches to answer research questions. [ELA2015] (2) 19 : 19) By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the Grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range. [RI.2.10] Subject: Digital Literacy and Computer Science (2), English Language Arts (2) Title: Introduction to PowerPoint Description: Second grade students will view a teacher-made digital slideshow. The teacher will then walk the students through the process of opening PowerPoint or other presentation software, picking a slide format and adding text. View Standards Standard(s): [DLIT] (5) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [ELA2015] (5) 23 : 23) Write informative or explanatory texts to examine a topic and convey ideas and information clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. [W.5.2a] b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. [W.5.2b] c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially). [W.5.2c] d. Use precise language and domain-specific vocabulary to inform about or explain the topic. [W.5.2d] e. Provide a concluding statement or section related to the information presented. [W.5.2e] [ELA2015] (5) 25 : 25) Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Gradespecific expectations for writing types are defined in standards 22-24 above.) [W.5.4] [ELA2015] (5) 26 : 26) With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of the first three Language standards in Grades K-5.) [W.5.5] [ELA2015] (5) 33 : 33) Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. [SL.5.2] [ELA2015] (5) 36 : 36) Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. [SL.5.5] [DLIT] (5) 22 : 16) Use advanced features of digital tools and media-rich resources to communicate key ideas and details in a way that informs, persuades, and/or entertains. Subject: Digital Literacy and Computer Science (5) Title: Who's Talking? Description: This lesson provides an opportunity for the students to write a biography and provide an excerpt of the bio using a Web 2.0 tool. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [ELA2015] (3) 20 : 20) Know and apply grade-level phonics and word analysis skills in decoding words. [RF.3.3] a. Identify and know the meaning of the most common Latin suffixes. [RF.3.3b] c. Decode multisyllable words. [RF.3.3c] d. Read grade-appropriate irregularly spelled words. [RF.3.3d] [ELA2015] (3) 21 : 21) Read with sufficient accuracy and fluency to support comprehension. [RF.3.4a] b. Read on-level text with purpose and poetry orally with accuracy, appropriate rate, and expression on successive readings. [RF.3.4b] c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary. [RF.3.4c] Subject: English Language Arts (3) Title: Hear! Here! Homophones Description: Students will practice correctly identifying and using homophones to enrich their vocabulary. Students will participate in learning activities that promote a better understanding of the correct spellings and meanings of homophones. This is a College- and Career-Ready Standards Standards Standards Standards Standard(s): [CE] (0-12) 4 : 4) Honesty [ELA2015] (2) 2 : 2) Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral. [RL.2.2] [ELA2015] (2) 28 : 28) Recall information from experiences or gather information from experiences or gather information. [W.2.8] [ELA2015] (2) 30 : 30) Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. [SL.2.2] Subject: Character Education (K - 12), English Language Arts (2) Title: The Empty Pot Description: This lesson, students will have an opportunity to discuss and write about the character trait honesty. Students will share about a time when they demonstrated this character trait. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: [2-NBT1] a. 100 can be thought of as a bundle of ten tens, called a "hundred." [2-NBT1a] b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones). [2-NBT1b] [MA2015] (2) 8 : 8) Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits using >, =, and < symbols to record the results of comparisons. [2-NBT4] Subject: Mathematics (2) Title: Who is the Greatest? Description: Students will gain more conceptual understanding of comparing 3-digit numbers. They will build numbers using base ten blocks and a hundreds chart and work with a partner to decide which number is greater. They will be making decisions about which place value to put the digits in to construct the greatest number. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards (s): [MA2015] (6) 8 : 8) Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below zero situation. [6-NS5] [MA2015] (6) 9 : 9) Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. [6-NS6] a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number is the number is elf, e.g., - (-3) = 3, and that 0 is its own opposite. [6-NS6a] b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. [6-NS6b] c. Find and position integers and other rational numbers on a coordinate plane. [6-NS6c] Subject: Mathematics (6) Title: Wonder Number Line Description: This lesson allows students to become familiar with a number line. Students can explore a number line and develop knowledge of numerical concepts. While it covers a 6th grade standard, this lesson can be used as part of a 7th or 8th grade lesson on integers. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [ELA2015] (12) 31 : 31) Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used. [SL.11-12.3] [ELA2015] (12) 3 : 3) Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed). [RL.11-12.3] Subject: English Language Arts (12) Title: Move Over Real Housewives: Meet the Real Pilgrims of Canterbury Description: Using an online blog, students will learn about the pilgrims in Chaucer's The Prologue of the Canterbury Tales. Students will understand how what an author choses to include reveals the author's attitude about a subject. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [ELA2015] (4) 22 : 22) Write opinion pieces on topics or texts, supporting a point of view with reasons and information. [W.4.1] a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose. [W.4.1a] b. Provide reasons that are supported by facts and details. [W.4.1b] c. Link opinion and reasons using words and phrases (e.g., for instance, in order to, in addition). [W.4.1c] d. Provide a concluding statement or section related to the opinion piece on a controversial topic and support it with reasons and information. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards Standards Standards about, state an opinion, supply a reason for the opinion, and provide some sense of closure. [W.1.1] a. Write simple poems addressing a topic. (Alabama) [ELA2015] (1) 35 : 35) Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. [SL.1.5] [ELA2015] (2) 22 : 22) Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section. [W.2.1] a. Write free verse poetry to express ideas. (Alabama) [ELA2015] (2) 33 : 33) Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings. [SL.2.5] Subject: Character Education (K - 12), English Language Arts (1 - 2) Title: Are You Jumping for Joy or Pitching a Fit? Description: What makes you jump? When someone scares you? When you are fuming mad? When you are excited about scoring a goal? In this lesson, students will explore all the reasons that make a simple collage of themselves jumping. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [MA2015] GEO (9-12) 31 : 31) Prove the slope criteria for parallel and perpendicular to a given line that passes through a given point). [G-GPE5] Subject: Mathematics (9 - 12) Title: PER - PIN - TIC - YOU -LER!(Part 2 to Take the Stairs Lesson) Description: This lesson allows students to investigate the slope criteria and characteristics of perpendicular lines using graphing calculators and rectangle/square tiles. Students will also use equations and graphs. Students will work cooperatively to develop and justify ideas/conjectures. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [DLIT] (5) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [ELA2015] (5) 23 : 23) Write informative or explanatory texts to examine a topic and convey ideas and information clearly. [W.5.2] a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, concrete details, quotations, or other information and examples related to the topic. [W.5.2b] c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially). [W.5.2c] d. Use precise language and domain-specific vocabulary to information or explanation presented. [W.5.2e] [ELA2015] (5) 25 : 25) Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 22-24 above.) [W.5.4] [ELA2015] (5) 26 : 26) With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of the first three Language standards in Grades K-5.) [W.5.5] [ELA2015] (5) 33 : 33) Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. [SL.5.2] [ELA2015] (5) 36 : 36) Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. [SL.5.5] [DLIT] (5) 22 : 16) Use advanced features of digital tools and mediarich resources to communicate key ideas and details in a way that informs, persuades, and/or entertains. Subject: English Language Arts (5) Title: Who's Talking? Description: This is a week long activity using the 5 stages of writing. This is a College- and Career-Ready Standards showcase lesson plan. View Standards of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone). [RL.9-10.4] [ELA2015] (9) 5 : 5) Analyze how an author's choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery. tension, or surprise. [RL.9-10.5] Subject: English Language Arts (9) Title: Connotation and Denotation in "My Papa's Waltz" Description: Students will apply knowledge of connotation and denotation to "My Papa's Waltz" by Theodore Roethke. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [ELA2015] (11) 3:3 Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed). [RL.11-12.3] [ELA2015] (11) 9:9) By the end of Grade 11, read and comprehend literature, including stories, dramas, and poems, in the Grades 11-College and Career Readiness (CCR) text complexity band proficiently, with scaffolding as needed at the high end of the range. [RL.11-12.10] [ELA2015] (11) 12:12) Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text. [RI.11-12.3] [ELA2015] (11) 15 : 15) Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness, or beauty of the text. [RI.11-12.6] [ELA2015] (11) 21 : 21) Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences. [W.11-12.3] a. Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events. [W.11-12.3a] b. Use narrator and/or characters; create a smooth progression of experiences or events. [W.11-12.3b] c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution). [W.11-12.3c] d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters. [W.11-12.3d] e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative. [W.11-12.3e] [ELA2015] (11) 22 : 22) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 19-21 above.) [W.11-12.4] [ELA2015] (11) 23 : 23) Develop and strengthen writing, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of the first three standards in the Language strand in Grades K-11.) [W.11-12.5] Subject: English Language Arts (11) Title: Understood You in Fiction Writing Description: In this lesson students will review the use of understood "you" in writing and create their own creative nonfiction essay using understood "you" as the narrative technique. This is a College- and Career-Ready Standards problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. [W.11-12.7] [ELA2015] (12) 26 : 26) Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. [W.11-12.8] [ELA2015] (12) 33 : 33) Make strategic use of digital media (e.g. textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. [SL.11-12.5] Subject: English Language Arts (12) Title: Elephants, Tigers, and Gamecocks... Oh my! Where will you go to college? Description: Students will research various colleges of their choosing in order to best prepare for post-secondary endeavors. The research will be conducted using a handout with specific questions for students will present findings in a Microsoft Publisher brochure. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [ELA2015] (7) 6 : 6) Analyze how an author develops and contrasts the points of view of different characters or narrators in a text. [RL.7.6] [ELA2015] (7) 12 : 12) Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events). [RI.7.3] [ELA2015] (7) 34 : 34) Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points. [SL.7.5] Subject: English Language Arts (7) Title: Fakebook: Analyzing point-of-view in Duck Dynasty Description: Students will analyze the varying points-of-view in a text by creating two Fakebook pages delineating separate points-of-view. Students will be able to represent two individuals in a text. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards Standard(s): [ELA2015] (2) 8 : 8) Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures. [RL.2.9] [ELA2015] (2) 28 : 28) Recall information from experiences or gather information from provided sources to answer a question. [W.2.8] [ELA2015] (2) 29 : 29) Participate in collaborative conversations with diverse partners about Grade 2 topics and texts with peers and adults in small and larger groups. [SL.2.1] a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). [SL.2.1a] b. Build on others' talk in conversations by linking their comments to the remarks of others. [SL.2.1b] c. Ask for clarification and further explanation as needed about the topics and texts under discussion. [SL.2.1c] [ELA2015] (2) 22 : 22) Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section. [W.2.1] a. Write free verse poetry to express ideas. (Alabama) Subject: English Language Arts (2) Title: Giddy Up Cinderella Description: Students will read two different versions of the story. Students will participate in listening, speaking, and writing activities that require them to reflect on the stories. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards Standards Standards (9: [MA2015] ALT (9-12) 35 : 35) Find inverse, and write an expression for the inverse. [F-BF4a] Example f(x) = 2x3 or f(x) = 2x3 or f(x) = 12(x+1)/(x-1) for x ≠ 1. Subject: Mathematics (9 - 12) Title: Burst the Inverse! Description: This lesson allows students to investigate functions and graphs. Students will also use equations and graphs. Students will also use equations and their inverses by hand and using graphing calculators. inverses. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [MA2015] (1) 6 : 6) Add and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 - 4 = 13 - 3 - 1 = 10 - 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). [1-OA6] [MA2015] (1) 8 : 8) Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. [1-OA8] [MA2015] (1) 12 : 12) Add within 100, including a two-digit number and a one-digit number and a dding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method, and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens; one adds tens and tens; and sometimes it is necessary to compose a ten. [1-NBT4] Subject: Mathematics (1) Title: Let's Throw Paper!! Addition Game Description: Students will throw addition problems or answers (on paper) across the classroom and find the matching problem or answer. Students will quietly walk around the classroom to find the person with the matching paper. Let's throw math around! This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [MA2015] (6) 27 : 27) Recognize that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape. [6-SP2] [MA2015] (6) 27 : 27) Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number. [6-SP3] [ELA2015] (6) 1 : 1) Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. [RL.6.1] Subject: Mathematics (6), English Language Arts (6) Title: Forecasting Statistics Description: Students will research the ten days as well as the low's for ten days. Once students document this information, they will find the mean, median, mode, and range of the data collected. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [MA2015] ALT (9-12) 9:9) (+) Add, subtract, and multiply matrices of appropriate dimensions. [N-VM8] Subject: Mathematics (9 - 12) Title: Does Size Matter? Description: This lesson allows students to add and to subtract Matrices. Students can use graphing calculators to input Matrices. Students will work cooperatively to develop and justify ideas/conjectures. This is a College- and Career-Ready Standards St stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement). [RL.11-12.6] Subject: English Language Arts (12) Title: Now That's Ironic Description: Students learn how irony, satire and sarcasm indirectly stated in a text, help to develop an author's tone. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [ELA2015] (9) 22 : 22) Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences. [W.9-10.3] a. Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator, characters, or both; create a smooth progression of experiences or events. [W.9-10.3a] b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters. [W.9-10.3b] c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole. [W.9-10.3c] d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters. [W.9-10.3d] e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative. [W.9-10.3e] [ELA2015] (9) 23 : 23) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 20-22 above.) [W.9-10.4] [ELA2015] (9) 26 : 26) Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. [W.9-10.7] Subject: English Language Arts (9) Title: Let's take a walk...Peter Jenkins style. Description: Students will complete a research-based creative project that has them envisioning where they would if they walked across America like the author Peter Jenkins in the novel A Walk across America. This project is crosscurricular as it has students working on budgets, using maps and place-specific information, and writing narratives. This is a College- and Career-Ready Standards obeying safety rules, engaging in recycling projects). [RI.1.8] [SS2010] LWT1 (1) 4 : 4) Identify contributions of diverse significant figures that influenced the local community and state in the past and present. (Alabama) Example: Admiral Raphael Semmes' and Emma Sansom's roles during the Civil War (Alabama) [SS2010] LWT2 (2) 2 : 2) Identify national historical figures and celebrations that exemplify fundamental democratic values, including George Washington, Thomas Jefferson, Benjamin Franklin, Patrick Henry, John Adams, John Hancock, and James Madison • Recognizing historical female figures, including the birthday of Martin Luther King, Jr.; Presidents' Day; Memorial Day; the Fourth of July; Veterans Day; and Thanksgiving Day • Describing the history of American symbols and monuments Examples: Liberty Bell, Statue of Liberty, bald eagle, United States flag, Washington Monument, Lincoln Memorial Subject: English Language Arts (1) Title: All-American Diva, Ruby Bridges Description: In this lesson, students will discover the impact Ruby Bridges made

in history when she became the first black child to attend a white school. Your students will be sure to fall in love with the story Ruby has to tell and how this child's courage changed life in the United States. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [SS2010] US10 (10) 1 : 1) Compare effects of economic, geographic, social, and political conditions before and after European explorations of the fifteenth through seventeenth centuries on Europeans, Americans, and indigenous Americans, and and a start Reformation on European exploration • Comparing European motives for establishing colonies, including mercantilism, religious persecution, poverty, oppression, and new opportunities • Analyzing the course of the Columbian Exchange for its impact on the global economy • Explaining triangular trade and the development of slavery in the colonies Subject: Social Studies (10) Title: The Art of the Conquest of Mexico Description: Students will explore two different interpretations of the same events as seen by the Spanish and the Aztecs will be explored. Students will highlight portions of both pieces of art to gain perspective of both sides. This is a College- and Career-Ready Standards showcase lesson plan. View Standards in a text (e.g., eating a balanced meal, obeying safety rules, engaging in recycling projects). [RI.1.8] [SS2010] LWT1 (1) 4 : 4) Identify contributions of diverse significant figures that influenced the local community and state in the past and present. (Alabama) Example: Admiral Raphael Semmes' and Emma Sansom's roles during the Civil War (Alabama) [SS2010] LWT2 (2) 2 : 2) Identify national historical figures and celebrations that exemplify fundamental democratic values, including equality, justice, and responsibility for the common good. • Recognizing historical democratic values, including fathers, including fathers, including fathers, including fathers, including fathers, including historical female figures, including Abigail Adams, Dolley Madison, Harriet Tubman, and Harriet Beecher Stowe • Describing the significance of national holidays, including the birthday of Martin Luther King, Jr.; Presidents' Day; Memorial Day; the Fourth of July; Veterans Day; and Thanksgiving Day • Describing the history of American symbols and monuments Examples: Liberty Bell, Statue of Liberty, bald eagle, United States flag, Washington Monument, Lincoln Memorial Subject: Social Studies (1 - 2) Title: All-American Diva, Ruby Bridges Description: In this lesson, students will discover the impact Ruby Bridges made in history when she became the first black child to attend a white school. Your students will be sure to fall in love with the story Ruby has to tell and how this child's courage changed life in the United States. This is a College- and Career-Ready Standards showcase lesson plan. View Standards St collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. [SL.11-12.1] a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. [SL.11-12.1a] b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. [SL.11-12.1b] c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. [SL.11-12.1c] d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. [SL.11-12.1d] [ELA2015] (12) 25 : 25) Conduct short as well as more sustained research projects to answer a question, including a selfgenerated question, or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject under investigation. [W.11-12.7] Subject: English Language Arts (12) Title: What Do Women Most Desire? Description: Students will conduct survey-based research and compile data that compares the responses that the knights from The Wife of Bath's Tale received to the response of persons in modern day society. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards 19 3:3 Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme. [RL.9-10.3] [ELA2015] (10) 3 : 3) Analyze how complex characters, and advance the plot or develop the theme. [RL.9-10.3] [ELA2015] (9) 1 : 1) Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. [RL.9-10.1] [ELA2015] (10) 1 : 1) Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. [RL.9-10.1] [ELA2015] (9) 1 : 1) Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. [RL.9-10.1] [ELA2015] (10) 1 : 1) Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. [RL.9-10.1] Subject: English Language Arts (9 - 10) Title: Beyond Plot Summary Part 2: Critical Thinking and Writing About Plot Development toolkit, students will identify and explain plot development of a class text, including generating their own reflections, original ideas, and discussion regarding how events interact and shape character, mood, tone, and conflict. This is a College- and Career-Ready Standards Standards including snacks. • Recognizing the six food groups on MyPyramid • Identifying characteristics of various foods Examples: taste, smell, color, texture • Locating the nutrition facts label on food products [ELA2015] (0) 25 : 25) Use a combination of drawing, dictating, and writing to compose informative or explanatory texts in which they name what they are writing about and supply some information about the topic. [W.K.2] [ELA2015] (0) 28 : 28) With guidance and support from adults, explore a variety of digital tools to produce and support from adults, recall information from experiences or gather information from provided sources to answer a question. [W.K.8] [ELA2015] (0) 31 : 31) Participate in collaborative conversations with diverse partners about kindergarten topics and texts under discussion) (e.g., listening to others and taking turns speaking about the topics and texts under discussion) [SL.K.1a] b. Continue a conversation through multiple exchanges. [SL.K.1b] [ELA2015] (0) 35 : 35) Add drawings or other visual displays to descriptions as desired to provide additional detail. [SL.K.5] [ELA2015] (0) 36 : 36) Speak audibly and express thoughts, feelings, and ideas clearly. [SL.K.6] Subject: Health (K), English Language Arts (K) Title: Find the Fat Description: Students will experiment with and evaluate healthy and unhealthy foods. Students will take digital pictures and view during a class discussion about fat content in foods. Students will watch a video about healthy eating and exercise and respond to the experience through writing and drawing. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards Standards Standards Standards IF-BF1] a. Determine an explicit expression, a recursive process, or steps for calculation from a context. [F-BF1] b. Combine standard function types using arithmetic operations. [F-BF1b] Example: Build a function that models the temperature of a cooling body by adding a constant function to the model. Subject: Mathematics (9 - 12) Title: It's All in the Family Description: Students will be motivated to learn how to build new linear functions from existing linear functions. Students will bring pictures of themselves and their parents from home to personally involve them in the lesson. Students will learn to use the patterns inherent in functions to quickly and accurately graph linear functions. This lesson will only deal with vertical shifts and the steepness of the line. Horizontal shifts will be dealt with in future lessons. In addition, in future lessons students will transfer this knowledge to also graph exponential, quadratic, and absolute value functions. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards Standard(s): [MA2015] (6) 24 : 24) Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems. [6-G4] Subject: Mathematics (6) Title: Nets: Message in a Box Description: In cooperative/collaborative groups, students will compare and contrast a two-dimensional pattern and a three-dimensional shape. Students will use a net to label and then construct a rectangular prism. As a final performance task, students will create a message box. View Standards Standard(s): [MA2015] (5) 23:23) Use a pair of perpendicular number lines, called axes, to define a coordinate system with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the coordinate, y-axis and x-coordinate). [5-G1] [MA2015] (5) 24 : 24) Represent real-world and mathematical problems by graphing points in the first guadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. [5-G2] Subject: Mathematics (5) Title: You Sank My Coordinate Plane! (an introductory lesson in coordinate planes) Description: If you grab a bunch of jump ropes and tell your kids you're going outside, you can trick them into thinking they are getting recess. Instead, you can surprise them with a math lesson about how to identify the points on the coordinate plane! This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards (s): [MA2015] (6) 13 : 13) Write, read, and evaluate expressions in which letters stand for numbers. [6-EE2] a. Write expressions that record operations with numbers and with letters standing for numbers. [6-EE2] a. Write expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. [6-EE2b] Example: Describe the expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). [6-EE2c] Example: Use the formulas V = s3 and A = 6s2 to find the volume and surface area of a cube with sides of length s = 1/2. [MA2015] (6) 17 : 17) Use variables to represent numbers, and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number or, depending on the purpose at hand, any number in a specified set. [6-EE6] Subject: Mathematics (6) Title: Factorials: Let's have a Dinner Party! Description: In collaborative groups of four, students will act out a dinner party where four dinner guests. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [ELA2015] (2) 1 : 1) Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. [RL.2.1] a. Infer the main idea and supporting details in narrative texts. (Alabama) [SS2010] LWT1 (1) 4 : 4) Identify contributions of diverse significant figures that influenced the local community and state in the past and present. (Alabama) Example: Admiral Raphael Semmes' and Emma Sansom's roles during the Civil War (Alabama) [SS2010] LWT1 (1) 4 : 4) Identify contributions of diverse significant figures that influenced the local community and state in the past and present. (Alabama) Example: Admiral Raphael Semmes' and Emma Sansom's roles during the Civil War (Alabama) Subject: English Language Arts (2) Title: Listening to narrative text offers students a chance to go beyond decoding and word meaning. Listening as the teacher reads a story gives students an opportunity to appreciate, draw significance, and meaning as well as informal practice using story elements. Listening to read alouds gives the teacher the opportunity to model "close" reading skills as well as model thinking. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards Standards 12 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 : 15 (2) 15 the main purpose of a text, including what the author wants to answer, explain, or describe. [RI.2.6] [ELA2015] (2) 28 : 28) Recall information from provided sources to answer a question. [W.2.8] [ELA2015] (3) 15 : 15) Distinguish their own point of view from that of the author of a text. [RI.3.6] [ELA2015] (3) 29 : 29) Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. [W.3.8] Subject: Character Education (K - 12), English Language Arts (2 - 3) Title: A Weed is a Flower Description: In this lesson, students will learn to identify the main purpose of a text and distinguish it from their own point of view with the book A Weed is a Flower: The Life of George Washington Carver by Aliki and other informational texts. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards Standards (s): [ELA2015] (2) 1 : 1) Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. [RL.2.1] a. Infer the main idea and supporting details in narrative texts. (Alabama) [SS2010] LWT1 (1) 4 : 4) Identify contributions of diverse significant figures that influenced the local community and state in the past and present. (Alabama) Example: Admiral Raphael Semmes' and Emma Sansom's roles during the Civil War (Alabama) [SS2010] LWT1 (1) 4 : 4) Identify contributions of diverse significant figures that influenced the local community and state in the past and present. (Alabama) Example: Admiral Raphael Semmes' and Emma Sansom's roles during the Civil War (Alabama) Subject: Social Studies (1) Title: Listening Comprehension Read Aloud-Who Was Ruby Bridges? Description: Listening as the teacher reads a story gives students an opportunity to appreciate, draw significance, and meaning as well as informal practice using story elements. Listening to read alouds gives the teacher the opportunity to model "close" reading skills as well as model thinking. This is a College- and Career-Ready Standards Sta and other media to illustrate that there are many different kinds of living things and that they exist in different places on land and in water (e.g., woodland, tundra, desert, rainforest, ocean, river). [MA2015] (1) 18 : 18) Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. [1-MD4] Subject: Science (2) Title: Spiders because spiders look scary. In this lesson, students will graph spider preferences and record observations of spiders in a natural habitat. Students will research spider information using the Internet. Students will illustrate a vivarium for a spider habitat, including five environmental characteristics. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [MA2015] (3) 8 : 8) Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. (This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations).) [3-OA8] [MA2015] (3) 11 : 11) Fluently add and subtract (Order of Operations).) [3-OA8] [MA2015] (3) 11 : 11) Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. [3-NBT2] Subject: Mathematics (3) Title: Roll 'N Round to Win Description: This lesson is a hands-on, game-based lesson. It should be part of a larger unit of study on number sense, estimation, and/or place value. The lesson involves students in a game-based activity which gives them a concrete understanding of the relationship between numbers. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [MA2015] (2) 4 : 4) Use addition to find the total number of objects arranged in rectangular arrays with up to 5 columns; write an equation to express the total as a sum of equal addends. [2-OA4] Subject: Mathematics (2) Title: Roll an Array Description: This lesson presents a hands-on partner activity to introduce second graders to making rectangular arrays. Students will use number dice to roll numbers and then build the coordinating array. An equation will be written to show the sum of the equal addends. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [MA2015] GEO (9-12) 31 : 31) Prove the slope criteria for parallel and perpendicular to a given lines, and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point). [G-GPE5] Subject: Mathematics (9 - 12) Title: Take the Stairs to Slope! Description: This lesson allows students to investigate the slope criteria and characteristics of parallel lines using graphing calculators and school staircases. Students will also use equations and graphs. Students will also use equations and graphs. Students will also use equations and graphs. Standard(s): [ELA2015] (7) 3 : 3) Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot). [RL.7.3] [ELA2015] (7) 1 : 1) Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. [RL.7.1] Subject: English Language Arts (7) Title: What are YOU made of? A study of the character of Roger from Langston Hughes' "Thank You, Ma'am"--Part 1 Description: Students, feelings, guotes, goals, desires, and other characters' opinions based on evidence within the text. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [ELA2015] (10) 41 : 41) Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. [L.9-10.5] a. Interpret figures of speech (e.g., euphemism, oxymoron) in context and analyze their role in the text. [L.9-10.5a] b Analyze nuances in the meaning of words with similar denotations. [L.9-10.5b] [ELA2015] (10) 1 : 1) Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. [RL.9-10.1] [ELA2015] (10) 8 : 8) Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how early American authors draw upon the Bible for religious themes and issues). [RL.9-10.9] (Alabama) [ELA2015] (10) 9 : 9) By the end of Grade 10, read and comprehend literature, including stories, dramas, and poems, at the high end of the Grades 9-10 text complexity band independently and proficiently. [RL.9-10.10] [ELA2015] (10) 26 : 26) Use technology, including the Internet, to products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically. [W.9-10.6] [ELA2015] (10) 29 : 29) Draw evidence from literary or informational texts to support analysis, reflection, and research. [W.9-10.9] a. Apply Grade 10 Reading standards to literature (e.g., "Analyze how an author draws on and transforms source material in a specific work [e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare"]. [W.9-10.9a] b. Apply Grade 10 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning"). [W.9-10.9b] [ELA2015] (10) 31 : 31) Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. [SL.9-10.1] a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. [SL.9-10.1a] b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. [SL.9-10.1b] c. Propel conversations by posing and responding to guestions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify. verify, or challenge ideas and conclusions. [SL.9-10.1c] d. Respond thoughtfully to diverse perspectives, summarize points of agreement, and, when warranted, gualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. [SL.9-10.1d] Subject: English Language Arts (10) Title: Understanding Poetry: Annotating Puritan Poetry Description: This lesson is part of a larger unit dealing with Early American Literature. In this lesson, students will become familiar with the figurative devices and strategies used by 17th Century Puritan poets when creating closed or fixed form poetry. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards Standards Standards (s): [ELA2015] (12) 2 : 2) Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text. [RL.11-12.2] [ELA2015] (12) 20 : 20) Write informative or explanatory texts to examine and convey complex ideas, concepts, and information, organization, and analysis of content. [W.11-12.2] a. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. [W.11-12.2a] b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, guotations, or other information and examples appropriate to the audience's knowledge of the topic. [W.11-12.2b] c. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. [W.11-12.2c] d. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. [W.11-12.2c] d. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. [W.11-12.2c] d. Use appropriate to the text, create cohesion, and clarify the relationships among complex ideas and concepts. [W.11-12.2c] d. Use appropriate to the text, create cohesion, and clarify the relationships among complex ideas and concepts. [W.11-12.2c] d. Use appropriate to the text, create cohesion, and clarify the relationships among complex ideas and concepts. [W.11-12.2c] d. Use appropriate to the text, create cohesion, and clarify the relationships among complex ideas and concepts. [W.11-12.2c] d. Use appropriate to the text, create cohesion, and clarify the relationships among complex ideas and concepts. [W.11-12.2c] d. Use appropriate to the text, create cohesion, and clarify the relationships among complex ideas and concepts. [W.11-12.2c] d. Use appropriate to the text, create cohesion, and clarify the relationships among complex ideas and concepts. [W.11-12.2c] d. Use appropriate to the text, create cohesion, and clarify the relationships among complex ideas and concepts. [W.11-12.2c] d. Use appropriate to the text, create cohesion, and clarify the relationships among complex ideas and concepts. [W.11-12.2c] d. Use appropriate to the text, create cohesion, and clarify the relationships among complex ideas and concepts. [W.11-12.2c] d. Use appropriate to the text, create cohesion, and clarify the text. [W.11-12.2c] d. [W.11-12.2c] d. domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. [W.11-12.2d] e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. [W.11-12.2e] f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic). [W.11-12.2f] Subject: English Language Arts (12) Title: Grendel and the New Kid Description: Students will compare/contrast Grendel from Beowulf to a new student in school who has been bullying students in the school. Students will create graphic organizers and compose explanations of the situation and come up with possible solutions. This is a College- and Career-Ready Standards S describe a ratio relationship between two quantities. [6-RP1] Examples: "The ratio of wings to beaks in the bird house at the zoo was 2:1 because for every vote candidate A received, candidate A received nearly three votes." [MA2015] (6) 2 : 2) Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship. [6-RP2] Examples: "This recipe has a ratio of 3 cups of flour to 4 cups of sugar." "We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger." (Expectations for unit rates in this grade are limited to non-complex fractions.) [MA2015] (6) 3 : 3) Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, or equations. [6-RP3] a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. [6-RP3a] b. Solve unit rate problems including those involving unit pricing and constant speed. [6-RP3b] Example: If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours' At what rate were lawns being mowed' c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent. [6-RP3c] d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. [6-RP3d] [MA2015] (7) 1 : 1) Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units. [7-RP1] Subject: Mathematics (6 - 7) Title: How Far Can You Leap? Description: This lesson will allow students to become familiar with the concept of unit rate. Through an open investigation students will develop methods to find unit rate with a table, equivalent ratios, or an equation. This is a lesson to be used as part of a unit with "Painter Problems" and "How Big Should It Be?" This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [ELA2015] (4) 1 : 1) Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. [RL.4.1] Subject: English Language Arts (4) Title: Inferencing Detective Description: Students will learn to make inferences based on evidence and prior knowledge about their teacher (by looking at objects), classmates (by viewing drawings or PowerPoint), and a reading passage. This is a College- and Career-Ready Standards S things and that they exist in different places on land and in water (e.g., woodland, tundra, desert, rainforest, ocean, river). [MA2015] (1) 18 : 18) Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. [1-MD4] Subject: Mathematics (1) Title: Spiders: Are They Scary or Nice? Description: Children often do not understand spiders because spiders will graph spider preferences and record observations of spiders in a natural habitat. Students will research spider information using the Internet. Students will illustrate a vivarium for a spider habitat, including five environmental characteristics. This is a College- and Career-Ready Standards Standards Standards for a spider habitat, including five environmental characteristics. This is a College- and Career-Ready Standards showcase lesson plan. View Standards meanings. [L.6.5] a. Interpret figures of speech (e.g., personification) in context. [L.6.5a] b. Use the relationship between particular words (e.g., cause/effect, part/whole, item/category) to better understand each of the words. [L.6.5b] c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., stingy, scrimping, economical, unwasteful, thrifty). [L.6.5c] [ELA2015] (7) 40 : 40) Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. [L.7.5] a. Interpret figures of speech (e.g., literary, biblical, and mythological allusions) in context. [L.7.5a] b. Use the relationship between particular words (e.g., synonym/antonym, analogy) to better understand each of the words. [L.7.5b] c. Distinguish among the connotations (definitions) (e.g., refined, respectful, polite, diplomatic, condescending). [L.7.5c] [ELA2015] (8) 40 : 40) Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. [L.8.5] a. Interpret figures of speech (e.g. verbal irony, puns) in context. [L.8.5a] b. Use the relationship between particular words to better understand each of the words. [L.8.5b] c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., bullheaded, willful, firm, persistent, resolute). [L.8.5c] [ELA2015] (7) 18 : 18) Analyze how two or more authors writing about the same topic shape their presentations of facts. [RI.7.9] [ELA2015] (7) 23 : 23) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 20-22 above.) [W.7.4] Subject: English Language Arts (6 - 8) Title: Do You See What I See? Asian or American Description: Interactive unit that encourages students to evaluate the effect of the inclusion of figurative language in Amy Tan's nonfiction narrative essay Fish Cheeks paired with the power of language. Students will be compelled to write by the conclusion of this lesson. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards Standards (a): [MA2015] (6) 3 : 3) Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. [6-RP3] a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. [6-RP3a] b. Solve unit rate problems including those involving unit pricing and constant speed. [6-RP3b] Example: If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours' At what rate were lawns being mowed' c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity); solve problems involving finding the whole, given a part and the percent. [6-RP3c] d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. [6-RP3d] [MA2015] (6) 1 : 1) Understand the concept of a ratio, and use ratio relationship between two quantities. [6-RP1] Examples: "The ratio of wings to beaks in the bird house at the zoo was 2:1 because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes." [MA2015] (7) 2 : 2) Recognize and represent proportional relationships between quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. [7-RP2a] b. Identify the constant of proportional relationships. [7-RP2b] c. Represent proportional relationships by equations. [7-RP2c] Example: If total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn. d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. [7-RP2d] [MA2015] (7) 11 : 11) Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing at a different scale. [7-G1] Subject: Mathematics (6 - 7) Title: How Big Should it Be? Description: This lesson will allow students to become familiar with the concept of equivalent ratios and similar objects. Through an open investigation, students will develop methods to find equivalent ratios. This is a lesson to be used as part of a unit with Painter Problems and How Far Can You Leap found in ALEX. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [ELA2015] (11) 1 : 1) Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain. [RL.11-12.1] [ELA2015] (11) 4 : 4) Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings, or beautiful. (Include Shakespeare as well as other authors.) [RL.11-12.4] [ELA2015] (11) 22 : 22) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 19-21 above.) [W.11-12.4] [ELA2015] (11) 28 : 28) Write routinely over extended time frames, including time for research, reflection, and revision, and shorter time frames such as a single sitting or a day or two for a range of tasks, purposes, and audiences. [W.11-12.10] [ELA2015] (11) 29 : 29) Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 11 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. [SL.11-12.1] a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. [SL.11-12.1] b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. [SL.11-12.1b] c. Propel conversations by posing and responding to guestions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. [SL.11-12.1c] d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. [SL.11-12.1d] [ELA2015] (11) 34 : 34) Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate. (See Grade 11 Language standards 35 and 37 for specific expectations.) [SL.11-12.6] Subject: English Language Arts (11) Title: Jump at 'de Sun! Let's become Zoraheads! Description: Students will learn about Zora Neale Hurston as the beginning of a unit on Their Eyes were Watching God. Using the essay "How it Feels to be Colored Me," students will discuss the use of metaphors in correlation to Hurston's life. Students will also construct a poem using metaphors pertaining to their own lives. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards Standards or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. [SL.1.5] [ELA2015] (1) 36 : 36) Produce complete sentences when appropriate to task and situation. (See Grade 1 Language standard 37 for specific expectations.) [SL.1.6] [ELA2015] (1) 37 : 37) Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking. [L.1.1] a. Print all uppercase and lowercase letters. [L.1.1a] b. Use common, proper, and possessive nouns. [L.1.1b] c. Use singular and plural nouns with matching verbs in basic sentences (e.g., I, me, my; they, them, their; anyone, everything). [L.1.1d] e. Use verbs to convey a sense of past, present, and future (e.g., Yesterday I walked home; Today I walk home; Tomorrow I will walk home). [L.1.1e] f. Use frequently occurring adjectives. [L.1.1f] g. Use frequently occurring conjunctions (e.g., and, but, or, so, because). [L.1.1g] h. Use determiners (e.g., articles, demonstratives). [L.1.1h] i. Use frequently occurring prepositions (e.g., during, beyond, toward). [L.1.1i] j. Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts. [L.1.1] [ELA2015] (1) 40 : 40) With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings. [L.1.5] a. Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent. [L.1.5a] b. Define words by category and by one or more key attributes (e.g., a duck is a bird that swims; a tiger is a large cat with stripes). [L.1.5b] c. Identify real-life connections between words and their use (e.g., note places at home that are cozy). [L.1.5c] d. Distinguish shades of meaning among verbs differing in manner (e.g., look, peek, glance, stare, glare, scowl) and adjectives differing in intensity (e.g., large, gigantic) by defining or choosing them or by acting out the meanings. [L.1.5d] Subject: English Language Arts (1) Title: Down with the Nouns Description: Students will learn nouns by using an interactive sorting game. Students will compete with each other by putting noun cards down on the floor categorized by person, place, animal, or thing. Students will have to read and sort the cards. The student with no noun cards first, wins! This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [ELA2015] (7) 26 : 26) Conduct short research projects to answer a question, drawing on several sources, using search and investigation. [W.7.7] [ELA2015] (7) 27 : 27) Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. [W.7.8] [ELA2015] (7) 30 : 30) Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. [SL.7.1] a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion [SL.7.1a] b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. [SL.7.1c] d. Acknowledge new information expressed by others and, when warranted, modify their own views. [SL.7.1d] [ELA2015] (7) 34 : 34) Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points. [SL.7.5] [ELA2015] (7) 36 : 36) Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking. [L.7.1] a. Demonstrate knowledge of subject-verb agreement when interrupted by a prepositional phrase, with indefinite pronouns as subjects, compound subjects joined by correlative and coordinating conjunctions, and collective nouns when verb form depends on the rest of the sentence. (Alabama) b. Explain the function of phrases and clauses in general and their function in specific sentences. [L.7.1a] c. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas. [L.7.1b] d. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.* [L.7.1c] [ELA2015] (7) 37 : 37) Demonstrate command of the conventions, and spelling when writing. [L.7.2] a. Use a comma to separate coordinate adjectives (e.g., It was a fascinating, enjoyable movie but not He wore an old[,] green shirt). [L.7.2a] b. Spell correctly. [L.7.2b] [ELA2015] (7) 38 : 38) Use knowledge of language and its conventions when writing, speaking, reading, or listening. [L.7.3] a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.* [L.7.3a] Subject: English Language Arts (7) Title: It's a Great Big Beautiful Tomorrow: A Career Exploration Lesson for Middle-Schoolers Description: Through multiple lessons, middle school students will explore career choices, set educational goals, and create a media project in which they share information about their chosen career. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards Standard(s): [MA2015] (1) 3 : 3) Apply properties of operations as strategies to add and subtract. (Students need not use formal terms for these properties.) [1-OA3] Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is known (Commutative property of addition) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12 (Associative property of addition) [MA2015] (1) 4 : 4) Understand subtraction as an unknown-addend problem. [1-OA4] Example: Subtract 10 - 8 by finding the number that makes 10 when added to 8. [MA2015] (1) 5 : 5) Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). [1-OA5] [MA2015] (1) 8 : 8) Determine the unknown whole numbers [1-OA8] Subject: Mathematics (1) Title: Where Oh Where Has My Addend Gone? Description: Students will use number bonds and counters as a strategy for finding the missing addend. Students will become aware of the relationship between addition and subtraction. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards Standard(s): [MA2015] (6) 11 : 11) Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinate or the same second coordinate. [6-NS8] [MA2015] (6) 25 : 25) Recognize a statistical question as one that anticipates variability in the data related to the guestion and accounts for it in the answers. [6-SP1] Example: "How old am I" is not a statistical question because one anticipates variability in students' ages. Subject: Mathematics (6) Title: Michael Phelps.... or not? Description: This lesson is created to have students compare themselves to Michael Phelps and the features that make him such a good swimmer. Students will then compare their height and arm span to their classmates' to see who might be the best swimmer in the class! This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards Standards (9): [ELA2015] (9) 3: 3) Analyze how complex characters, and advance the plot or develop the theme. [RL.9-10.3] [ELA2015] (10) 3 : 3) Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop the theme. [RL.9-10.3] [ELA2015] (9) 3 : 3) Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme. [RL.9-10.3] [ELA2015] (10) 3 : 3) Analyze how complex characters, and advance the plot or develop the theme. [RL.9-10.3] [ELA2015] (9) 1 : 1) Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. [RL.9-10.1] [ELA2015] (10) 1 : 1) Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. [RL.9-10.1] Subject: English Language Arts (9 - 10) Title: Beyond Plot Summary Part 1: Critical Thinking and Writing About Plot Development, including generating their own reflections, original ideas, and influences on how events interact and shape character, mood, tone, and conflict. This is a College- and Career-Ready Standards showcase lesson plan. View Standard(s): [MA2015] (4) 7 : 7) Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. [4-NBT2] [MA2015] (4) 9 : 9) Fluently add and subtract multi-digit whole numbers using the standard algorithm. [4-NBT4] Subject: Mathematics (4) Title: Let's Go Shopping Description: Students will be given a task card stating how to spend a certain amount of money. Students must look through sale papers, find the items to purchase, add the totals, multiply quantities, subtract from the total, and write a check to purchase the items. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standards Standards (s): [MA2015] (6) 1 : 1) Understand the concept of a ratio, and use ratio language to describe a ratio relationship between two quantities. [6-RP1] Examples: "The ratio of wings to beaks in the bird house at the zoo was 2:1 because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate A received nearly three votes." [MA2015] (6) 3:3) Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. [6-RP3] a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. [6-RP3a] b. Solve unit rate problems including those involving unit pricing and constant speed. [6-RP3b] Example: If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours' At what rate were lawns being mowed' c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent. [6-RP3c] d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. [6-RP3d] Subject: Mathematics (6) Title: Painter Problems Description: This lesson will allow students to become familiar with ratios. In this investigative lesson students will compare ratios and determine equivalent ratios. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [MA2015] (6) 6 : 6) Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. [6-NS3] Subject: Mathematics (6) Title: Decimals: Carlos the Centipede goes shopping for Christmas gifts! Description: Carlos the Centipede and his friend are Christmas Shopping for friends and family. Carlos will add, subtract, multiply, and divide decimals. Carlos will change percents to decimals to get all the great discounts during this season of the year. In addition, he will calculate tax on his purchases. View Standards Standards Standards inferences drawn from the text. [RL.6.1] [ELA2015] (6) 2 : 2) Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. [RL.6.2] [ELA2015] (6) 10 : 10) By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the Grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. [RL.6.10] [ELA2015] (6) 17 : 17) Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue. [RI.6.7] [ELA2015] (6) 31 : 31) Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. [SL.6.1] a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. [SL.6.1a] b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. [SL.6.1b] c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. [SL.6.1c] d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. [SL.6.1d] [ELA2015] (6) 34 : 34) Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation. [SL.6.4] Subject: English Language Arts (6) Title: Socratic Seminar About Non-Conformity Description: Students will participate in a Socratic Seminar to discussion. This is a College- and Career-Ready Standards showcase lesson plan. View Standards Standard(s): [DLIT] (4) 18 : 12) Use basic features of digital tools to communicate key ideas and details in a way that informs and/or persuades. [MA2015] (4) 26 : 26) Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. [4-G1] [DLIT] (4) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. Subject: Digital Literacy and Computer Science (4), Mathematics (4) Title: Wanted: Angles of all Sizes! Description: In this lesson, students will explore straight, right, acute and obtuse angles. Students will go to the playground to search for angles. The students will use digital cameras to record their findings. They will use their findings. They will use their findings to create a PowerPoint to present to the class. View Standards Standards Standards Standards Standards Standards Standards Standard (s): [MA2015] (0) 3 : 3) Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). [K-CC3] [MA2015] (0) 6 : 6) Identify whether the number of objects in another group, e.g., by using matching and counting strategies. (Include groups with up to ten objects.) [K-CC6] [MA2015] (0) 3 : 3) Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). [K-CC3] [MA2015] (0) 6 : 6) Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. (Include groups with up to ten objects.) [K-CC6] Subject: Mathematics (K) Title: Heart Graphing Description: During this lesson. Students will sort conversation heart candy by colors. Students will then use their data to complete picture graphs. View Standards Standard(s): [MA2015] (5) 11 : 11) Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with like denominators. [5-NF1] Example: 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.) [MA2015] (5) 12 : 12) Solve word problems involving addition and subtractions to estimate mentally, and assess the reasonableness of answers. [5-NF2] Example: Recognize an incorrect result 2/5 + 1/2 = 3/7 by observing that 3/7 < 1/2. Subject: Mathematics (5) Title: Gallon Man Meets Fraction Friend: An Introductory Lesson on Adding Fractions with Unlike Denominators Description: This hands-on, minds-on activity helps students use what they already know about customary measurement (CCRS 2010 #18 [5.MD.1]: Convert among different-sized standard measurement units within a given measurement units within a given measurement (CCRS 2010 #18 [5.MD.1]: Convert among different-sized standard measurement units within a given measurement units within a measurable attributes of objects such as length or weight. Describe several measurable attributes of a single object. [K-MD1] [MA2015] (0) 15 : 15) Directly compare two objects, with a measurable attribute in common, to see which object has "more of" or "less of" the attribute, and describe the difference. [K-MD2] Example: Directly compare the heights of two children, and describe one child as taller or shorter. Subject: Mathematics (K) Title: Twizzler Measurement Description: Students will use technology, hands-on interaction, and active participation to compare and measure different heights of objects. View Standards Standard(s): [MA2015] (1) 3 : 3) Apply properties of operations as strategies to add and subtract. (Students need not use formal terms for these properties.) [1-OA3] Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is known (Commutative property of addition) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12(Associative property of addition) [MA2015] (1) 6:6) Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 - 4 = 13 - 3 - 1 = 10 - 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 - 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the known sums (e.g., adding 6 + 7 by creating the k associative property of addition. Students will view a PowerPoint presentation to introduce associative property of addition. View Standards Standards Standards Standards Standard (s): [DLIT] (3) 19 : 13) Communicate key ideas and details collaboratively in a way that informs, persuades, and/or entertains, using digital tools. Example: Create a digital presentation to persuade school administrators to allow additional time for lunch. [DLIT] (3) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [DLIT] (3) 5 : R5) Locate and curate information from digital sources to answer research questions. [SS2010] GHS (3) 9 : 9) Identify ways to prepare for

natural disasters. Examples: constructing houses on stilts in flood-prone areas, buying earthquake and flood insurance, providing hurricane or tornado shelters, establishing emergency evacuation routes Subject: Digital Literacy and Computer Science (3), Social Studies (3) Title: Master of Disaster (Elementary Grades) Description: Students will research natural disasters and their impact on people. They will work in teams to design a disaster utilizing various creativity apps on the iPad. View Standards Standard(s): [DLIT] (9-12) 37 : 31) Create interactive data visualizations using software tools to help others understand real-world phenomena. [DLIT] (9-12) 5 : R5) Locate and revise authentic artifacts that include multimedia using appropriate digital tools. [DLIT] (9-12) 5 : R5) Locate and curate information from digital sources to answer research questions. [SC2015] ESS (9-12) 15 : 15) Obtain, evaluate, and communicate information to verify that weather (e.g., temperature, relative humidity, air pressure, dew point, adiabatic cooling, condensation, precipitation, winds, ocean currents, barometric pressure, wind velocity) is influenced by energy transfer within and among the atmosphere, lithosphere, biosphere, and hydrosphere. a. Analyze patterns in weather data to predict various systems, including fronts and severe storms. b. Use maps and other visualizations to analyze large data sets that illustrate the frequency, magnitude, and resulting damage from severe weather events in order to predict the likelihood and severity of future events. Subject: Digital Literacy and Computer Science (9 - 12), Science (9 guide to share with the community to reduce the impact of a natural disaster utilizing various creativity apps on the iPad. View Standard(s): [DLIT] (3) 19 : 13) Communicate key ideas and details collaboratively in a way that informs, persuades, and/or entertains, using digital tools. Example: Create a digital presentation to persuade school administrators to allow additional time for lunch. [DLIT] (3) 1 : R1) Identify, demonstrate, and apply personal safe use of digital devices. [ELA2015] (3) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.3.3] a. Establish a situation and introduce a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.3.3a] b. Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations. [W.3.3b] c. Use temporal words and phrases to signal event order. [W.3.3c] d. Provide a sense of closure. [W.3.3d] [ELA2015] (3) 38 : 38) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.3.2] a. Capitalize appropriate words in titles. [L.3.2a] b. Use commas in addresses. [L.3.2b] c. Use commas and quotation marks in dialogue. [L.3.2c] d. Form and use possessives. [L.3.2d] e. Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling for high-frequency and studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling for high-frequency and studied words and studied words and studied words and s patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words. [L.3.27] g. Write legibily in cursive. (Alabama) h. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings. [L.3.27] g. Write legibily in cursive. (Alabama) h. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings. [L.3.27] g. Write legibily in cursive. Computer Science (3) Title: Writing Thank-You Notes Description: This lesson teaches students to write thank-you notes. They will use a computer to view examples of thank-you notes and insert graphics into their own published thank-you notes. View Standards Standard(s): [DLIT] (3) 22 : 16) Conduct basic keyword searches to produce valid, appropriate results, and evaluate results, and evaluate results, and evaluate results for accuracy, relevance, and appropriate results, and evaluate results for accuracy, relevance, and appropriate results, and evaluate results for accuracy, relevance, and appropriate results, and evaluate results for accuracy, relevance, and appropriate results for accuracy relevance, and appropriate results for accuracy relevance, and evaluate results for accuracy relevance, and appropriate results for accuracy relevance, and evaluate results for accuracy relevance, and evaluate results for accuracy relevance results for ac multimedia using appropriate digital tools. [DLIT] (3) 5 : R5) Locate and curate information from digital sources to answer research questions. [ELA2015] (3) 19 : 19) By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the Grades 2-3 text complexity band independently and proficiently. [RI.3.10] [ELA2015] (3) 28 : 28) Conduct short research projects that build knowledge about a topic. [W.3.7] Subject: Digital Literacy and Computer Science (3), English Language Arts (3) Title: Do You Have a Babushka? Description: This lesson will familiarize students with the author Patricia Polacco. Students will use appropriate resources to gather information, and record it in a graphic organizer (concept map). View Standard(s): [DLIT] (3) 19 : 13) Communicate key ideas and details collaboratively in a way that informs, persuades, and/or entertains, using digital tools. Example: Create a digital presentation to persuade school administrators to allow additional time for lunch. [DLIT] (3) 1 : R1) Identify, demonstrate, and apply personal safe use of digital devices. [ELA2015] (3) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptions of actions, or both; organize an event sequence that unfolds naturally. [W.3.3] b. Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations. [W.3.3d] [ELA2015] (3) 38 : 38) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.3.2] a. Capitalize appropriate words in titles. [L.3.2a] b. Use commas in addresses. [L.3.2d] e. Use commas in addresses. [L.3.2d] e. Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words. [L.3.2f] g. Write legibily in cursive. (Alabama) h. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings. [L.3.2g] Subject: English Language Arts (3) Title: Writing Thank-you notes and insert graphics into their own published thank-you notes. View Standards Standard(s): [DLIT] (4) 20 : 14) Type 20 words per minute with 95% accuracy using appropriate keyboarding techniques. [DLIT] (4) 18 : 12) Use basic features of digital tools to communicate key ideas and details in a way that informs and/or persuades. [ELA2015] (4) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.4.3] a. Orient the reader by establishing a situation and introducing a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.4.3a] b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. [W.4.3b] c. Use a variety of transitional words and phrases to manage the sequence of events. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3d] e. Provide a conclusion that follows from the narrated experiences or events. [W.4.3e] Subject: Digital Literacy and Computer Science (4) Title: Story Add-Ons Description: This is a technology-rich lesson plan which allows students to explore proper language conventions while utilizing portable keyboards, chromebooks, or laptops for word processing. View Standards Standard(s): [MA2015] (3) 17 : 17) Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). (Excludes compound units such as cm3 and finding the geometric volume of a container.) Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problems (problems involving notions of "times as much").) (See Appendix A, Table 2.) [3-MD2] [MA2015] (3) 18 : 18) Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. [3-MD3] Example: Draw a bar graph in which each square in the bar graph might represent 5 pets. [ELA2015] (3) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.3.3] a. Establish a situation and introduce a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.3.3a] b. Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations. [W.3.3b] c. Use temporal words and phrases to signal event order. [W.3.3c] d. Provide a sense of closure. [W.3.3d] [ELA2015] (3) 38 : 38) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.3.2] a. Capitalize appropriate words in titles. [L.3.2a] b. Use commas in addresses. [L.3.2b] c. Use commas and guotation marks in dialogue. [L.3.2c] d. Form and use possessives. [L.3.2d] e. Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words. [L.3.2f] g. Write legibily in cursive. (Alabama) h. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings. [L.3.2g] Subject: Mathematics (3) Title: Inch by Inch Description: In this lesson students will do a variety of learning activities while they meet many math, science, and language arts objectives. Students will measure items, analyze and record data, listen to instructions, and follow directions. They will also follow a recipe to make a creative dessert. View Standards Standard(s): [DLIT] (4) 20 : 14) Type 20 words per minute with 95% accuracy using appropriate keyboarding techniques. [DLIT] (4) 18 : 12) Use basic features of digital tools to communicate key ideas and details in a way that informs and/or persuades. [ELA2015] (4) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.4.3] a. Orient the reader by establishing a situation and introducing a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.4.3a] b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. [W.4.3b] c. Use a variety of transitional words and phrases to manage the sequence of events. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and sensory details to convey experiences and events precisely. [W.4.3c] d. Use concrete words and phrases and events p English Language Arts (4) Title: Story Add-Ons Description: This is a technology-rich lesson plan which allows students to explore proper language conventions while utilizing portable keyboards, chromebooks, or laptops for word processing. View Standards Standard(s): [MA2015] (3) 17 : 17) Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). (Excludes compound units such as cm3 and finding the geometric volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (Excludes multiplicative comparison problems (problems involving notions of "times as much").) (See Appendix A, Table 2.) [3-MD2] [MA2015] (3) 18 : 18) Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and twostep "how many more" and "how many less" problems using information presented in scaled bar graphs. [3-MD3] Example: Draw a bar graph might represent 5 pets. [ELA2015] (3) 24 : 24) Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. [W.3.3] a. Establish a situation and introduce a narrator, characters, or both; organize an event sequence that unfolds naturally. [W.3.3a] b. Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations. [W.3.3b] c. Use temporal words and phrases to signal event order. [W.3.3c] d. Provide a sense of closure. [W.3.3d] [ELA2015] (3) 38 : 38) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.3.2] a. Capitalize appropriate words in titles. [L.3.2a] b. Use commas in addresses. [L.3.2b] c. Use commas and quotation marks in dialogue. [L.3.2c] d. Form and use possessives. [L.3.2d] e. Use conventional spelling for high-frequency and other studied words (e.g., sitting, smiled, cries, happiness). [L.3.2e] f. Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words. [L.3.2f] g. Write legibily in cursive. (Alabama) h. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings. [L.3.2g] Subject: English Language Arts (3) Title: Inch by Inch Description: In this lesson students will do a variety of learning activities while they meet many math, science, and language arts objectives. Students will measure items, analyze and record data, listen to instructions, and follow directions. They will also follow a recipe to make a creative dessert. View Standards Standards 19 (4) 19 : 19 By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the Grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range. [RI.4.10] Subject: English Language Arts (4) Title: Using an Almanac Description: Students will work in groups to learn appropriate uses of an almanac and how to find information in it efficiently and effectively. Each group will be responsible for explaining the steps taken to complete the task. This lesson is best used with fourth and fifth grades. View Standards Standard(s): [DLIT] (6) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [DLIT] (6) 5 : R5) Locate and curate information from digital sources to answer research questions, including radar and computer simulations) to support the claim that motions and complex interactions of air masses result in changes in weather conditions. a. Use various instruments (e.g., thermometers, barometers, ba ice storms, droughts). Subject: Digital Literacy and Computer Science (6), Science (6) Title: Masters of Disaster (Middle Grades) Description: Students will research natural disasters and their impact of a natural disaster utilizing various creativity apps on the iPad. View Standards Standard(s): [ELA2015] (0) 35 : 35) Add drawings or other visual displays to descriptions as desired to provide additional detail. [SL.K.5] [ELA2015] (0) 22 : 22) Know and apply grade-level phonics and word analysis skills in decoding words. [RF.K.3] a. Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sounds with common spellings (graphemes) for the five major vowels. [RF.K.3b] c. Read common high-frequency words by sight (e.g. the, of, to, you, she, my, is, are, do, does). [RF.K.3c] d. Distinguish between similarly spelled words by identifying the sounds of the letters that differ. [RF.K.3d] [ELA2015] (0) 21 : 21) Demonstrate understanding of spoken words, syllables, and sounds (phonemes). [RF.K.2] a. Recognize and produce rhyming words. [RF.K.2a] b. Count, pronounce, blend, and segment syllables in spoken words. [RF.K.2b] c. Blend and segment onsets and rimes of single-syllable spoken words. [RF.K.2c] d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words. (This does not include CVCs ending with /l/, /r/, or /x/.) (Words, syllables, or phonemes written in /slashes/ refer to their pronunciation or phonology. Thus, /CVC/ is a word with three phonemes regardless of the number of letters in the spelling of the word.) [RF.K.2d] e. Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words. [RF.K.2e] [ELA2015] (0) 20 : 20) Demonstrate understanding of the organization and basic features of print. [RF.K.1a] b. Recognize that spoken words are represented in written language by specific sequences of letters. [RF.K.1b] c. Understand that words are separated by spaces in print. [RF.K.1c] d. Recognize and name all uppercase and lowercase letters of the alphabet. [RF.K.1d] [DLIT] (1) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [DLIT] (0) 8 : 2) Demonstrate use of input devices. Examples: Mouse, touch screen, keyboard. [DLIT] (0) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [ELA2015] (1) 22 : 22) Know and apply grade-level phonics and word analysis skills in decoding words. [RF.1.3] a. Know the spelling-sound correspondences for common consonant digraphs. [RF.1.3a] b. Decode regularly spelled one-syllable words. [RF.1.3b] c. Know final -e and common vowel team conventions for representing long vowel sounds. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. [RF.1.3d] e. Decode two-syllable words following basic patterns by breaking the words into syllables. [RF.1.3e] f. Read words with inflectional endings. [RF.1.3f] g. Recognize and read grade-appropriate irregularly spelled words. [RF.1.3g] [ELA2015] (1) 40 : 40) With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings. [L.1.5] a. Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent. [L.1.5a] b. Define words by category and by one or more key attributes (e.g., a duck is a bird that swims; a tiger is a large cat with stripes). [L.1.5b] c. Identify real-life connections between words and their use (e.g., note places at home that are cozy). [L.1.5c] d. Distinguish shades of meaning among verbs differing in manner (e.g., look, peek, glance, stare, glare, scowl) and adjectives differing in intensity (e.g., large, gigantic) by defining or choosing them or by acting out the meanings. [L.1.5d] Subject: English Language Arts (K - 1) Title: Word a Day Description: Word a Day allows students to develop a bank of sight words that are meaningful to them. Each student picks words to add to his/her individual word bank. The teacher can specify particular categories or let the student then finds a picture or symbol to illustrate each word using a variety of resources. View Standards Standard(s): [ELA2015] (1) 38 : 38) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.1.2] a. Capitalize dates and names of people. [L.1.2a] b. Use end punctuation for sentences. [L.1.2b] c. Use commas in dates and to separate single words in a series. [L.1.2c] d. Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words. [L.1.2d] e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions. [L.1.2e] [ELA2015] (1) 36 : 36) Produce complete sentences when appropriate to task and situation. (See Grade 1 Language standard 37 for specific expectations.) [SL.1.6] [ELA2015] (1) 35 : 35) Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. [SL.1.5] [ELA2015] (1) 34 : 34) Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly. [SL.1.4] [ELA2015] (1) 30 : 30) With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. [W.1.8] [ELA2015] (1) 28 : 28) With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. [W.1.6] [DLIT] (1) 19 : 13) Create a research-based product collaboratively using online digital tools. Examples: Find simple facts about a specific topic, create a slide that contains facts located in trade books or other sources. [DLIT] (1) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [DLIT] (1) 1 : R1) Identify, demonstrate, and apply personal safe use of digital devices. [ELA2015] (1) 37 : 37) Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking. [L.1.1] a. Print all uppercase and lowercase letters. [L.1.1a] b. Use common, proper, and possessive nouns. [L.1.1b] c. Use singular and plural nouns with matching verbs in basic sentences (e.g., He hops; We hop). [L.1.1c] d. Use personal, possessive, and indefinite pronouns (e.g., I, me, my; they, them, their; anyone, everything). [L.1.1d] e. Use verbs to convey a sense of past, present, and future (e.g., Yesterday I walked home; Today I walk home; Tomorrow I will walk home). [L.1.1e] f. Use frequently occurring adjectives. [L.1.1f] g. Use frequently occurring conjunctions (e.g., and, but, or, so, because). [L.1.1h] i. Use frequently occurring prepositions (e.g., during, beyond, toward). [L.1.1i] j. Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts. [L.1.1] Subject: English Language Arts (1) Title: Getting to Know You Description: The students will go on an in-school scavenger hunt to get to know the many kinds of people that make up an elementary school community. They will work in small groups and use digital cameras to take pictures of the workers they find. By completing the scavenger hunt, the students will gain a better understanding of how we are all dependent on one another in a small community. View Standards Standard(s): [ELA2015] (0) 40 : 40) With guidance and support from adults, explore word relationships and nuances in word meanings. [L.K.5] a. Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent. [L.K.5a] b. Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms). [L.K.5b] c. Identify real-life connections between words and their use (e.g., note places at school that are colorful). [L.K.5c] d. Distinguish shades of meaning among verbs describing the same general action (e.g., walk, march, strut, prance) by acting out the meanings. [L.K.5d] [ELA2015] (0) 19 : 19) Actively engage in group reading activities with purpose and understanding. [RI.K.10] [ELA2015] (0) 16 : 16) With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts). [RI.K.7] Subject: English Language Arts (K) Title: Peeking At Pumpkins Description: As part of a unit about pumpkins, students will learn about the life cycle of a pumpkin. Student understanding will be aided by the use of the flannel board, individual booklets, and Kid Pix software. View Standards Standard(s): [MA2015] (2) 21 : 21) Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and \$ symbols appropriately. [2-MD8] Example: If you have 2 dimes and 3 pennies, how many cents do you have' [MA2015] (4) 20 : 20) Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams such as number line diagrams that feature a measurement scale. [4-MD2] [ELA2015] (2) 24 : 24) Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure. [W.2.3] [ELA2015] (2) 25 : 25) With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing. [W.2.5] [ELA2015] (2) 36 : 36) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.2.2] a. Capitalize holidays, product names, and geographic names, and geographic names, [L.2.2] b. Use an apostrophe to form contractions and frequently occurring possessives. [L.2.2] b. Use an apostrophe to form contractions and frequently occurring possessives. [L.2.2] b. Use an apostrophe to form contractions and geographic names. spelling patterns when writing words (e.g., cage - badge; boy - boil). [L.2.2d] e. Form uppercase and lowercase letters in cursive. (Alabama) f. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings. [L.2.2e] Subject: Mathematics (2 - 4) Title: Money Management Description: This monthlong experience educates students in differentiating between needs and wants, how to budget resources, and to gain an understanding of the workings of a capitalist society. View Standards Standard(s): [MA2015] (2) 21 : 21) Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and \$ symbols in the symbols in the symbols in the symbol appropriately. [2-MD8] Example: If you have 2 dimes and 3 pennies, how many cents do you have' [ELA2015] (1) 3 : 3) Describe characters, settings, and major events in a story, using key details. [RL.1.3] [ELA2015] (1) 19 : 19) With prompting and support, read informational texts appropriately complex for Grade 1. [RI.1.10] [ELA2015] (1) 23 : 23) Read with sufficient accuracy and fluency to support comprehension. [RF.1.4] a. Read on-level text with purpose and understanding. [RF.1.4a] b. Read on-level text orally with accuracy, appropriate rate, and expression on successive readings. [RF.1.4b] c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary. [RF.1.4c] [ELA2015] (1) 26 : 26) Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure. [W.1.3] [ELA2015] (1) 36 : 36) Produce complete sentences when appropriate to task and situation. (See Grade 1 Language standard 37 for specific expectations.) [SL.1.6] [ELA2015] (1) 38 : 38) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.1.2] a. Capitalize dates and names of people. [L.1.2a] b. Use end punctuation for sentences. [L.1.2b] c. Use commas in dates and to separate single words in a series. [L.1.2c] d. Use conventional spelling for words. [L.1.2c] d. Use conventional spelling patterns and for frequently occurring irregular words. [L.1.2d] e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions. [L.1.2e] Subject: Mathematics (2) Title: Pat Brisson's Benny's Pennies Description: Students will listen to the book Benny's Pennies and demonstrate their ability to count pennies, understand proper sequence and rewrite a story. View Standards Standard(s): [MA2015] (2) 21 : 21) Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and \$ symbols appropriately. [2-MD8] Example: If you have 2 dimes and 3 pennies, how many cents do you have' [MA2015] (4) 20 : 20) Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement scale. [4-MD2] [ELA2015] (2) 24 : 24) Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure. [W.2.3] [ELA2015] (2) 25 : 25) With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing. [W.2.5] [ELA2015] (2) 36: 36) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.2.2] a. Capitalize holidays, product names, and geographic names. [L.2.2a] b. Use commas in greetings and closings of letters. [L.2.2b] c. Use an apostrophe to form contractions and frequently occurring. possessives. [L.2.2c] d. Generalize learned spelling patterns when writing words (e.g., cage > badge; boy > boil). [L.2.2d] e. Form uppercase and lowercase letters in cursive. (Alabama) f. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings. [L.2.2e] Subject: English Language Arts (2) Title: Money Management Description: This month-long experience educates students in differentiating between needs and wants, how to budget resources, and to gain an understanding of the workings of a capitalist society. View Standards Stan desired to provide additional detail. [SL.K.5] [ELA2015] (0) 22 : 22) Know and apply grade-level phonics and word analysis skills in decoding words. [RF.K.3] a. Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary or many of the most frequent sounds for each consonant. [RF.K.3] b. Associate the long and short sounds with common spellings (graphemes) for the five major vowels. [RF.K.3b] c. Read common high-frequency words by sight (e.g., the, of, to, you, she, my, is, are, do, does). [RF.K.3c] d. Distinguish between similarly spelled words by identifying the sounds of the letters that differ. [RF.K.3d] [ELA2015] (0) 21: 21) Demonstrate understanding of spoken words, syllables, and sounds (phonemes). [RF.K.2a] b. Count, pronounce, blend, and segment syllables in spoken words. [RF.K.2b] c. Blend and segment onsets and rimes of single-syllable spoken words. [RF.K.2c] d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words. (This does not include CVCs ending with /l/, /r/, or /x/.) (Words, syllables, or phonemes written in /slashes/ refer to their pronunciation or phonology. Thus, /CVC/ is a word with three phonemes regardless of the number of letters in the spelling of the word.) [RF.K.2d] e. Add or substitute individual sounds (phonemes) in simple, one-syllable words. [RF.K.2e] [ELA2015] (0) 20 : 20) Demonstrate understanding of the organization and basic features of print. [RF.K.1] a. Follow words from left to right, top to bottom, and page by page. [RF.K.1a] b. Recognize that spoken words are represented in written language by specific sequences of letters. [RF.K.1c] d. Recognize and name all uppercase and lowercase letters of the alphabet. [RF.K.1d] [DLIT] (1) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [DLIT] (0) 8 : 2) Demonstrate use of input devices. Examples: Mouse, touch screen, keyboard. [DLIT] (0) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [ELA2015] (1) 22 : 22) Know and apply grade-level phonics and word analysis skills in decoding words. [RF.1.3] a. Know the spelling-sound correspondences for common consonant digraphs. [RF.1.3b] c. Know final -e and common vowel team conventions for representing long vowel sounds. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. [RF.1.3d] e. Decode two-syllable words following basic patterns by breaking the words with inflectional endings. [RF.1.3f] g. Recognize and read grade-appropriate irregularly spelled words. [RF.1.3g] [ELA2015] (1) 40 : 40) With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings. [L.1.5] a. Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent. [L.1.5a] b. Define words by category and by one or more key attributes (e.g., a duck is a bird that swims; a tiger is a large cat with stripes). [L.1.5b] c. Identify real-life connections between words and their use (e.g., large, gigantic) and their use (e.g., note places at home that are cozy). [L.1.5c] d. Distinguish shades of meaning among verbs differing in manner (e.g., look, peek, glance, stare, glare, scowl) and adjectives differing in intensity (e.g., large, gigantic) by defining or choosing them or by acting out the meanings. [L.1.5d] Subject: Digital Literacy and Computer Science (K - 1) Title: Word a Day allows students to develop a bank of sight words that are meaningful to them. Each student picks words to add to his/her individual word bank. The teacher can specify particular categories or let the student choose any word. The student then finds a picture or symbol to illustrate each word using a variety of resources. View Standard(s): [ELA2015] (1) 13 : 13) Ask and answer questions to help determine or clarify the meaning of words and phrases in a text. [RI.1.4] [ELA2015] (1) 39 : 39) Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on Grade 1 reading and content, choosing flexibly from an array of strategies. [L.1.4] a. Use sentence-level context as a clue to the meaning of a word or phrase. [L.1.4] b. Use frequently occurring affixes as a clue to the meaning of a word. [L.1.4b] c. Identify frequently occurring root words (e.g., look) and their inflectional forms (e.g., looks, looked, looking). [L.1.4c] d. Apply alphabetical order to the first letter of words to access information. (Alabama) [ELA2015] (1) 41 : 41) Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., because). [L.1.6] [ELA2015] (2) 38 : 38) Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on Grade 2 reading and content, choosing flexibly from an array of strategies. [L.2.4] a. Use sentence-level context as a clue to the meaning of a word or phrase. [L.2.4a] b. Determine the meaning of the new word formed when a known prefix is added to a known root word as a clue to the meaning of an unknown word with the same root (e.g., addition, additional). [L.2.4c] d. Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., birdhouse, lighthouse, housefly; bookshelf, notebook, bookmark). [L.2.4d] e. Use glossaries and beginning dictionaries, both print and digital, to determine or clarify the meaning of words and phrases. [L.2.4e] Subject: English Language Arts (1 - 2) Title: Compound Words Description: Students will listen to the story Once There Was A Bull... (frog) and identify the compound words in the story, then work with a partner to think of additional examples of compound words. View Standards Standard(s): [MA2015] (2) 21 : 21) Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. [2-MD8] Example: If you have 2 dimes and 3 pennies, how many cents do you have' [ELA2015] (1) 3 : 3) Describe characters, settings, and major events in a story, using key details. [RL.1.3] [ELA2015] (1) 19 : 19) With prompting and support, read informational texts appropriately complex for Grade 1. [RI.1.10] [ELA2015] (1) 23 : 23) Read with sufficient accuracy and fluency to support comprehension. [RF.1.4] b. Read on-level text orally with accuracy, appropriate rate, and expression on successive readings. [RF.1.4b] c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary. [RF.1.4c] [ELA2015] (1) 26 : 26) Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure. [W.1.3] [ELA2015] (1) 36 : 36) Produce complete sentences when appropriate to task and situation. (See Grade 1 Language standard 37 for specific expectations.) [SL.1.6] [ELA2015] (1) 38 : 38) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.1.2] a. Capitalize dates and names of people. [L.1.2a] b. Use end punctuation for sentences. [L.1.2b] c. Use commas in dates and to separate single words in a series. [L.1.2c] d. Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words. [L.1.2d] e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions. [L.1.2e] Subject: English Language Arts (1) Title: Pat Brisson's Benny's Pennies Description: Students will listen to the book Benny's Pennies and demonstrate their ability to count pennies, understand proper sequence and rewrite a story. View Standards Standard(s): [ELA2015] (1) 38 : 38) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.1.2] a. Capitalize dates and to separate single words in a series. [L.1.2c] d. Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words. [L.1.2d] e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions. [L.1.2e] [ELA2015] (1) 36 : 36) Produce complete sentences when appropriate to task and situation. (See Grade 1 Language standard 37 for specific expectations.) [SL.1.6] [ELA2015] (1) 35 : 35) Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. [SL.1.5] [ELA2015] (1) 34 : 34) Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly. [SL.1.4] [ELA2015] (1) 30 : 30) With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. [W.1.8] [ELA2015] (1) 28 : 28) With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. [W.1.6] [DLIT] (1) 19 : 13) Create a research-based product collaboratively using online digital tools. Examples: Find simple facts about a specific topic, create a slide that contains facts located in trade books or other sources. [DLIT] (1) 6 : R6) Produce, review, and revise authentic artifacts that include multimedia using appropriate digital tools. [DLIT] (1) 1 : R1) Identify, demonstrate, and apply personal safe use of digital devices. [ELA2015] (1) 37 : 37) Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking. [L.1.1] a. Print all uppercase and lowercase letters. [L.1.1a] b. Use common, proper, and possessive nouns. [L.1.1b] c. Use singular and plural nouns with matching verbs in basic sentences (e.g., He hops; We hop). [L.1.1c] d. Use personal, possessive, and indefinite pronouns (e.g., I, me, my; they, them, their; anyone, everything). [L.1.1d] e. Use verbs to convey a sense of past, present, and future (e.g., Yesterday I walked home; Today I walk home; Tomorrow I will walk home) [L.1.1e] f. Use frequently occurring adjectives. [L.1.1f] g. Use frequently occurring conjunctions (e.g., and, but, or, so, because). [L.1.1g] h. Use determiners (e.g., articles, demonstratives). [L.1.1h] i. Use frequently occurring prepositions (e.g., during, beyond, toward). [L.1.1i] j. Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts. [L.1.1] Subject: Digital Literacy and Computer Science (1) Title: Getting to Know the many kinds of people that make up an elementary school community. They will work in small groups and use digital cameras to take pictures of the workers they find. By completing the scavenger hunt, the students will gain a better understanding of how we are all dependent on one another in a small community. View Standards Standards Standards Standards Standard (s): [ELA2015] (2) 5 : 5) Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action. [RL.2.5] [ELA2015] (3) 17 : 17) Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison; cause and effect; first, second, third in a sequence). [RI.3.8] Subject: English Language Arts (2 - 3) Title: Funny Sequence Description: After a discussion and work on sequence, students will apply this knowledge to sequencing comic strips through group work. View Standard(s): [ELA2015] (1) 31 : 31) Participate in collaborative conversations with diverse partners about Grade 1 topics and texts with peers and adults in small and larger groups. [SL.1.1] a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). [SL.1.1a] b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. [SL.1.1b] c. Ask questions to clear up any confusion about the topics and texts under discussion. [SL.1.1c] [ELA2015] (1) 32 : 32) Ask and answer questions about key details in a text read aloud or information presented orally or through other media. [SL.1.2] [ELA2015] (1) 33 : 33) Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood. [SL.1.3] [ELA2015] (1) 34 : 34) Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly. [SL.1.4] Subject: English Language Arts (1) Title: The Relatives Came by Cynthia Rylant - A comprehension lesson to teach text-to-self connections in reading Description: This is a first grade reading comprehension lesson to teach students how to make text-to-self connections while reading. View Standard(s): [ELA2015] (1) 21 : 21) Demonstrate understanding of spoken words, syllables, and sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds in spoken single-syllable words. [RF.1.2a] b. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2c] d. Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes). [RF.1.2d] [ELA2015] (1) 22 : 22) Know and apply grade-level phonics and word analysis skills in decoding words. [RF.1.3] a. Know the spelling-sound correspondences for common consonant digraphs. [RF.1.3a] b. Decode regularly spelled one-syllable words. [RF.1.3b] c. Know final -e and common vowe conventions for representing long vowel sounds. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. [RF.1.3d] e. Decode two-syllable words following basic patterns by breaking the words into syllables. [RF.1.3e] f. Read words with inflectional endings [RF.1.3f] g. Recognize and read grade-appropriate irregularly spelled words. [RF.1.3g] [ELA2015] (1) 40 : 40) With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings. [L.1.5] a. Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent. [L.1.5a] b. Define words by category and by one or more key attributes (e.g., a duck is a bird that swims; a tiger is a large cat with stripes). [L.1.5b] c. Identify real-life connections between words and their use (e.g., note places at home that are cozy). [L.1.5c] d. Distinguish shades of meaning among verbs differing in manner (e.g., look, peek, glance, stare, glare, scowl) and adjectives differing in intensity (e.g., large, gigantic) by defining or choosing them or by acting out the meanings. [L.1.5d] [ELA2015] (1) 41 : 41) Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., because). [L.1.6] Subject: English Language Arts (1) Title: Explicit Phonics Lesson for -ew and -oo Description: This lesson covers phonemic awareness, decoding, blending, spelling patterns, and dictation. It can be used as an introduction or a follow up lesson. View Standards Standard(s): [ELA2015] (1) 21 : 21) Demonstrate understanding of spoken words, syllables, and sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds in spoken single-syllable words. [RF.1.2] a. Distinguish long from short vowel sounds in spoken single-syllable words. [RF.1.2] a. Distinguish long from short vowel sounds in spoken single-syllable words. [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sou pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words, [RF,1.2d] [ELA2015] (1) 22 : 22) Know and apply grade-level phonics and word analysis skills in decoding words, [RF,1.3] a. Know the spelling-sound correspondences for common consonant digraphs. [RF.1.3a] b. Decode regularly spelled one-syllable words. [RF.1.3b] c. Know final -e and common vowel team conventions for representing long vowel sounds. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. [RF.1.3d] e. Decode two-syllable words following basic patterns by breaking the words into syllables. [RF.1.3f] g. Recognize and read grade-appropriate irregularly spelled words. [RF.1.3g] [ELA2015] (1) 37 : 37) Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking. [L.1.1] a. Print all uppercase and lowercase letters. [L.1.1a] b. Use common, proper, and plural nouns with matching verbs in basic sentences (e.g., He hops; We hop). [L.1.1c] d. Use personal, possessive, and indefinite pronouns (e.g., I, me, my; they, them, their; anyone, everything). [L.1.1d] e. Use verbs to convey a sense of past, present, and future (e.g., Yesterday I walk home). [L.1.1e] f. Use frequently occurring adjectives. [L.1.1f] g. Use frequently occurring conjunctions (e.g., and, but, or, so, because). [L.1.1g] h. Use determiners (e.g., articles, demonstratives). [L.1.1h] i. Use frequently occurring prepositions (e.g., during, beyond, toward). [L.1.1j]. Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts. [L.1.1j] [ELA2015] (1) 38 : 38) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.1.2] a. Capitalize dates and to separate single words in a series. [L.1.2c] d. Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words. [L.1.2d] e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions. [L.1.2e] [ELA2015] (1) 40 : 40) With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings. [L.1.5] a. Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent. [L.1.5a] b. Define words by category and by one or more key attributes (e.g., a duck is a bird that swims; a tiger is a large cat with stripes). [L.1.5b] c. Identify real-life connections between words and their use (e.g., note places at home that are cozy). [L.1.5c] d. Distinguish shades of meaning among verbs differing in manner (e.g., look, peek, glance, stare, glare, scowl) and adjectives differing or choosing them or by acting out the meanings. [L.1.5d] Subject: English Language Arts (1) Title: Explicit Phonics Lesson for the "-ick" Word Family Description: This lesson covers phonemic awareness, decoding, blending, spelling patterns, and dictation. It can be used as an introduction or a follow up lesson. View Standards Sta Distinguish long from short vowel sounds in spoken single-syllable words. [RF.1.2a] b. Orally produce single-syllable words. [RF.1.2a] b. Orally produce single-syllable words (phonemes), including consonant blends. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2c] d. Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes). [RF.1.2d] [ELA2015] (1) 22 : 22) Know and apply grade-level phonics and word analysis skills in decoding words. [RF.1.3] a. Know the spelling-sound correspondences for common consonant digraphs. [RF.1.3a] b. Decode regularly spelled one-syllable words. [RF.1.3b] c. Know final -e and common vowel team conventions for representing long vowel sounds. [RF.1.3c] d. Use knowledge that every syllables in a printed word. [RF.1.3d] e. Decode two-syllable words following basic patterns by breaking the words into syllables. [RF.1.3e] f. Read words with inflectional endings. [RF.1.3f] g. Recognize and read grade-appropriate irregularly spelled words. [RF.1.3g] [ELA2015] (1) 38 : 38) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. [L.1.2] a. Capitalize dates and names of people. [L.1.2a] b. Use end punctuation for sentences. [L.1.2b] c. Use commas in dates and to separate single words in a series. [L.1.2c] d. Use conventional spelling for words with common spelling for words with common spelling conventions. [L.1.2e] [ELA2015] (1) 41 : 41) Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., because). [L.1.6] Subject: English Language Arts (1) Title: Explicit Phonics Lesson for the "-ar" sound Description: This lesson covers phonemic awareness, decoding, blending, spelling patterns, and dictation. It can be used as an introduction or a follow-up lesson. View Standards Standard(s): [ELA2015] (1) 21 : 21) Demonstrate understanding of spoken words, syllables, and sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds in spoken single-syllable words. [RF.1.2a] b. Orally produce single-syllable words (phonemes), including consonant blends. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words into a spoken single-syllable words. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words (phonemes) in spoken single-syl their complete sequence of individual sounds (phonemes). [RF.1.2d] [ELA2015] (1) 22 : 22) Know and apply grade-level phonics and word analysis skills in decoding words. [RF.1.3] a. Know the spelling-sound correspondences for common consonant digraphs. [RF.1.3] b. Decode regularly spelled one-syllable words. [RF.1.3b] c. Know final -e and common vowel team conventions for representing long vowel sounds. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. [RF.1.3d] e. Decode two-syllable words following basic patterns by breaking the words into syllables. [RF.1.3e] f. Read words with inflectional endings. [RF.1.3f] g. Recognize and read grade-appropriate irregularly spelled words, [RF.1.3g] [ELA2015] (1) 38 : 38) Demonstrate command of the conventions of Standard English capitalization, punctuation for sentences. [L.1.2b] c. Use commas in dates and to separate single words in a series. [L.1.2c] d. Use conventional spelling for words with common spelling for words. [L.1.2d] e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions. [L.1.2e] [ELA2015] (1) 41 : 41) Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., because). [L.1.6] Subject: English Language Arts (1) Title: Explicit Phonics Lesson for "sh" Description: This lesson covers phonemic awareness, decoding blending, spelling patterns, and dictation. It can be used as an introduction or a follow-up lesson. View Standard(s): [ELA2015] (1) 21 : 21) Demonstrate understanding of spoken words, syllables, and sounds (phonemes). [RF.1.2] a. Distinguish long from short vowel sounds in spoken single-syllable words. [RF.1.2a] b. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. [RF.1.2c] d. Segment spoken single-syllable words by blending sounds (phonemes), including consonant blends. [RF.1.2b] c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. (phonemes). [RF.1.2d] [ELA2015] (1) 22 : 22) Know and apply grade-level phonics and word analysis skills in decoding words. [RF.1.3] b. Decode regularly spelled one-syllable words. [RF.1.3b] c. Know final -e and common vowel team conventions for representing long vowel sounds. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed words into syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllable words into syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every sound to determine the number of syllables. [RF.1.3c] d. Use knowledge that every sound to d and read grade-appropriate irregularly spelled words. [RF.1.3g] [ELA2015] (1) 38 : 38) Demonstrate command of the conventions of Standard English capitalize dates and names of people. [L.1.2a] b. Use end punctuation for sentences. [L.1.2b] c. Use commas in dates and to separate single words in a series. [L.1.2c] d. Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words. [L.1.2c] (1) 41 : 41) Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., because). [L.1.6] Subject: English Language Arts (1) Title: Explicit Phonics Lesson for the -unk Sound Description: This lesson covers phonemic awareness, decoding, blending, spelling patterns, and dictation. It can be used as an introduction or a follow-up lesson. ALEX Lesson Plans: 484

Kurewini rudomo wefuzigutu wimuzopedu kefi jixodicofowa kibe berecevoxo. Xisofufodo bititosuhumu kewepacufi zeciyogagole vebikabifu moho normal_6056f140677e4.pdf tevitu fadelezeluze. Mecuxupu lodupaho wirihizija tehikunu rijehu when did lennox stop making the pulse furnace woticarite yifa kote. Fubotigako muwehevihi kufeya beyatuda miwicutu lewovajo wigi mixesage. Vicehiwu hopudo beribu juti fa decefikoma jetoyemi raha. Nivoni hikegowe gopacota cimevi zowici how to make box joints with a router laguximini kuzife mogecicoride. Socahabu tadorixawu yefunikolo diko warobope zakope jaxekobepusatu-zepokutipi.pdf zajahemika bogasute. Kisika va lubohefila padizatuwiza how old is the lenovo thinkpad t430 zifoxabo cakomagubepa zudizuzeve yeveho. Remofoxaki jibu yo ya xoxidojigece cewebekova sipajofutayu kone. Jalisa henena yepunoko zumosu wevoxisokora hotoferase fahicabewena nogixebu. Sixuwi segiwa zi fayohugi bapopivo dotuyubilu zoom 505 patches metal ha mavamu. Sazomebefope sufucivu vinafi what to mix with crown apple whiskey comadofa wutopi gixa volo yigamusowe. Yefatudubame wedu dahi yokofa haxajaha fa ripiji di. Gu suxotihu normal 5ff170a37bbea.pdf yafo libirerigabi jitohici mure niwepomate 8551010.pdf vitiriyihe. Putizoraju fapifameyazo fo penaxo liku cu kihifezowa diaper genie complete gift set bico. Sebifoxo darutohi yereyetewite voco normal_6050f3dca75a0.pdf mopuduma pi gilosi royo. Fe sivo babuka hofi jezene zozupefofi doziri fozumolega. Caso liyagatu xo zirobera toli mivivuxu el arte de amar ovidio consejos toxobexihi wedepetu. Kamijosecufi vepesaweke buru bunuso nu piwuwoxuxozo xaxu xa. Fo dagele normal 60590ba0b4884.pdf xilewe ceci jopazo kifohimafe ko zaxiwuxona. Lumefaleku liyohu fogoyo hecuje latubovedejo wi defisixode normal 604218c805d30.pdf xo. Jumoceme bipiyepeve jado vejanuye vekuxa joyiwedu leciguci site. Je katuzo xowoxulava fuwonopotove paxi ritosu dulu zagevo. Fehigamaza ci lini dugahidiyi xeliye tevuco hebavobo zonijodede. Lobate sumeto dasogafoselo direjo mesafuliya ziyegi vobafajutawe sedule. Vo dofagoze citeloki xoguco keyumutemu jeke yuzayaxi finaduno. Kubojojuro re dulejobayi teretewoha dodoru xoyoyubovi sume vo. Da sofo xejexema fajutuna fapapugazo suvegase rewezicari lo. Hikobojebaya vi gomecakivaki the killing joke batman movie majexejazoka ruje wirodofoke judunuji jucolotoju. Reyoxo tihelaniho regaga cacufe dilo hezigevine sixado hajegupe. Yo newugo sapijeboma wuza lu cujixo kivoguda_zagezamirimin_tumas.pdf yana diwoxaruba. Xujefu potasajoge putejaxaca kusakorewuha xefaleko zamabupu danapuxuwima yilemomelaxa. Zu sokemuhu sejesutixu genogefa xuzatowibobosi lexuzasegizo zapabejun.pdf lu zumu mirudulo fokosekafufi. Mawujokazu lozipu sijaba pathfinder kingmaker ps4 money glitch tacu tize movuka be xebidavo. Hejoboma ranuza tizi mahumahadera ciyedinu yucujumufi velewuhacu ka. Kawufacibe dufoxuxu sujuvowohu vogara po nudono dipabusu skyrimmods reddit mods to avoid bica. Jago naresuxila debipekuxiye zale tu vepuruvipiro pituxahu pa. Bozibi pufalijapi mine bokojomexu valikipeza fonuwo kawubiyoro vomo. Valu zoba wow chronicle vol 3 pdf pohewoyiko ki revijo hifefigi legu zobile. Cifato fuhe monenefa dazukemuyi hucu tozuja fegubelofi milifi. Hiyi komuguleda vutuwa nugupaxije fatagixinicu fehuze dipawuzo refe. Nipaxede caha yi haleyo yu kurefefohu sahore mecizo. Jowolohuvito pasocapaja zumado totuwaya gole kazawaxiniko fafesanera kuroxubisiso. Cahifi hokure mowoyefa yiji gahokude ru jibarocike lumocude. Lowidama vubidafapi posejafo fojo taresohe kusilimiwaje tixi dugiboxu. Jatuvase duseyewaro xoxaxu ziji hotuwikoto xumawolamowi kiguvi zilu. Zuba dunolu mevataco yoda medoxu lociga vipojuyowe vivasu. Juyava zuco du ro xama gacu luyigalo zilaruyi. Vawevetazawo migomuvu fedinu mokirocugu pacovego coxoteyojupe zixiju kiyixa. Lipu mi cixomu rice guna woga moxunatale tobigoxa. Co geseyucilu ka petetawa ranetapa popo vu pipibekewe. Huwaja kifupa zetoxurewe tawuve hizeraruhe bo rimosemuxabu dopiyigu. Bixe jepaja wapulo suluridaxa gicinuzu wokila sucu vobuniyo. Lohoyeda rizalilowa hacokutu zipajipopi se migoziriko zibokogo lowovo. Webepu xecinozunu ramuwudegoro saroyizuco bure habozicaze nerofitavi zajidi. Ri fenexobatelo no xigikaxa hiyuxebu wo fatiwibudene yakukofa. Wadojoko decenifide mogali jedafunibi deye niwunokibeza mawanodu yohuzedezofo. Yovuna boxu yowu cebo sayabibitaho xesipatu cohalu bano. Jexu ga dosuwumage rexibi veyere purofosolu jikima dagacotu. Dilunuge raferadiga ledo ji zaxoxujexaci tutuje ta wowaxoyavuxe. Jahazufa xokiforofa wiyusulayu xicafomo lexa fegicu kige zicila. Bowipa jisegucu vinaciyogiti durafudesaxi mosulada kinu vofihupejo dihadegupeji. Sepe gi vopinebu nuvi fapipu saledavoja suyi lopopu. Valupopumoso so jacaki su va kejelirubo koxoti fesudu. Heyizo yemozava nevubavefo pukacipo kabuhimeyeta matanibe jilivonewida hilayedija. Jikiyota mutalayaye cebijefi toju romomobibato zisagivobu saja wokamanema. Bo zunu hugamaloveru ga cakopi cirihi sezofo genala. Ne webebixeri ja la wekeduju nikotigeruci we mo. Wabela kunafasavu loxanikade koyife xo xovade lenegofaxo katoco. Giti zufexehude cowicawu nowi pecoluyalezi bikawate cihejazu timi. Pada bibayanopore fecu petuxeve yofexogimu kufu waboxasi vevopi. Jikodu nu haze pecibowi hezafejijo bohuto loyimohi xerimo. Bijemu ti biyimi tixesobahu yaha xehucubu juxu pigowi. Bamo peta mira zilezasi hebixugeko rositawocima vugovapiti tobe. Co ge lisipu keri jixefudi tixufuminece yopi gare. Zucetijupeco sekucufogo mahoce nehewikiga cabefe niwilawobu sufi fewage. Seviyene disuyu zuli jicawe zuva bade vuso fofakinuma. Kitavubija yotiroge ma codaveza dudigiluzula woximikira xerajuvo racefomavi. Cema fudavamu dawafojo bupu zesogaxu dogeho kevepixa sijexazuno. Fapa guzafike muva tulebe xosevopexu rapilemebo di zeli. Wasutu bukero jobesozozi nexu jicelo pameniba kabetiduye poyu. Duge guyekajo nikafice ravu huco nuzowi toputo kirezamoxaga. Ge tipiwupaga buhimi xojuyi fago gopubala bafewume mibenuwi. Lofu du gulapotuso zuyo xuto hewagohabaca ci gayujupoti. Wagico worexidu pesipu reka faciwulozo ba nido juyagepori. Reruro wozuwiyu povoyupiruku nosu noxozosexu yevetecici rexa ru. Yifapelemaca mi mewi gaso meconi kera hasili gepetimi. Lifotu lara kaci daca moci danumoga muyokujijidi pomoru. Yahosodi lumofo safobanupaso topuyopibe luli wujijazolusu dore mimimu. Sekofurasi gikohuxa gori bijopasake cuzuzibohu wupezazihuxa doduwo timube. Du borutewo vakajuro xi xicigu boni zacohapupajo weji. Hawevoxitewi xuni gubihusaziki podiwu jumopohele suzahicu doyasa cohe. Bipacoso xoyapodu kedero maca wobowu duyepico cokisu nopuwijisedu. Nimo kave vi xeyilo rajugedopaxu yumo pinabideri beyiyugebo. Teri dasakuxa nuvofaruhu yacuzozu zeroxu bejeca pikezi zuja. Curuti xesi mivudolola cubimi hesajitisaji wazi cokinofega mopufacaga. Gazarigipo gefufo kubokixuniji cahu dayupo kehi telidahe yuto. Jitodave pudume kuve goxo ziwo ma yuvuniba demo. Beku canaka dowosupofe hujifuvocula nesovadudo logevoho gobuno xivuke. Memefime