

4th Integrated Language Arts and Science Thematic Units

Theme-- Beg. of the Year	Big Idea	Science	Literacy (Reading and Writing)	Strategies	WIDA Standards
Introduction					
Unit 1	Big Idea	Science	Literacy (Reading and Writing)	Strategies	WIDA Standards
Energy	I want my students to understand that energy is present and can be transferred whenever there are moving objects, sound, light or heat.	4-PS3-1. Use evidence to construct an explanation relating the speed of an object to the energy of that object. 4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents. 4-PS3-3. Ask questions and predict outcomes about the changes in energy that occur when objects collide. 4-PS3-4. Apply scientific changes to design, test, and refine a device that converts energy from one form to another. 4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.	RI.4.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. RI.4.3 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.4.9 Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. W.4.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly. W.4.7 Conduct short research projects that	Ask Questions Use Background Knowledge Make Predictions Take Observation Notes Monitor/Identify Problems	Infer make predictions, hypothesize Evaluate Evaluate outcomes and tests Justify and Persuade give reasons to support a point of view Solve Problems define a problem and determine solutions

			build knowledge through investigation of different aspects of a topic. W.4.8 Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. W.4.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.		
Unit 2	Big Idea	Science	Literacy (Reading and Writing)	Strategies	WIDA Standards
Waves: Waves and Information	I want my students to understand that waves are used to transfer energy and information.	4-PS4-1. Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move. 4-PS4-3. Generate and compare multiple solutions that use patterns to transfer information.	RI.4.5 Describe the overall structure of events, ideas, concepts, or information in a text or part of a text. RI.4.8 Explain how an author uses reasons and evidence to support particular points in a text.	Find/Apply Patterns Personalize Summarize	Compare compare multiple solutions Analyze find patterns Synthesize Combine ideas to create a new whole
Unit 3	Big Idea	Science	Literacy (Reading and Writing)	Strategies	WIDA Standards
Structure, Function, and	I want my students to	4-PS4-2. Develop a model to describe that light reflecting from		Descriptive writing	Seek Information collect information

Information Processing	understand that organisms have both internal and external structures that serve various functions in growth, survival, behavior and reproduction.	objects and entering the eye allows objects to be seen. 4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. 4-LS1-2. Use model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to information in different ways.		Constructing an argument	Justify and Persuade construct an argument Classify group structures and functions
Unit 4	Big Idea	Science	Literacy (Reading and Writing)	Strategies	WIDA Standards
Earth's Systems: Processes that Shape the Earth	I want my students to understand how and why the Earth is constantly changing.	4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time. 4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation. 4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features. 4-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.		Gather evidence Observation notes Analyze and interpret data Compare	Seek Information Order Analyze Inform
Unit 5	Big Idea	Science	Literacy (Reading and Writing)	Strategies	WIDA Standards
Engineering Design	I want my students to understand the relationships	3-5-ETS-1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for		Plan/Organize	Solve Problems Evaluate Compare

	between science, engineering and technology.	success and constraints on materials, time, or cost. 3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. 3-5-ETS1-3. Plan and carry out for tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.			Infer Order
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