

## UNIT 4

<b>Course:</b> Language Arts/Science/SEL	<b>Grade Level:</b> 4th Grade
<b>Unit Title:</b> Energy Transfer	<b>Length of Unit:</b> Until the end of the second trimester - Approximately 6 weeks
<p><b>Unit Summary:</b> Students are expected to develop an understanding that energy can be transferred from place to place by sound, light, heat, and electric currents or from object to object through collisions. They apply their understanding of energy to design, test, and refine a device that converts energy from one form to another. Students will use a variety of reading strategies (i.e. text structure) to read a wide range of texts (including scientific) in order to make connections between different media representations of the text, deepening their understanding. Students will identify a topic for research, engage in the process of gathering information and investigating different aspects of this topic. Students will use the writing process and information gathered in research to write a well organized informational/explanatory text that includes an introduction, development of the topic with examples and precise word choice and a conclusion related to the information presented.</p> <p><b>SEL</b> Throughout this unit, students will be asked to <u>monitor their progress and self-assess</u> their ability to be self-aware of emotions and behavior in order to establish and maintain positive relationships in the classroom, home, and the community.</p>	
<b>Stage 1- Desired Results</b>	
<p><b>STANDARDS</b></p> <p><b>Priority:</b> <b>Science:</b> 4-PS3-4: Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.</p> <p><b>Language Arts:</b> RL.4.2: Determine a theme of a story, drama, or poem from details in the text; summarize the text.</p> <p>RI.4.2: Determine the main idea of a</p>	<p><b>Transfer</b></p> <p><i>Students will be able to independently use their learning to...</i></p> <p><b>TG1: Apply an understanding of energy to design, test, and refine a device that converts energy from one form to another</b></p> <p><b>TG2: Read and analyze a wide range of texts to communicate an understanding of the impact of text structure on the theme or main idea of a text.</b></p> <p><b>TG3: Engage in the research process to gather information on a topic of interest and write a well organized and detailed informational/explanatory piece on this topic.</b></p>

text and explain how it is supported by key details; summarize the text.	Meaning	
<p><b>RL.4.5:</b> Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.</p> <p><b>RI.4.5:</b> Describe the overall structure (e.g. chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts or information in a text or part of a text.</p> <p><b>W.4.2:</b> Select a topic and gather information (facts, definitions, concrete details, quotations, examples) to share with an audience.</p> <p><b>A.</b> Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aid comprehension.</p> <p><b>B.</b> Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.</p> <p><b>C.</b> Link ideas within categories of information using words and phrases (e.g., another, for example, also, because).</p>	<p><b>ENDURING UNDERSTANDINGS</b> <i>Students will understand that...</i></p> <p><b>EU1:</b> Energy can be transferred in various ways and between objects(<i>Similarities and differences in patterns can be used to sort and classify natural phenomena.</i>)</p> <p><b>EU2:</b> Engineers improve existing technologies or develop new ones. (<i>Science affects everyday life.</i>)</p> <p><b>EU3:</b> Effective readers of literary text break down the structure of texts to determine the type of text (e.g., prose, poetry, drama) and to deepen an understanding of the text; effective readers of informational text break down the structure of texts and note patterns (e.g., cause/effect, chronology, etc.) that contribute to an understanding of the text.</p> <p><b>EU4:</b> Readers make connections and draw inferences using details from the text to help determine the theme; readers make connections using details from the text to help determine the main idea.</p> <p><b>EU5:</b> Effective writers/researchers begin by generating questions about a specific topic; they use these questions to guide and focus their research.</p>	<p><b>ESSENTIAL QUESTIONS</b> <i>Students will continue to consider . . .</i></p> <p><b>EQ1:</b> What is energy and how is it related to motion? <i>How is energy transferred/transformed?</i></p> <p><b>EQ2:</b> How can energy be used to solve a problem in our everyday lives? <i>How do waves influence our everyday lives?</i></p> <p><b>EQ3:</b> How does a text's structure help me understand a text?</p> <p><b>EQ4:</b> How do readers use details to help determine the theme/main idea?</p> <p><b>EQ5:</b> How can I discover the information I need to develop my writing?</p>

<p><b>D. Use precise language and domain-specific vocabulary to inform about or explain the topic.</b></p> <p><b>E. Provide a concluding statement or section related to the information or explanation presented.</b></p> <p><b>W.4.7: Conduct short research projects that build knowledge through investigation of different aspects of a topic.</b></p>	<p><b>EU6:</b> Every day we come face to face with written material that is necessary to accomplish tasks required to live in today's world (e.g., e-mails, labels, instructions, schedules, brochures, etc.)</p> <p><b>EU7:</b> We maintain positive relationships with others when we are willing to listen to understand differing opinions.</p>	<p><b>EQ6:</b> How do we use informative writing in everyday life?</p> <p><b>EQ7:</b> Why should we examine and respect multiple opinions?</p>
<p style="text-align: center;"><b>Acquisition</b></p>		
<p><b>SEL:</b></p> <p><b>Goal 1: Develop self-awareness and self-management skills to achieve school and life success.</b></p> <p><b>Goal 2: Use social-awareness and interpersonal skills to establish and maintain positive relationships.</b></p> <p><b>Goal 3: Demonstrate decision-making skills and responsible behaviors in personal, school, and community contexts.</b></p> <p><b>Supporting:</b></p> <p>Science:</p> <p>4-PS3-2: Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat and electric currents</p> <p>4-PS4-2: Develop a model to describe that light reflecting from objects and entering the eye allows objects to be</p>	<p><i>Students will know...</i></p> <p><b>K1:</b> <a href="#">Academic Vocabulary</a></p> <p><b>Science</b></p> <p><b>K2:</b> Energy can be moved from place to place by moving objects or through sound, light, or electric currents</p> <p><b>K3:</b> Light transfers energy from place to place</p> <p><b>K4:</b> Energy can be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced to begin with by transforming the energy of motion into electrical energy.</p> <p><b>K5:</b> The expression “produce energy” typically refers to the conversion of stored energy into a desired form for practical use</p>	<p><a href="#">Year-Long English/Spanish “I Can” Statements</a></p> <p><i>Students will be skilled at...</i></p> <p><b>Science</b></p> <p><b>S1:</b> I can apply scientific ideas to solve design problems.</p> <p><b>Language Arts/Digital Literacy</b></p> <p><b>S2:</b> I can compare the text of a story with an oral presentation and find where it reflects specific descriptions in the text (RL.7)</p> <p><b>S3:</b> I can read charts, graphs, diagrams and timelines in print media (RI.7)</p> <p><b>S4:</b> I can identify text structure (RI.5)</p> <ul style="list-style-type: none"> <li>● Some information in written using time order</li> <li>● Some information is written comparing people, objects or events.</li> <li>● Some information is written telling</li> </ul>

<p>seen.</p> <p>Language Arts:            RL.4.4: Determine the meaning of words and phrases as they are used in a text, <i>including allusions, adages, and figurative language</i>.</p> <p>RI.4.4: Determine the meaning of general academic and domain specific words or phrases in a text relevant to a grade 4 topic or subject area.</p> <p>RL.4.7: Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text</p> <p>RI.4.7: Interpret information presented visually, orally, 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.</p> <p>W.4.6: 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 one page in a single sitting.</p>	<p><b>Language Arts/Digital Literacy</b>  <b>K6:</b> Reading strategies (Firsthand account (primary)/Secondhand (secondary), point of view (first/third))</p> <p><b>K7:</b> The structure of informative/ explanatory writing (chronology, comparison, cause/effect, problem/solution)</p> <p><b>K8:</b> The writing process</p> <p><b>K9:</b> How to be a responsible digital citizen</p> <p><b>SEL</b>  <b>K10:</b> Interpersonal skills</p> <p><b>K11:</b> Decision-making skills</p>	<p>causes and effects of those causes, events, ideas, or concepts.</p> <p><b>S5:</b> I can gather information and investigate different aspects of a topic in order to conduct a short research project and build knowledge. (W.7)</p> <p><b>S6:</b> I can explain or provide information about a topic or idea(s) in an informative/ explanatory piece. (W.2)</p> <ul style="list-style-type: none"> <li>• I can choose only the details and information related to the topic.</li> <li>• I can write an introduction.</li> <li>• I can organize my writing in paragraphs and sections with headings.</li> <li>• I can elaborate on my writing through the use of illustrations and/or multimedia.</li> <li>• I can include details, facts, and evidence in the form of quotations.</li> <li>• I can use linking words and phrases.</li> <li>• I can bring my paper to an end with a concluding statement or section that relates all the information or explanations presented.</li> </ul> <p><b>S7:</b> I can identify the author and title of information in multiple platforms to give credit to my sources. (Info/Dig Lit Goal 1)</p> <p><b>S8:</b> I can share my ideas and thoughts based on my reading. (Info/Dig Lit Goal 2)</p>
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