

UNIT 4

Course: Language Arts/Science/SEL	Grade Level: 1st Grade
Unit Title: Physical Science: <i>Light, Sound, Space, and Communication</i>	Length of Unit: Until the end of the second trimester - Approximately 6 weeks
Unit Summary: In this unit, students will use the skills acquired to begin to understand the importance of the physics behind sound and light, and eventually waves of all types. Today’s most advanced technologies are based upon the physics of sound and light waves. Light still is used as universal symbols for such things as distress calls at sea, to advertise an event, or even to stop cars at intersections. While seemingly simple technology today, future advancement in technology is reliant upon these basic phenomena. Throughout the year, the crosscutting concepts of patterns and structure and functions can serve as a focus for the disciplinary core ideas. Students will also have opportunities to build and apply their scientific knowledge through engineering practices. Students will use a variety of reading strategies in order to determine main idea and key details, make connections and locate information in a wide range of text types. Students will explain the differences between books that tell stories and books that give information and be able to ask and answer questions about the key details in those books. Students will write and/or present informational pieces to inform/teach others about a topic of interest explored through shared research, in which the topic is named, facts are supplied and there is a sense of closure.	
SEL Throughout this unit, students will be asked to <u>monitor their progress and self-assess</u> their ability to recognize that others may feel differently than they do about the same situation and they will use listening skills to identify the feelings and opinions of others.	
Stage 1- Desired Results	
STANDARDS Priority: Science: 1-PS4-1: Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. 1-PS4-4: Use tools and materials to	Transfer
	<i>Students will be able to independently use their learning to...</i>
	TG1: Apply an understanding of sound and light to plan and conduct investigations, make observations, and use tools and materials to develop a solution to a real-world problem. TG2: Demonstrate an understanding of a text’s central message, lesson, or main topic by using key details to support a retelling of the text, and explain the differences

<p>design and build a device that uses light or sound to solve the problem of communicating over a distance.</p> <p>Language Arts: RL.1.2: Retell stories, including key details, and demonstrate understanding of their central message or lesson.</p> <p>RI.1.2: Identify the main topic and retell key details of a text.</p> <p>RL.1.5: Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.</p> <p>RI.1.5: Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.</p> <p>W.1.2: Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.</p> <p>W.1.7: Participate in shared research and writing projects.</p> <p>SEL Goal 1: Develop self-awareness and self-management skills to achieve school and life success.</p> <p>Goal 2: Use social-awareness and</p>	<p>between texts that tell stories and texts that give information.</p> <p>TG3: Write and/or present an informative/explanatory piece about a topic of interest, explored through shared research, in which the topic is named, facts are supplied and there is a sense of closure.</p>	
	<p>Meaning</p>	
	<p>ENDURING UNDERSTANDINGS <i>Students will understand that...</i></p> <p>EU1: People use a variety of devices to communicate (send and receive information) over long distances; <i>(People depend on various technologies in their lives; human life would be very different without technology.)</i></p> <p>EU2: Light and sound are forms of energy and they travel in waves; <i>(simple tests can be designed to gather evidence to support or refute student ideas about causes.)</i></p> <p>EU3: Fiction and informational text are written for different purposes and are organized differently; effective readers use appropriate strategies to construct meaning and analyze texts and media for various purposes.</p> <p>EU4: Text features found in informational text are tools that a reader can use to help them understand the text; illustrations and details work together to help readers gain a full understanding of a text.</p>	<p>ESSENTIAL QUESTIONS <i>Students will continue to consider . . .</i></p> <p>EQ1: How can light and sound be used to communicate?</p> <p>EQ2: How do sound and light move? How do we know sound and light move?</p> <p>EQ3: How is informational text different from fictional text? How does <i>what</i> I read influence <i>how</i> I read?</p> <p>EQ4: How do the text features in informational text help me locate and understand the facts? <i>How do illustrations and details help a reader understand a text?</i></p>

<p>interpersonal skills to establish and maintain positive relationships.</p> <p>Goal 3: Demonstrate decision-making skills and responsible behaviors in personal, school, and community contexts.</p> <p>Supporting: Science: 1-PS4-3: Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light</p>	<p>EU5: Researchers draw on information that is acquired from a variety of sources and that answer questions about the topic being researched.</p> <p>EU6: Writers/Speakers will often retell, sequence, and share information they have read/viewed in order to explain and/or teach.</p> <p>EU7: When we accept differences and work collaboratively we create a respectful environment.</p>	<p>EQ5: How do I know which resources fit my needs?</p> <p>EQ6: How can I use my words to share my learning with others?</p> <p>EQ7: How should we respond when others believe differently?</p>
<p style="text-align: center;">Acquisition</p>		
<p>K-2-ETS1-3: Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.</p> <p>Language Arts: RL.1.4: Identify words and phrases in stories or poems that suggest feelings or appeal to the senses. RI.1.4: Ask and answer questions to help determine or clarify the meaning of words and phrases in a text. RL1.7: Use illustrations and details in a story to describe its characters, setting, or events. RI.1.7: Use the illustrations and details in a text to describe its key ideas.</p>	<p><i>Students will know...</i></p> <p>K1: Academic Vocabulary</p> <p>Science K2: Sound can make matter vibrate and vibrating matter can make sound K3: People use a variety of devices to communicate (send and receive information) over long distances K4: Some materials allow light to pass through them, others allow only some light through and others block all the light and create a dark shadow on any surface beyond them, where the light cannot reach</p>	<p>Year-Long English/Spanish "I Can" Statements <i>Students will be skilled at...</i></p> <p>Science S1: I can explain a plan for an investigation and conduct investigations collaboratively to produce data that serve as the basis for evidence to answer a question. S2: I can use tools and materials provided to design a device that solves a specific problem. S3: I can describe which materials allow light to pass through and which ones do not; when light moves through different materials, different things occur.</p>

<p>W.1.6: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.</p>	<p>K5: Mirrors can be used to redirect a light beam</p> <p>Language Arts/Digital Literacy</p> <p>K6: Reading strategies</p> <p>K7: The elements of informative/explanatory writing</p> <p>K8: The writing process</p> <p>K9: The research process</p> <p>K10: Presentation skills</p> <p>K11: Differences and features of books/texts that tell stories and books/texts that give information</p> <p>K12: How to be a responsible digital citizen</p> <p>SEL</p> <p>K13: Others might have different opinions/feelings about the same situation</p>	<p>S4: I can describe how objects vibrate and create sound.</p> <p>S5: I can communicate with light or sound over a distance.</p> <p>S6: I can use tools and materials provided to design a device that solves a specific problem.</p> <p>S7: I can compare data from tests of two objects designed to solve the same problem.</p> <p>Language Arts/Digital Literacy</p> <p>S8: I can retell stories and show my understanding of the central message. (RL.2)</p> <p>S9: I can find the main topic of what I read. I can retell important details of a text. (RI.2)</p> <p>S10: I can talk about the differences between books that tell stories and give information. (RL.5)</p> <p>S11: I can use text features to find information. (RI.5)</p> <p>S12: I can write informative/explanatory pieces. (W.2)</p> <ul style="list-style-type: none"> • I can name a topic. • I can supply some facts about the topic.
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		<ul style="list-style-type: none">● I can provide some sense of closure. <p>S13: I can research and write about a topic with others. (W.7)</p> <p>S14: I can find words and phrases in stories or poems that suggest feelings or appeal to the senses. (RL.4)</p> <p>S15: I can ask and answer questions to understand unknown words and phrases in a text. (RI.4)</p> <p>S16: I can use the pictures and details in a story to talk about the characters, settings, or events. (RL.7)</p> <p>S17: I can use the images and details in a text to talk about the key ideas. (RI.7)</p> <p>S18: With adult help, I can use different digital tools to create and publish writing. (W.6)</p> <p>S19: I can report uncomfortable situations to an adult (Info/Dig Lit Goal 1)</p> <p>S20: I can identify literary awards appropriate for my age (Info/Dig Lit Goal 2)</p> <p>S21: I can ask questions about the problem to be solved (Info/Dig Lit Goal 3)</p> <p>S22: I can work in groups to create and</p>
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		<p>evaluate projects and information products (Info/Dig Lit Goal 4)</p> <p>S23: I can format text and images to support a message (Info/Dig Lit Goal 4)</p> <p>S24: I can begin to organize information using a variety of technology products independently or as a group. (Info/Dig Lit Goal 4)</p> <p>SEL</p> <p>S25: I can listen to others' words and tone to know how they are feeling and/or what their points of view are.</p>