

**Lakewood Public School District Curriculum Guide**

<b>Grade: 1</b>	<b>Content Area: Science</b>
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<p><b>Original Adoption:</b> Original Adoption: 2023 NJSLs English Language Arts and English as a Second Language (8-21-24); Math NJSLs Mathematics (8-21-24); 2020 NJSLs Science, Social Studies, Career Readiness, Life Literacies &amp; Key Skills, Computer Design &amp; Thinking, Visual &amp; Performing Arts, World Language, Comprehensive Health and Physical Education (5-11-22)</p>
<p><b>Created By:</b></p>

<b>Recommended Pacing Guide</b>	
<b>Unit 1:</b> Animal and Plant Defenses	60 days
<b>Unit 2:</b> Light and Sound	60 days
<b>Unit 3:</b> Spinning Earth	60 days

<b>Alignment with State Mandates</b>
<p>The following colors are used throughout this document to indicate areas in which the curriculum is aligned with the following NJSA requirements:</p> <ul style="list-style-type: none"> <li>● <span style="background-color: #f08080;">Holocaust and genocides</span> (<a href="#">N.J.S.A. 18A:35-28</a>)</li> <li>● <span style="background-color: #ffff00;">History and contributions of African-Americans</span> (Amistad Law) (<a href="#">N.J.S.A. 18A:35-4.43</a>)</li> <li>● <span style="background-color: #add8e6;">Highlight and promote diversity and inclusion</span> (Diversity &amp; Inclusion Law) (<a href="#">N.J.S.A. 18A:35-4.36a</a>)</li> <li>● <span style="background-color: #d8bfd8;">History of disabled and LGBT persons</span> included in middle and high school curriculum (<a href="#">Section 18A:35-4.35</a>)</li> <li>● <span style="background-color: #90ee90;">Climate Change</span> - to prepare students to understand how and why climate change happens, the impact it has on our local and global communities and to act in informed and sustainable ways. Please <a href="#">click here</a> for specific examples (by subject).</li> </ul>

<b>Unit 1: Animal and Plant Defenses</b>	<b>Duration: 60 days</b>
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<b>New Jersey Student Learning Standards</b>	
<b>1-LS1-1</b>	Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.
<b>1-LS1-2</b>	Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

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1-LS3-1	Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.
K-2-ETS1-1	Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
K-2-ETS1-2	Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Science and Engineering Practices	Discipline Core Ideas/Unit Enduring Understandings	Crosscutting Concepts
<ul style="list-style-type: none"> <li><b>Practice 2: Developing and Using Models.</b> Students create several physical models to help explain their ideas about animal and plant defenses, including an extended independent opportunity to do so in Chapter 4. The class discusses key ideas about scientific models, and students read a book showing two children making models to help them explain ideas.</li> <li><b>Practice 6: Constructing Explanations and Designing Solutions.</b> Students construct oral and written explanations throughout the unit, including refining and adding to a written class explanation about the sea turtle’s survival at the end of each chapter and an independent opportunity for oral explanation in Chapter 4. Students use what they have learned about animal defenses to design a solution for keeping the aquarium food that is stored outside the aquarium from being eaten by wild animals.</li> <li><b>Practice 8: Obtaining, Evaluating, and Communicating</b></li> </ul>	<p><b>LS1.A: Structure and Function:</b></p> <ul style="list-style-type: none"> <li>All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects; protect themselves; move from place to place; and seek, find, and take in food, water, and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (1-LS1-1)</li> </ul> <p><b>LS1.B: Growth and Development of Organisms:</b></p> <ul style="list-style-type: none"> <li>Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (1-LS1-2)</li> </ul> <p><b>LS1.D: Information Processing:</b></p> <ul style="list-style-type: none"> <li>Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. (1-LS1-1)</li> </ul> <p><b>LS3.A: Inheritance of Traits:</b></p> <ul style="list-style-type: none"> <li>Young animals are very</li> </ul>	<p><b>Patterns</b></p> <ul style="list-style-type: none"> <li>Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2)</li> <li>Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-LS3-1)</li> </ul> <p><b>Structure and Function</b></p> <ul style="list-style-type: none"> <li>The shape and stability of structures of natural and designed objects are related to their function(s). (1-LS1-1)</li> <li>The shape and stability of structures of natural and designed objects are related to their function(s). (K-2-ETS12)</li> </ul> <p><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influence of Engineering, Technology, and Science on Society and the Natural World</b></p> <ul style="list-style-type: none"> <li>Every human-made product is designed by applying some knowledge of the natural world and is built using materials derived from the natural world. (1-LS1-1)</li> </ul>

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<p><b>Information.</b> Students read and search for evidence in a variety of books that are custom written for this unit. Students receive explicit instruction and have multiple opportunities to use the reading comprehension strategy of visualizing as they engage with the books in the unit. This strategy promotes active engagement with ideas in each book. During the reading of each book, students are involved in visualizing processes described to help them figure out new science ideas. In addition to obtaining information from books, students also obtain information by carefully observing photographs and videos. They communicate information through oral and written explanations as well as other supported opportunities to share ideas.</p> <ul style="list-style-type: none"> <li>● <b>Practice 1: Asking Questions.</b> Students work to understand and answer a series of questions as they work to explain how the sea turtles will be able to survive. There are also multiple opportunities for students to ask and discuss their questions about how living things survive, how living things avoid being eaten, and about plant and animal offspring.</li> <li>● <b>Practice 4: Analyzing and Interpreting Data.</b> Students have multiple opportunities to analyze the data they collect from observations of photographs and from videos of animals in the wild.</li> <li>● <b>Practice 7: Engaging in Argument from Evidence.</b></li> </ul>	<p>much, but not exactly, like their parents. Plants also are very much, but not exactly, like their parents. (1-LS3-1)</p> <p><b>LS3.B: Variation of Traits:</b></p> <ul style="list-style-type: none"> <li>● Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (1-LS3-1)</li> </ul> <p><b>ETS1.A: Defining and Delimiting Engineering Problems:</b></p> <ul style="list-style-type: none"> <li>● A situation that people want to change or create can be approached as a problem to be solved through engineering. (K-2-ETS1-1)</li> <li>● Asking questions, making observations, and gathering information are helpful in thinking about problems. (K-2-ETS1-1)</li> <li>● Before beginning to design a solution, it is important to clearly understand the problem. (K-2-ETS1-1)</li> </ul> <p><b>ETS1.B: Developing Possible Solutions:</b></p> <ul style="list-style-type: none"> <li>● Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (K-2-ETS1-2)</li> </ul>	<p><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge is Based on Empirical Evidence</b></p> <ul style="list-style-type: none"> <li>● Scientists look for patterns and order when making observations about the world. (1-LS1-2)</li> </ul>
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<p>Frequent class discussions involve students in identifying evidence and making sense of how that evidence helps to answer the key questions students are investigating.</p> <ul style="list-style-type: none"> <li>● <b>Practice 3: Planning and Carrying Out Investigations.</b> Students investigate animal and plant defenses through secondhand data: careful observation of photographs and videos.</li> </ul>		
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<b>New Jersey Social and Emotional Competencies and Sub-Competencies</b>	
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<b>Self-Awareness</b>	<ul style="list-style-type: none"> <li>● Recognize one’s feelings and thoughts.</li> <li>● Recognize the impact of one’s feelings and thoughts on one’s own behavior.</li> <li>● Recognize one’s personal traits, strengths, and limitations.</li> <li>● Recognize the importance of self-confidence in handling daily tasks and challenges.</li> </ul>
<b>Self-Management</b>	<ul style="list-style-type: none"> <li>● Understand and practice strategies for managing one’s own emotions, thoughts, and behaviors.</li> <li>● Recognize the skills needed to establish and achieve personal and educational goals.</li> <li>● Identify and apply ways to persevere or overcome barriers through alternative methods to achieve one’s goals.</li> </ul>
<b>Social Awareness</b>	<ul style="list-style-type: none"> <li>● Recognize and identify the thoughts, feelings, and perspectives of others.</li> <li>● Demonstrate an awareness of the differences among individuals, groups, and others’ cultural backgrounds.</li> <li>● Demonstrate an understanding of the need for mutual respect when viewpoints differ.</li> <li>● Demonstrate an awareness of the expectations for social interactions in a variety of settings.</li> </ul>
<b>Responsible Decision Making</b>	<ul style="list-style-type: none"> <li>● Develop, implement, and model effective problem-solving and critical thinking skills.</li> <li>● Identify the consequences associated with one’s actions in order to make constructive choices.</li> <li>● Evaluate personal, ethical, safety, and civic impact of decisions.</li> </ul>
<b>Relationship Skills</b>	<ul style="list-style-type: none"> <li>● Establish and maintain healthy relationships.</li> <li>● Utilize positive communication and social skills to interact effectively with others.</li> <li>● Identify ways to resist inappropriate social pressure.</li> </ul>

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	<ul style="list-style-type: none"> <li>● Demonstrate the ability to prevent and resolve interpersonal conflicts in constructive ways.</li> <li>● Identify who, when, where, or how to seek help for oneself or others when needed.</li> </ul>
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<b><u>Interdisciplinary Connections</u></b>
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<b>ELA Standards</b>
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<b>RI.CR.1.1</b>	Ask and answer questions about key details in an informational text (e.g., who, what, where, when, why, how).
<b>RI.IT.1.3</b>	Describe relationships among pieces of information (e.g., sequence of events, steps in a process, cause-effect and compare-contrast relationships) within a text.
<b>RI.PP.1.5</b>	Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.
<b>RI.MF.1.6</b>	With prompting and support, use text features (e.g., diagrams, tables, animations) to describe key ideas.
<b>W.IW.1.2</b>	<p>With prompts and support, write informative/explanatory texts to examine a topic and convey ideas and information. opportunity to integrate climate change education.</p> <ul style="list-style-type: none"> <li><b>A.</b> Introduce a topic.</li> <li><b>B.</b> Develop the topic with facts or other information and examples related to the topic.</li> <li><b>C.</b> Provide a conclusion.</li> </ul>
<b>W.WP.1.4</b>	<p>With prompts, guidance and support develop and strengthen writing as needed by planning, revising, and editing.</p> <ul style="list-style-type: none"> <li><b>A.</b> With prompts and support, identify audience and purpose before writing.</li> <li><b>B.</b> With prompts and support, find and correct errors of spelling, capitalization, and punctuation after skills have been taught.</li> </ul>
<b>W.WR.1.5</b>	With guidance and support from adults, gather and select information from multiple sources to answer a question or write about a topic.
<b>W.RW1.7</b>	Engage in discussion, drawing, and writing in brief but regular writing tasks.
<b>SL.PE.1.1</b>	Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
<b>SL.II.1.2</b>	Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
<b>SL.UM.1.5</b>	Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.
<b>L.RF.1.3</b>	Know and apply grade-level phonics and word analysis skills in decoding words.

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<b>L.RF.1.4</b>	Read with sufficient accuracy and fluency to support comprehension. <b>A.</b> Read grade-level text with purpose and understanding. <b>B.</b> Read grade-level text orally with accuracy, appropriate rate, and expression. <b>C.</b> Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
<b>L.KL.1.1</b>	With prompting and support, develop knowledge of language and its conventions when writing, speaking, reading, or listening.
<b>L.VL.1.2</b>	Ask and answer questions to determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content. <b>A.</b> Choose flexibly from an array of strategies to determine the meaning of words and phrases. <b>B.</b> Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.
<b>Mathematics Standards</b>	
<b>MP1</b>	Make sense of problems and persevere in solving them.
<b>1.OA.1</b>	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions.
<b>1.OA.2</b>	Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
<b>1.OA.5</b>	Relate counting to addition and subtraction
<b>1.M.1</b>	Order three objects by length, compare the lengths of two objects indirectly by using a third object.
<b>1.M.2</b>	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.
<b>1.DL.1</b>	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.

<b><u>Computer Science &amp; Design Thinking</u></b>	
<b>8.1.2.DA.1</b>	Collect and present data, including climate change data, in various visual formats.
<b>8.1.2.DA.4</b>	Make predictions based on data using charts or graphs.
<b>8.1.2.AP.4</b>	Break down a task into a sequence of steps.

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<b>8.2.2.ED.2</b>	Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.
<b>8.2.2.ED.3</b>	Select and use appropriate tools and materials to build a product using the design process.
<b>8.2.2.ITH.1</b>	Identify products that are designed to meet human wants or needs.

<b>Career Readiness, Life Literacies &amp; Key Skills</b>	
<b>9.1.2.CR.1</b>	Recognize ways to volunteer in the classroom, school, and community.
<b>9.1.2.CAP.1</b>	Make a list of different types of jobs and describe the skills associated with each job.
<b>9.4.2.CI.1</b>	Demonstrate openness to new ideas and perspectives.
<b>9.4.2.CI.2</b>	Demonstrate originality and inventiveness in work.
<b>9.4.2.CT.1</b>	Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem.
<b>9.4.2.CT.2</b>	Identify possible approaches and resources to execute a plan.
<b>9.4.2.CT.3</b>	Use a variety of types of thinking to solve problems.
<b>9.4.2.DC.7</b>	Describe actions peers can take to positively impact climate change.
<b>9.4.2.IML.2</b>	Represent data in a visual format to tell a story about the data.
<b>9.4.2.IML.3</b>	Use a variety of sources including multimedia sources to find information about topics such as climate change, with guidance and support from adults.

<b>Career Readiness, Life Literacies, and Key Skills Practices</b>	
<b>CLKS.1</b>	Act as a responsible and contributing community member and employee.
<b>CLKS.2</b>	Attend to financial well-being.
<b>CLKS.3</b>	Consider the environmental, social and economic impacts of decisions.
<b>CLKS.4</b>	Demonstrate creativity and innovation.
<b>CLKS.5</b>	Utilize critical thinking to make sense of problems and persevere in solving them.
<b>CLKS.6</b>	Model integrity, ethical leadership and effective management.
<b>CLKS.7</b>	Plan education and career paths aligned to personal goals.
<b>CLKS.8</b>	Use technology to enhance productivity, increase collaboration and communicate effectively.

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<b>CLKS.9</b>	Work productively in teams while using cultural/global competence.
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<b>Evidence of Student Learning</b>	
<b>Formative Tasks:</b> <ul style="list-style-type: none"> <li>• Teacher observations</li> <li>• Class discussions</li> <li>• Whiteboard/Communicators</li> <li>• On-the-Fly Assessments</li> <li>• Daily classwork</li> <li>• Checks for understanding</li> <li>• Clipboard Assessment Tool</li> <li>• Critical Juncture Assessment</li> <li>• Crosscutting Concept Tracker</li> </ul>	<b>Alternative Assessments:</b> <ul style="list-style-type: none"> <li>• Oral assessments</li> </ul>
<b>Summative Assessments:</b> <ul style="list-style-type: none"> <li>• End of Unit Assessment</li> </ul>	<b>Benchmark Assessments:</b> <ul style="list-style-type: none"> <li>•</li> </ul>

<b>Knowledge &amp; Skills</b>	
<b>Enduring Understandings:</b> <ul style="list-style-type: none"> <li>• To survive, animals and plants need to get water, air, and food.</li> <li>• Animals and plants have structures that help them do what they need to do to survive.</li> <li>• To survive, animals and plants need to get water, air, and food, and to not be eaten.</li> <li>• Many animals use their sharp structures to make animals and plants easier to eat.</li> <li>• Animals and plants have defenses, structures that keep other animals from eating them.</li> <li>• Scientists can make things that copy animal or plant structures to solve human problems.</li> <li>• When plant and animal offspring grow up, they defend themselves in the same way as their parents.</li> <li>• Some kinds of young offspring get help from their parents and other kinds of young offspring survive on their own.</li> </ul>	<b>Essential Questions:</b> <ul style="list-style-type: none"> <li>• What do animals and plants need to do to survive?</li> <li>• How do animals and plants do what they need to do to survive?</li> <li>• How do animals eat other living things?</li> <li>• How do animals and plants defend themselves?</li> <li>• How can we use ideas about animal and plant defenses to solve a problem?</li> <li>• How do animal and plant offspring defend themselves when they grow up?</li> <li>• How do animal and plant offspring defend themselves when they are young?</li> <li>• How do scientists make and use models to explain their ideas?</li> </ul>
<b>Content</b>	<b>Skills</b>

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### *Students will know...*

- To survive, animals and plants need to get water, air, and food.
- Scientists are people who learn about the world around them by carefully observing it.
- Visualizing how something happens can help scientists understand pictures and words as they read.
- Observing animals and plants helps scientists understand how living things survive.
- Animals have structures with functions that help them get and eat their food.
- Scientists start with questions and conduct investigations to find answers.
- Thinking about structure (such as the shape or hardness of something) and function (what something does) is useful to many scientists.
- Animals have structures that help them breathe.
- Animals and plants have structures that help them get water.
- Animals and plants have structures that help them do what they need to do to survive.
- Many plants and animals are food for other animals.
- To survive, animals and plants need to get water, air, and food, and to not be eaten.
- Scientists record their ideas so they can keep track of what they figured out, and to help them remember their ideas.
- Scientists use evidence to figure out answers to questions.
- Scientists often use more than one kind of evidence in order to be more sure of their answers.
- Scientists communicate their ideas about how and why things happen.
- Animals eat plants and/or other animals.
- Animals use their structures to help them eat plants and/or other animals.
- Many animals use their sharp structures to make animals and plants easier to eat.

### *Students will be able to ...*

- Identify the three things that all living things need to survive—water, air, and food.
- Describe how a tortoise uses its structures to do what it needs to do to survive.
- Articulate one reason why living things do or do not survive: not being eaten or being eaten.
- Investigate what animals eat and begin to think about the process of how animals eat other living things.
- Develop an understanding of how animals eat other living things.
- Investigate how animals eat other living things and focus their investigation on the sharp structures that animals use to catch or break apart their food.
- Describe how animals use their sharp structures to catch food and break it into smaller pieces.
- Make a model to explain animal and plant defenses.
- Draw and label a model structure.
- Create a new model to explore how shells and armor function as a defense against being eaten.
- Gather information about how shells and armor function to defend living things by revisiting sections of Tortoise Parts and the reference book.
- Plan how to use the available materials to create a model showing how spikes work as a defense and then draw and label their plan in their notebooks.
- Articulate their ideas about spikes as a form of defense against being eaten.
- Create a new model to explore how camouflage functions as a defense against being eaten.
- Construct oral and written explanations about how living things use their defenses for survival.
- Plan how to solve a problem.
- Apply understanding of how defenses work in nature to solve a human problem.
- Identify similarities and differences between the parents and their offspring.
- Visualize how offspring use the same structures their parents have to meet their survival needs.

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| <ul style="list-style-type: none"><li>• Other structures, such as eyes, can help animals find food.</li><li>• There are many different ways that animals and plants defend themselves from being eaten.</li><li>• Models are something scientists make to answer questions about the real world.</li><li>• Scientists use drawings, sketches, and models as a way to communicate ideas.</li><li>• A model is similar to the thing or process it represents in some ways, but not in all ways.</li><li>• Some animals and plants have shells or hard parts that help them defend themselves from being eaten.</li><li>• Scientists often gather more than one type of evidence to help answer their questions.</li><li>• Some animals and plants have spikes that help defend them from being eaten.</li><li>• Camouflage is a defense in which an animal or plant is hard to find because it looks similar to the background.</li><li>• Camouflage helps some animals and plants defend themselves from being eaten.</li><li>• Animals and plants have defenses, structures that keep other animals from eating them.</li><li>• Scientists explain how and why things happen.</li><li>• Scientists can make things that copy animal or plant structures to solve human problems.</li><li>• Scientists plan the things they make before making them.</li><li>• Scientists develop models based on evidence to represent a proposed object or tool.</li><li>• Living things have offspring that are the same kind as them.</li><li>• Once they are fully grown, offspring have the same structures as their parents.</li></ul> | <ul style="list-style-type: none"><li>• Write to explain how a sea urchin parent and offspring use their structures to defend themselves.</li><li>• Construct the idea that some kinds of young offspring get help from their parents to survive, while other kinds of young offspring, including all plants, survive on their own.</li><li>• Complete the Animal and Plant Offspring mini-books by adding words to finish the sentences and drawings to illustrate them.</li><li>• evaluate three models, two from Frog Models and a new frog model, using the Modeling Checklist.</li><li>• Create an aquarium exhibit by making a model of one of four ocean animals: a green sea turtle, a Sally Lightfoot crab, a puffer fish, or a lionfish.</li><li>• Plan and write explanations in their notebooks to accompany their models.</li><li>• Explain how the animal they chose to model survives where there are other animals that would eat it.</li></ul> |
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- Offspring may look a bit different from their parents, even though they have the same structures.
- Offspring have the same structures as their parents.
- Offspring defend themselves when they are grown.
- Offspring survive in the same way as their parents by using structures that are the same as their parents' structures.
- When plant and animal offspring grow up, they defend themselves in the same way as their parents.
- Plants and animals of the same kind (including parents and offspring) may look a bit different from one another, but they mostly have the same structures.
- Plant offspring survive on their own.
- Animal parents that care for their young offspring may feed them, protect them from predators, keep them warm, carry them around, teach them things, clean them, or play with them.
- Some kinds of young offspring get help from their parents and other kinds of young offspring survive on their own.
- Some young animal offspring signal their parents with sounds or movements to get the help they need.
- A model does not need to include things that are not important for what is being explained.
- Making careful observations can help a scientist make a model that explains something well.
- Scientists check their models to make sure the model does what it needs to do to explain their idea.
- Scientists make changes to improve their models.
- Scientists write to further explain their models.
- When scientists show their models, they also explain them, which makes their ideas clear.

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- Animals and plants have structures with qualities that help them survive other animals' attempts to eat them.
- Offspring have similar structures with similar functions as their parents.
- Models in science show only what is essential to explaining how something works.
- Scientists and engineers communicate their ideas to others.

### Core Instructional & Supplemental Materials

#### Suggested Activities/Resources:

- Books in This Unit
  - *Tortoise Parts*
  - *Whose Lunch is This?*
  - *Parents and Offspring*
  - *Frog Models*
  - *Spikes, Spines, and Shells: A Handbook of Defenses*
- *Needs of Plants and Animals Kit*

#### Supplemental Materials

- *Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds PDF*
- Digital Resources included in each unit
- Multi-language glossary
- *Shark Lady* by Jess Keating
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### Suggested Accommodations

#### English Language Learners:

- Multi-sensory instruction
- Flexible grouping
- Small group instruction
- Provide peer tutoring
- Use a strong student as a "buddy" (does not necessarily have to speak the primary language)
- Chunking information
- Scaffolded questioning
- Academic language support
- Vocabulary support
- Co-Constructed Word Banks
- Anchor charts
- Gradual release model
- Visual models
- Native language support when possible (Multi-language glossary)
- Sheltered English Instruction Strategies
- Sentence starters

#### Special Education/Students with Disabilities:

- Allow extra time to complete assignments or tests
- Work in a small group

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- Allow answers to be given orally or dictated
- Follow all IEP modifications
- Calculators
- Manipulatives/concrete models
- Directions repeated, clarified, and reworded
- Breakdown task into manageable parts

### **504 Plans:**

- Allow extra time to complete assignments or tests
- Work in a small group
- Allow answers to be given orally or dictated
- Calculators
- Manipulatives/concrete models
- Follow all 504 modifications

### **Gifted and Talented:**

- Higher level questioning
- Enriched assignments
- Tiered assignments
- Choice board to extend learning

### **Students at Risk of Failure:**

- Provide peer tutoring
- Use a strong student as a “buddy”
- Allow extra time to complete assignments or tests
- Work in a small group
- One on one instruction
- Provide immediate praise and feedback
- Create a nurturing environment
- Provide visuals
- Be flexible with assignments and time frames
- Provide needed academic resources
- Chunking information
- Scaffolded questioning
- Tiered activities
- Manipulatives/concrete models
- Modified assignments
- Brain breaks

### **Economically Disadvantaged:**

- Pre-teach vocabulary using visuals and gestures
- Chunk texts
- Summarize as you go
- Preview lessons
- Graphic organizers
- Highlight key words
- Sentence starters
- Prompting and cueing
- Activate schema

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<ul style="list-style-type: none"> <li>● Build background knowledge</li> </ul> <p><b>Culturally Diverse:</b></p> <ul style="list-style-type: none"> <li>● Create an emotionally positive classroom climate.</li> <li>● Create effective communication</li> <li>● Model and teach cultural respect</li> <li>● Build relationships with students by interviewing students to understand their background</li> </ul>
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<b>Unit 2: Light and Sound</b>	<b>Duration: 60 days</b>
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<b>New Jersey Student Learning Standards</b>	
<b>1-PS4-1</b>	Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.
<b>1-PS4-3</b>	Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.
<b>1-PS4-4</b>	Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.
<b>K-2-ETS1-1</b>	Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
<b>K-2-ETS1-2</b>	Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
<b>K-2-ETS1-3</b>	Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Science and Engineering Practices	Discipline Core Ideas/Unit Enduring Understandings	Crosscutting Concepts
<ul style="list-style-type: none"> <li>● <b>Practice 6: Constructing Explanations and Designing Solutions:</b> Working as light and sound engineers, students engage in all stages of an iterative cycle of design as they</li> </ul>	<p><b>PS4.A: Wave Properties</b></p> <ul style="list-style-type: none"> <li>● Sound can make matter vibrate, and vibrating matter can make sound. (1-PS4-1)</li> </ul> <p><b>PS4.B: Electromagnetic Radiation:</b></p> <ul style="list-style-type: none"> <li>● Objects can be seen if light</li> </ul>	<p><b>Cause and Effect</b></p> <ul style="list-style-type: none"> <li>● Simple tests can be designed to gather evidence to support or refute student ideas about causes. (1-PS4-1), (1-PS4-2), (1-PS4-3)</li> </ul>

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<p>learn, plan, make, and test. Then, based on the evidence they gather, they repeat the cycle. As students engage in these practices to design solutions for the puppet-theater company, they stop at various points throughout the unit to reflect on how they have participated in different engineering practices.</p> <ul style="list-style-type: none"> <li>● <b>Practice 8: Obtaining, Evaluating, and Communicating Information:</b> Students read and search for evidence in a variety of books that are custom written for this unit. Students receive explicit instruction and have multiple opportunities to use the reading comprehension strategy of asking questions as they engage with the books in the unit. This strategy promotes active engagement with ideas in each book. Before, during, and after the reading of each book, students are involved in asking questions about what they are curious about, as well as asking questions to help them figure out new science ideas about light and sound. By asking questions, students look to the illustrations and the text to find evidence to answer their questions as they read. They gather additional evidence from the unit's reference book about designing with light and sound to support their role as light and sound engineers.</li> <li>● <b>Practice 1: Asking Questions:</b> In addition to their focus on asking</li> </ul>	<p>is available to illuminate them or if they give off their own light. (1-PS4-2)</p> <ul style="list-style-type: none"> <li>● 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. Mirrors can be used to redirect a light beam. (1- PS4-3)</li> </ul> <p><b>PS4.C: Information Technologies and Instrumentation:</b></p> <ul style="list-style-type: none"> <li>● People also use a variety of devices to communicate (send and receive information) over long distances. (1- PS4-4)</li> </ul> <p><b>ETS1.A: Defining and Delimiting Engineering Problems:</b></p> <ul style="list-style-type: none"> <li>● A situation that people want to change or create can be approached as a problem to be solved through engineering. (K-2-ETS1-1)</li> <li>● Asking questions, making observations, and gathering information are helpful in thinking about problems. (K-2-ETS1-1)</li> <li>● Before beginning to design a solution, it is important to clearly understand the problem. (K-2-ETS1-1)</li> </ul> <p><b>ETS1.B: Developing Possible Solutions:</b></p> <ul style="list-style-type: none"> <li>● Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (K-2-ETS1-2)</li> </ul> <p><b>ETS1.C: Optimizing the Design Solution:</b></p> <ul style="list-style-type: none"> <li>● Because there is always more than one possible solution to a problem, it is</li> </ul>	<p><b>Structure and Function</b></p> <ul style="list-style-type: none"> <li>● The shape and stability of structures of natural and designed objects are related to their function(s). (K-2-ETS1-2)</li> </ul> <p><b>Connections to Nature of Science</b></p> <p><b>Scientific Investigations Use a Variety of Methods</b></p> <ul style="list-style-type: none"> <li>● Science investigations begin with a question. (1-PS4-1)</li> <li>● Scientists use different ways to study the world. (1-PS4-1)</li> </ul>
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<p>questions around text and firsthand investigations, students work to define the problem they are tasked with solving—helping the puppet-theater company design shadow scenery. By figuring out how light interacts with different materials, students begin to understand what the challenges to creating shadow scenery might be, as well as some of the strategies they might use.</p> <ul style="list-style-type: none"><li>● <b>Practice 4: Analyzing and Interpreting Data:</b> Students have multiple opportunities to analyze the data they collect from firsthand investigations as they figure out the degree to which different materials block light.</li><li>● <b>Practice 3: Planning and Carrying Out Investigations:</b> Students carry out multiple investigations to determine how light interacts with different materials. Over the course of the unit, students take on more of the planning of the investigations.</li><li>● <b>Practice 2: Developing and Using Models:</b> Students keep track of what they learn in their investigations through making diagrams to model what makes a surface look brighter or darker.</li><li>● <b>Practice 7: Engaging in Argument from Evidence:</b> Students use their test results to support their claims about whether different materials block light.</li></ul>	<p>useful to compare and test designs. (K-2-ETS1-3)</p>	
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New Jersey Social and Emotional Competencies and Sub-Competencies

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<b>Self-Awareness</b>	<ul style="list-style-type: none"> <li>● Recognize one’s feelings and thoughts.</li> <li>● Recognize the impact of one’s feelings and thoughts on one’s own behavior.</li> <li>● Recognize one’s personal traits, strengths, and limitations.</li> <li>● Recognize the importance of self-confidence in handling daily tasks and challenges.</li> </ul>
<b>Self-Management</b>	<ul style="list-style-type: none"> <li>● Understand and practice strategies for managing one’s own emotions, thoughts, and behaviors.</li> <li>● Recognize the skills needed to establish and achieve personal and educational goals.</li> <li>● Identify and apply ways to persevere or overcome barriers through alternative methods to achieve one’s goals.</li> </ul>
<b>Social Awareness</b>	<ul style="list-style-type: none"> <li>● Recognize and identify the thoughts, feelings, and perspectives of others.</li> <li>● Demonstrate an awareness of the differences among individuals, groups, and others’ cultural backgrounds.</li> <li>● Demonstrate an understanding of the need for mutual respect when viewpoints differ.</li> <li>● Demonstrate an awareness of the expectations for social interactions in a variety of settings.</li> </ul>
<b>Responsible Decision Making</b>	<ul style="list-style-type: none"> <li>● Develop, implement, and model effective problem-solving and critical thinking skills.</li> <li>● Identify the consequences associated with one’s actions in order to make constructive choices.</li> <li>● Evaluate personal, ethical, safety, and civic impact of decisions.</li> </ul>
<b>Relationship Skills</b>	<ul style="list-style-type: none"> <li>● Establish and maintain healthy relationships.</li> <li>● Utilize positive communication and social skills to interact effectively with others.</li> <li>● Identify ways to resist inappropriate social pressure.</li> <li>● Demonstrate the ability to prevent and resolve interpersonal conflicts in constructive ways.</li> <li>● Identify who, when, where, or how to seek help for oneself or others when needed.</li> </ul>

<u>Interdisciplinary Connections</u>	
ELA Standards	
<b>RI.CR.1.1</b>	Ask and answer questions about key details in an informational text (e.g., who, what, where, when, why, how).
<b>RI.IT.1.3</b>	Describe relationships among pieces of information (e.g., sequence of events, steps in a process, cause-effect and compare-contrast relationships) within a text.
<b>RI.PP.1.5</b>	Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.

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<b>RI.MF.1.7</b>	With prompting and support, use text features (e.g., diagrams, tables, animations) to describe key ideas.
<b>W.IW.1.2</b>	With prompts and support, write informative/explanatory texts to examine a topic and convey ideas and information. opportunity to integrate climate change education. <b>A.</b> Introduce a topic. <b>B.</b> Develop the topic with facts or other information and examples related to the topic. <b>C.</b> Provide a conclusion.
<b>W.WP.1.4</b>	With prompts, guidance and support develop and strengthen writing as needed by planning, revising, and editing. <b>A.</b> With prompts and support, identify audience and purpose before writing. <b>B.</b> With prompts and support, find and correct errors of spelling, capitalization, and punctuation after skills have been taught.
<b>W.WR.1.5</b>	With prompting and support, generate questions through shared research about a topic and determine possible sources to obtain information on that topic.
<b>W.SE.1.6</b>	With guidance and support from adults, gather and select information from multiple sources to answer a question or write about a topic.
<b>SL.PE.1.1</b>	Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. opportunity to integrate climate change education. <b>A.</b> Follow agreed-upon norms for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). <b>B.</b> Build on others' talk in conversations by responding to the comments of others through multiple exchanges.
<b>SL.II.1.2</b>	Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
<b>SL.PI.1.4</b>	Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
<b>SL.UM.1.5</b>	Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.
<b>L.RF.1.3</b>	Know and apply grade-level phonics and word analysis skills in decoding words.
<b>L.RF.1.4</b>	Read with sufficient accuracy and fluency to support comprehension. <b>A.</b> Read grade-level text with purpose and understanding. <b>B.</b> Read grade-level text orally with accuracy, appropriate rate, and expression. <b>C.</b> Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
<b>L.KL.1.1</b>	With prompting and support, develop knowledge of language and its conventions when writing, speaking, reading, or listening.

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<b>L.VL.1.2</b>	Ask and answer questions to determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content. <ul style="list-style-type: none"> <li>A. Choose flexibly from an array of strategies to determine the meaning of words and phrases.</li> <li>B. Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.</li> </ul>
<b>Mathematics Standards</b>	
<b>MP1</b>	Make sense of problems and persevere in solving them.
<b>MP2</b>	Reason abstractly and quantitatively.
<b>MP4</b>	Model with mathematics.
<b>MP6</b>	Attend to precision.
<b>MP7</b>	Look for and make use of structure.
<b>1.G.1</b>	Distinguish between defining attributes versus non-defining attributes; for a wide variety of shapes; build and draw shapes to possess defining attributes.
<b>1.G.2</b>	Compose two-dimensional shapes or three-dimensional shapes to create a composite shape, and compose new shapes from the composite shape.
<b>1.DL.1</b>	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.

<b><u>Computer Science &amp; Design Thinking</u></b>	
<b>8.1.2.DA.1</b>	Collect and present data, including climate change data, in various visual formats.
<b>8.1.2.DA.3</b>	Identify and describe patterns in data visualizations.
<b>8.1.2.DA.4</b>	Make predictions based on data using charts or graphs.
<b>8.1.2.AP.4</b>	Break down a task into a sequence of steps.
<b>8.2.2.ED.2</b>	Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.
<b>8.2.2.ED.3</b>	Select and use appropriate tools and materials to build a product using the design process.
<b>8.2.2.ED.4</b>	Identify constraints and their role in the engineering design process.
<b>8.2.2.ITH.5</b>	Design a solution to a problem affecting the community in a collaborative team and explain the intended impact of the solution.

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<b>8.2.2.NT.2</b>	Brainstorm how to build a product, improve a designed product, fix a product that has stopped working, or solve a simple problem.
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**Career Readiness, Life Literacies & Key Skills**

<b>9.1.2.CR.1</b>	Recognize ways to volunteer in the classroom, school, and community.
<b>9.1.2.CAP.1</b>	Make a list of different types of jobs and describe the skills associated with each job.
<b>9.4.2.CI.1</b>	Demonstrate openness to new ideas and perspectives.
<b>9.4.2.CI.2</b>	Demonstrate originality and inventiveness in work.
<b>9.4.2.CT.1</b>	Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem.
<b>9.4.2.CT.2</b>	Identify possible approaches and resources to execute a plan.
<b>9.4.2.CT.3</b>	Use a variety of types of thinking to solve problems.
<b>9.4.2.DC.7</b>	Describe actions peers can take to positively impact climate change.
<b>9.4.2.IML.2</b>	Represent data in a visual format to tell a story about the data.
<b>9.4.2.IML.3</b>	Use a variety of sources including multimedia sources to find information about topics such as climate change, with guidance and support from adults.

**Career Readiness, Life Literacies, and Key Skills Practices**

<b>CLKS.1</b>	Act as a responsible and contributing community member and employee.
<b>CLKS.2</b>	Attend to financial well-being.
<b>CLKS.3</b>	Consider the environmental, social and economic impacts of decisions.
<b>CLKS.4</b>	Demonstrate creativity and innovation.
<b>CLKS.5</b>	Utilize critical thinking to make sense of problems and persevere in solving them.
<b>CLKS.6</b>	Model integrity, ethical leadership and effective management.
<b>CLKS.7</b>	Plan education and career paths aligned to personal goals.
<b>CLKS.8</b>	Use technology to enhance productivity, increase collaboration and communicate effectively.
<b>CLKS.9</b>	Work productively in teams while using cultural/global competence.

**Evidence of Student Learning**

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<p><b>Formative Tasks:</b></p> <ul style="list-style-type: none"> <li>● Teacher observations</li> <li>● Class discussions</li> <li>● Whiteboard/Communicators</li> <li>● On-the-Fly Assessments</li> <li>● Daily classwork</li> <li>● Checks for understanding</li> <li>● Clipboard Assessment Tool</li> <li>● Critical Juncture Assessment</li> <li>● Crosscutting Concept Tracker</li> </ul>	<p><b>Alternative Assessments:</b></p> <ul style="list-style-type: none"> <li>● Oral assessments</li> </ul>
<p><b>Summative Assessments:</b></p> <ul style="list-style-type: none"> <li>● End of Unit Assessment</li> </ul>	<p><b>Benchmark Assessments:</b></p> <ul style="list-style-type: none"> <li>●</li> </ul>

<b>Knowledge &amp; Skills</b>
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<p><b>Enduring Understandings:</b></p> <ul style="list-style-type: none"> <li>● Light makes things look bright.</li> <li>● You need some light to see.</li> <li>● All light comes from a source.</li> <li>● When light from a source gets to a surface, the surface looks bright.</li> <li>● When light is blocked by an object, the surface behind the object looks dark, and we call this a shadow.</li> <li>● When light is blocked by a material, the surface behind the material looks dark, and we call this a shadow.</li> <li>● When all light passes through a material, the surface behind the material looks bright.</li> <li>● When some light passes through a material, the surface behind the material looks medium bright.</li> <li>● All sound comes from a source.</li> <li>● A source makes a sound because part of it is vibrating.</li> </ul>	<p><b>Essential Questions:</b></p> <ul style="list-style-type: none"> <li>● How do we make different parts of a surface brighter or darker?</li> <li>● How do we make brighter or darker areas?</li> <li>● What makes something look bright or dark?</li> <li>● Where does the light come from that makes surfaces look bright or dark?</li> <li>● What makes a surface look bright or dark?</li> <li>● How do we stop light from getting to one part of a surface?</li> <li>● How do materials make areas on a surface that are not dark?</li> <li>● What happens when something starts making a sound?</li> <li>● How do we make different vibrations to make different kinds of sounds for our puppet show scenes?</li> </ul>
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<p><b>Content</b> <i>Students will know...</i></p> <ul style="list-style-type: none"> <li>● An engineer is a person who makes something to solve a problem.</li> <li>● Engineers use what they know about light and sound to create solutions that help meet people’s wants or needs.</li> </ul>	<p><b>Skills</b> <i>Students will be able to ...</i></p> <ul style="list-style-type: none"> <li>● Describe how engineers design solutions to help people solve problems.</li> <li>● Ask questions to gather additional information while reading.</li> <li>● Gather evidence from multiple sources to answer an Investigation Question.</li> </ul>
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| <ul style="list-style-type: none"><li>• Light makes things look bright.</li><li>• You need some light to see.</li><li>• Science knowledge can change when new information is found.</li><li>• The place where light comes from is called a light source.</li><li>• There are a variety of light sources around us.</li><li>• All light comes from a source.</li><li>• When light from a source gets to a surface, the surface looks bright.</li><li>• You can make a shadow by putting an object between a light source and the surface that it makes look bright.</li><li>• When light is blocked by an object, the surface behind the object looks dark, and we call this a shadow.</li><li>• Light is blocked by some but not all materials.</li><li>• When light is blocked by a material, the surface behind the material looks dark, and we call this a shadow.</li><li>• Engineers evaluate the performance of their solutions by checking to see if they meet design goals.</li><li>• Engineers have a set of practices they use to design a solution to a problem.</li><li>• When light is shined on materials, some produce bright areas, while others produce medium-bright areas.</li><li>• Different materials let different amounts of light pass through them.</li><li>• When all light passes through a material, the surface behind it looks bright.</li><li>• When some light passes through a material, the surface behind it looks medium bright.</li><li>• Engineers plan their solutions before making them, thinking about how the solutions will work in order to meet the design goals.</li><li>• Engineers test their solutions and use the test results to revise and improve these solutions.</li></ul> | <ul style="list-style-type: none"><li>• Create a visual representation to show understanding of bright, dark, and completely dark places.</li><li>• Identify different light sources around us.</li><li>• Make sense of cause-and-effect relationships in everyday examples between light sources and surfaces.</li><li>• Explain what makes surfaces look light or dark.</li><li>• Create a diagram of how bright and dark surfaces are made.</li><li>• Discuss cause-and-effect in the context of shadows.</li><li>• Sort Shadow Cards to explain the relationship between the light source, the object casting a shadow, and the resulting shadow.</li><li>• Determine which materials block light.</li><li>• Create a dark area on a surface using light and a chosen material.</li><li>• Draw and write about observations made during investigations.</li><li>• Create a diagram to show how light sources interact with materials.</li><li>• Write to explain the cause-and-effect relationship when making a dark area on a surface.</li><li>• Investigate and compare materials that do not block light with a material that does block light.</li><li>• Explain how light interacts with materials and surfaces.</li><li>• Create diagrams to show how a light source interacts with different materials to make a surface look bright or medium bright.</li><li>• Plan and create stencils that will allow varying amounts of light to pass through to create a puppet-show scene.</li><li>• Evaluate solutions according to their adherence to the three design goals set by the puppet-theater company.</li><li>• Articulate and explain what they have designed and reflect on how they were engineers.</li><li>• Investigate Sound Source Stations to determine whether or not different materials are sound sources.</li><li>• Design an investigation to figure out whether materials at four different stations are sound sources.</li></ul> |
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<ul style="list-style-type: none"> <li>● Engineers reflect on their solutions to consider what worked and what can be improved.</li> <li>● All sound comes from a source.</li> <li>● The senses of sight and touch, as well as hearing, can be used to observe sound.</li> <li>● A source makes a sound because part of it is vibrating.</li> <li>● Using the senses of sight and touch can help determine which part of a sound source vibrates when it makes a sound.</li> <li>● Engineers make and test solutions.</li> <li>● Engineers revise solutions based on how well the solutions meet the design goals.</li> <li>● Engineers communicate about their ideas and share their work with one another.</li> <li>● Engineers evaluate their solutions according to how well they meet design goals.</li> <li>● Science helps you figure out how things work.</li> </ul>	<ul style="list-style-type: none"> <li>● Explain the cause-and-effect relationship between sound and vibration.</li> <li>● Plan, make, test, and revise sound sources for the puppet-theater company.</li> <li>● Write and draw to explain what vibrates when a sound source makes a sound.</li> <li>● Explain and evaluate projected scenes that they created.</li> <li>● Describe an example of cause and effect and evaluate design solutions based on the puppet-scene design goals.</li> </ul>
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### Core Instructional & Supplemental Materials

<p><b>Suggested Activities/Resources:</b></p> <ul style="list-style-type: none"> <li>● Books in This Unit             <ul style="list-style-type: none"> <li>○ <i>Engineering with Light and Sound</i></li> <li>○ <i>Can You See in the Dark?</i></li> <li>○ <i>What Made This Shadow?</i></li> <li>○ <i>Let's Test!</i></li> <li>○ <i>What Vibrates?</i></li> </ul> </li> <li>● <i>Light and Sound Kit</i></li> </ul>	<p><b>Supplemental Materials</b></p> <ul style="list-style-type: none"> <li>● <i>Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds PDF</i></li> <li>● Digital Resources included in each unit</li> <li>● Multi-language glossary</li> <li>● <i>Galimoto</i> by Karen Lynn Williams</li> </ul>
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### Suggested Accommodations

<p><b>English Language Learners:</b></p> <ul style="list-style-type: none"> <li>● Multi-sensory instruction</li> <li>● Flexible grouping</li> <li>● Small group instruction</li> <li>● Provide peer tutoring</li> <li>● Use a strong student as a "buddy" (does not necessarily have to speak the primary language)</li> <li>● Chunking information</li> <li>● Scaffolded questioning</li> <li>● Academic language support</li> <li>● Vocabulary support</li> </ul>
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- Co-Constructed Word Banks
- Anchor charts
- Gradual release model
- Visual models
- Native language support when possible (Multi-language glossary)
- Sheltered English Instruction Strategies
- Sentence starters

### **Special Education/Students with Disabilities:**

- Allow extra time to complete assignments or tests
- Work in a small group
- Allow answers to be given orally or dictated
- Follow all IEP modifications
- Calculators
- Manipulatives/concrete models
- Directions repeated, clarified, and reworded
- Breakdown task into manageable parts

### **504 Plans:**

- Allow extra time to complete assignments or tests
- Work in a small group
- Allow answers to be given orally or dictated
- Calculators
- Manipulatives/concrete models
- Follow all 504 modifications

### **Gifted and Talented:**

- Higher level questioning
- Enriched assignments
- Tiered assignments
- Choice board to extend learning

### **Students at Risk of Failure:**

- Provide peer tutoring
- Use a strong student as a “buddy”
- Allow extra time to complete assignments or tests
- Work in a small group
- One on one instruction
- Provide immediate praise and feedback
- Create a nurturing environment
- Provide visuals
- Be flexible with assignments and time frames
- Provide needed academic resources
- Chunking information
- Scaffolded questioning
- Tiered activities
- Manipulatives/concrete models
- Modified assignments
- Brain breaks

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<p><b>Economically Disadvantaged:</b></p> <ul style="list-style-type: none"> <li>• Pre-teach vocabulary using visuals and gestures</li> <li>• Chunk texts</li> <li>• Summarize as you go</li> <li>• Preview lessons</li> <li>• Graphic organizers</li> <li>• Highlight key words</li> <li>• Sentence starters</li> <li>• Prompting and cueing</li> <li>• Activate schema</li> <li>• Build background knowledge</li> </ul> <p><b>Culturally Diverse:</b></p> <ul style="list-style-type: none"> <li>• Create an emotionally positive classroom climate.</li> <li>• Create effective communication</li> <li>• Model and teach cultural respect</li> <li>• Build relationships with students by interviewing students to understand their background</li> </ul>
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<b>Unit 3: Spinning Earth</b>	<b>Duration: 60 days</b>
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<b>New Jersey Student Learning Standards</b>	
<b>1-ESS1-1</b>	Use observations of the sun, Moon, and stars to describe patterns that can be predicted.
<b>1.ESS1-2</b>	Make observations at different times of year to relate the amount of daylight to the time of year.
<b>1-PS4-2</b>	Make observations to construct an evidence-based account that objects can be seen only when illuminated.

<b>Science and Engineering Practices</b>	<b>Discipline Core Ideas/Unit Enduring Understandings</b>	<b>Crosscutting Concepts</b>
<ul style="list-style-type: none"> <li>• <b>Practice 4: Analyzing and Interpreting Data:</b> Students receive explicit instruction about how to organize data in ways that will help reveal patterns and draw conclusions about the causes of those patterns. Throughout the unit, students use visual and</li> </ul>	<p><b>ESS1.A: The Universe and its Stars</b></p> <ul style="list-style-type: none"> <li>• Patterns of the motion of the sun, Moon, and stars in the sky can be observed, described, and predicted. (1-ESS1-1)</li> </ul> <p><b>ESS1.B: Earth and the Solar System:</b></p> <ul style="list-style-type: none"> <li>• Seasonal patterns of sunrise</li> </ul>	<p><b>Patterns</b></p> <ul style="list-style-type: none"> <li>• Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-ESS1-1), (1-ESS1-2)</li> </ul> <p><b>Cause and Effect</b></p> <ul style="list-style-type: none"> <li>• Simple tests can be designed to gather</li> </ul>

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<p>qualitative data to draw conclusions about patterns in the sky. For instance, students make observations of the sun’s position in the sky at different times during the day and organize that data on a class chart and in a data table to reveal the pattern the sun makes in the sky throughout the day. Students have many opportunities to use data to find answers to questions about what we observe in the sky.</p> <ul style="list-style-type: none"> <li>● <b>Practice 3: Planning and Carrying Out Investigations:</b> Students receive explicit instruction and opportunities to practice planning and carrying out investigations, with a particular focus on organizing data to reveal patterns. Students conduct firsthand and secondhand investigations to gather evidence about what the sky looks like during the daytime and nighttime and what patterns we observe at different times of day. Students carry out secondhand investigations by using videos, photographs, and illustrations showing Earth and the sky.</li> <li>● <b>Practice 2: Developing and Using Models:</b> Students use a kinesthetic model throughout the unit to investigate the effect of Earth’s spin on what we observe in the sky. Through multiple uses of this model, each with a different focus, students are supported to construct an increasingly complex explanation of the patterns we observe in the</li> </ul>	<p>and sunset can be observed, described, and predicted. (1-ESS1-2)</p> <p><b>PS4.B:Electromagnetic Radiation:</b></p> <ul style="list-style-type: none"> <li>● Objects can be seen if light is available to illuminate them or if they give off their own light. (1-PS4-2)</li> </ul>	<p>evidence to support or refute student ideas about causes. (1-PS4-1), (1-PS4-2), (1-PS4-3)</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</b></p> <ul style="list-style-type: none"> <li>● Science assumes natural events happen today as they happened in the past. (1-ESS1-1) Many events are repeated. (1ESS1-1)</li> </ul>
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<p>sky.</p> <ul style="list-style-type: none"><li>● <b>Practice 1: Asking Questions:</b> Throughout the unit, students are presented with sky observations from a young boy named Sai. Students use Sai's observations to understand the problem they are intending to explain and ask questions that will help them develop an understanding of the patterns they observe in the sky at different times and why those patterns exist.</li><li>● <b>Practice 6: Constructing Explanations and Designing Solutions:</b> Students use Explanation Language Frames to engage in peer-to-peer discussion to explain the patterns they observe in the sky at certain times. In addition, at the end of each chapter, the class constructs a written scientific explanation together in response to Sai's questions.</li><li>● <b>Practice 5: Using Mathematics and Computational Thinking:</b> Students observe the sky multiple times during this unit to track the sun's position at different times throughout the day. To do so, they consider the sun's height in the sky relative to the horizon and display that data on a Sky Mural (a graphical representation of the sun's position in the sky throughout the day) and in a data table.</li><li>● <b>Practice 7: Engaging in Argument from Evidence:</b> Students participate in a Shared Listening routine several times throughout the unit, using the prompts I</li></ul>		
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think . . . and I agree/disagree because . . . ● <b>Practice 8: Obtaining, Evaluating, and Communicating Information:</b> Students gather evidence through firsthand and secondhand sources, as well as participate in a structured discourse routine that helps them communicate about and make sense of science ideas, using key vocabulary.		
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**New Jersey Social and Emotional Competencies and Sub-Competencies**

<b>Self-Awareness</b>	<ul style="list-style-type: none"> <li>● Recognize one’s feelings and thoughts.</li> <li>● Recognize the impact of one’s feelings and thoughts on one’s own behavior.</li> <li>● Recognize one’s personal traits, strengths, and limitations.</li> <li>● Recognize the importance of self-confidence in handling daily tasks and challenges.</li> </ul>
<b>Self-Management</b>	<ul style="list-style-type: none"> <li>● Understand and practice strategies for managing one’s own emotions, thoughts, and behaviors.</li> <li>● Recognize the skills needed to establish and achieve personal and educational goals.</li> <li>● Identify and apply ways to persevere or overcome barriers through alternative methods to achieve one’s goals.</li> </ul>
<b>Social Awareness</b>	<ul style="list-style-type: none"> <li>● Recognize and identify the thoughts, feelings, and perspectives of others.</li> <li>● Demonstrate an awareness of the differences among individuals, groups, and others’ cultural backgrounds.</li> <li>● Demonstrate an understanding of the need for mutual respect when viewpoints differ.</li> <li>● Demonstrate an awareness of the expectations for social interactions in a variety of settings.</li> </ul>
<b>Responsible Decision Making</b>	<ul style="list-style-type: none"> <li>● Develop, implement, and model effective problem-solving and critical thinking skills.</li> <li>● Identify the consequences associated with one’s actions in order to make constructive choices.</li> <li>● Evaluate personal, ethical, safety, and civic impact of decisions.</li> </ul>
<b>Relationship Skills</b>	<ul style="list-style-type: none"> <li>● Establish and maintain healthy relationships.</li> <li>● Utilize positive communication and social skills to interact effectively with others.</li> <li>● Identify ways to resist inappropriate social pressure.</li> </ul>

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	<ul style="list-style-type: none"> <li>● Demonstrate the ability to prevent and resolve interpersonal conflicts in constructive ways.</li> <li>● Identify who, when, where, or how to seek help for oneself or others when needed.</li> </ul>
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<b><u>Interdisciplinary Connections</u></b>
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<b>ELA Standards</b>
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<b>RI.CR.1.1</b>	Ask and answer questions about key details in an informational text (e.g., who, what, where, when, why, how).
<b>RI.IT.1.3</b>	Describe relationships among pieces of information (e.g., sequence of events, steps in a process, cause-effect and compare-contrast relationships) within a text.
<b>RI.TS.1.4</b>	With prompting and support, explain major differences between books that tell stories and books that give information, identifying various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text while drawing on a wide reading of a range of text types.
<b>RI.PP.1.5</b>	Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.
<b>RI.MF.1.6</b>	With prompting and support, use text features (e.g., diagrams, tables, animations) to describe key ideas.
<b>W.IW.1.2</b>	<p>With prompts and support, write informative/explanatory texts to examine a topic and convey ideas and information. opportunity to integrate climate change education.</p> <ul style="list-style-type: none"> <li>A. Introduce a topic.</li> <li>B. Develop the topic with facts or other information and examples related to the topic.</li> <li>C. Provide a conclusion.</li> </ul>
<b>W.WP.1.4</b>	<p>With prompts, guidance and support develop and strengthen writing as needed by planning, revising, and editing.</p> <ul style="list-style-type: none"> <li>A. With prompts and support, identify audience and purpose before writing.</li> <li>B. With prompts and support, find and correct errors of spelling, capitalization, and punctuation after skills have been taught.</li> </ul>
<b>W.WR.1.5</b>	With prompting and support, generate questions through shared research about a topic and determine possible sources to obtain information on that topic.
<b>W.SE.1.6</b>	With guidance and support from adults, gather and select information from multiple sources to answer a question or write about a topic.
<b>W.RW.1.7</b>	Engage in discussion, drawing, and writing in brief but regular writing tasks.

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<b>SL.PE.1.</b>	<p>Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. opportunity to integrate climate change education.</p> <ul style="list-style-type: none"> <li>A. Follow agreed-upon norms for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).</li> <li>B. Build on others' talk in conversations by responding to the comments of others through multiple exchanges.</li> </ul>
<b>SL.II.1.2</b>	Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
<b>SLPI.1.4</b>	Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
<b>SL.UM.1.5</b>	Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.
<b>L.RF.1.3</b>	Know and apply grade-level phonics and word analysis skills in decoding words.
<b>L.RF.1.4</b>	<p>Read with sufficient accuracy and fluency to support comprehension.</p> <ul style="list-style-type: none"> <li>A. Read grade-level text with purpose and understanding.</li> <li>B. Read grade-level text orally with accuracy, appropriate rate, and expression.</li> <li>C. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.</li> </ul>
<b>L.VL.1.2</b>	<p>Ask and answer questions to determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content.</p> <ul style="list-style-type: none"> <li>A. Choose flexibly from an array of strategies to determine the meaning of words and phrases.</li> <li>B. Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.</li> </ul>
<b>Mathematics Standards</b>	
<b>MP1</b>	Make sense of problems and persevere in solving them.
<b>MP2</b>	Reason abstractly and quantitatively.
<b>MP4</b>	Model with mathematics.
<b>MP5</b>	Use appropriate tools strategically.
<b>MP6</b>	Attend to precision.
<b>1.OA.1</b>	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions.
<b>1.OA.2</b>	Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

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<b>1.M.3</b>	Tell and write time in hours and half-hours using analog and digital clocks.
<b>1.DL.1</b>	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.
<b>1.G.2</b>	Compose two-dimensional shapes or three-dimensional shapes to create a composite shape, and compose new shapes from the composite shape.
<b>1.G.3</b>	Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

<u><a href="#">Computer Science &amp; Design Thinking</a></u>	
<b>8.1.2.NI.2</b>	Describe how the Internet enables individuals to connect with others worldwide.
<b>8.1.2.DA.1</b>	Collect and present data, including climate change data, in various visual formats.
<b>8.1.2.DA.3</b>	Identify and describe patterns in data visualizations.
<b>8.1.2.DA.4</b>	Make predictions based on data using charts or graphs.
<b>8.1.2.AP.4</b>	Break down a task into a sequence of steps.
<b>8.2.2.ED.2</b>	Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.
<b>8.2.2.ED.3</b>	Select and use appropriate tools and materials to build a product using the design process.

<u><a href="#">Career Readiness, Life Literacies &amp; Key Skills</a></u>	
<b>9.1.2.CR.1</b>	Recognize ways to volunteer in the classroom, school, and community.
<b>9.1.2.CAP.1</b>	Make a list of different types of jobs and describe the skills associated with each job.
<b>9.4.2.CI.1</b>	Demonstrate openness to new ideas and perspectives.
<b>9.4.2.CI.2</b>	Demonstrate originality and inventiveness in work.
<b>9.4.2.CT.1</b>	Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem.
<b>9.4.2.CT.2</b>	Identify possible approaches and resources to execute a plan.

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<b>9.4.2.CT.3</b>	Use a variety of types of thinking to solve problems.
<b>9.4.2.IML.2</b>	Represent data in a visual format to tell a story about the data.
<b>9.4.2.IML.3</b>	Use a variety of sources including multimedia sources to find information about topics such as climate change, with guidance and support from adults.
<b>9.4.2.TL.1</b>	Identify the basic features of a digital tool and explain the purpose of the tool.

<b>Career Readiness, Life Literacies, and Key Skills Practices</b>	
<b>CLKS.1</b>	Act as a responsible and contributing community member and employee.
<b>CLKS.2</b>	Attend to financial well-being.
<b>CLKS.3</b>	Consider the environmental, social and economic impacts of decisions.
<b>CLKS.4</b>	Demonstrate creativity and innovation.
<b>CLKS.5</b>	Utilize critical thinking to make sense of problems and persevere in solving them.
<b>CLKS.6</b>	Model integrity, ethical leadership and effective management.
<b>CLKS.7</b>	Plan education and career paths aligned to personal goals.
<b>CLKS.8</b>	Use technology to enhance productivity, increase collaboration and communicate effectively.
<b>CLKS.9</b>	Work productively in teams while using cultural/global competence.

<b>Evidence of Student Learning</b>	
<b>Formative Tasks:</b> <ul style="list-style-type: none"> <li>• Teacher observations</li> <li>• Class discussions</li> <li>• Whiteboard/Communicators</li> <li>• On-the-Fly Assessments</li> <li>• Daily classwork</li> <li>• Checks for understanding</li> <li>• Clipboard Assessment Tool</li> <li>• Critical Juncture Assessment</li> <li>• Crosscutting Concept Tracker</li> </ul>	<b>Alternative Assessments:</b> <ul style="list-style-type: none"> <li>• Oral assessments</li> </ul>
<b>Summative Assessments:</b> <ul style="list-style-type: none"> <li>• End of Unit Assessment</li> </ul>	<b>Benchmark Assessments:</b> <ul style="list-style-type: none"> <li>•</li> </ul>

<b>Knowledge &amp; Skills</b>
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<p><b>Enduring Understandings:</b></p> <ul style="list-style-type: none"> <li>● We can see the sun in the sky during the daytime and the stars in the sky during the nighttime.</li> <li>● Right now, the sky looks different to people in different places on Earth.</li> <li>● Earth is round like a ball.</li> <li>● It is daytime for people in places on Earth that are facing the sun.</li> <li>● It is nighttime for people in places on Earth that are not facing the sun.</li> <li>● The sun looks like it is in different places in the sky at different times.</li> <li>● As Earth spins, we face different directions, so the sky looks different to us.</li> <li>● The sun follows the same pattern in the sky every day.</li> <li>● The sun follows the same pattern in the sky every day because Earth spins one full time every day.</li> <li>● Daytime is shorter and nighttime is longer in winter than in other seasons.</li> </ul>	<p><b>Essential Questions:</b></p> <ul style="list-style-type: none"> <li>● What can we see in the sky at different times?</li> <li>● What does the sky look like to people in different places on Earth right now?</li> <li>● Why is it daytime in some places on Earth when it is nighttime in other places?</li> <li>● Where is the sun in the sky at different times?</li> <li>● Why do we see the sun in different places in the sky during the daytime, and then not at all during the nighttime?</li> <li>● What will we see in the sky at the same times on a different day?</li> <li>● Why does the sun follow the same pattern in the sky every day?</li> <li>● How do the days change over a year?</li> </ul>
<p><b>Content</b> <i>Students will know...</i></p> <ul style="list-style-type: none"> <li>● During the school day, you can see the sun in the sky.</li> <li>● Scientists make observations to answer their questions.</li> <li>● Scientists record their observations so they can remember them later.</li> <li>● Daytime is the part of the day when the sky is bright.</li> <li>● Nighttime is the part of the day when the sky is dark.</li> <li>● Scientists read to answer their questions, especially when something they are figuring out is difficult to observe.</li> <li>● Scientists organize their data to answer questions.</li> <li>● We can see the sun in the sky during the daytime and the stars in the sky during the nighttime.</li> <li>● A pattern is something that we observe to be similar over and over again.</li> <li>● Many events in the world are repeated.</li> </ul>	<p><b>Skills</b> <i>Students will be able to ...</i></p> <ul style="list-style-type: none"> <li>● Make and record observations of the daytime sky to reach the conclusion that during the daytime, you can see the sun in the sky.</li> <li>● Make and check predictions.</li> <li>● Analyze data collected about daytime and nighttime and consider patterns in what they observe in the sky during the daytime and the nighttime.</li> <li>● Gather and organize data about what the sky looks like from different places on Earth.</li> <li>● Use observation data to determine whether it is daytime or nighttime in places observed.</li> <li>● Explain why the sky looks different in different locations.</li> <li>● Gather evidence of what Earth looks like by watching a series of videos.</li> <li>● Write to explain why it is daytime for places on the part of the Earth facing the sun and nighttime for places on the part of Earth not facing the sun.</li> </ul>

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| <ul style="list-style-type: none"><li>• Scientists organize data to make sense of what they observe and to answer their questions.</li><li>• In some places on Earth, it is daytime right now. In other places on Earth, it is nighttime right now.</li><li>• Right now, the sky looks different to people in different places on Earth.</li><li>• Scientists communicate their ideas about how and why things happen.</li><li>• Earth is round like a ball.</li><li>• Scientists organize their data to help them find patterns.</li><li>• Scientists use patterns to make predictions.</li><li>• Some places on Earth are facing the sun when other places on Earth are not facing the sun.</li><li>• It is daytime for people in places on Earth that are facing the sun.</li><li>• It is nighttime for people in places on Earth that are not facing the sun.</li><li>• Scientists use drawings, sketches, and models as a way to communicate ideas.</li><li>• Scientists communicate their ideas to one another by talking and writing.</li><li>• Reflecting helps us think about and understand what we know.</li><li>• When it changes from daytime to nighttime, the sun looks like it moves below the horizon.</li><li>• Scientists can use the horizon as a way to keep track of the sun's position in the sky</li><li>• The horizon is the line between the ground and the sky.</li><li>• It is possible to track the position of the sun in the sky by recording which part of the horizon it is above and how high it is in the sky.</li><li>• The sun looks like it is in different places in the sky at different times.</li><li>• The sun makes an arc-like pattern in the sky throughout the day.</li><li>• Earth spins.</li></ul> | <ul style="list-style-type: none"><li>• Complete a diagram to apply their understanding that it is daytime in places on Earth that are facing the sun while it is nighttime in places on Earth that are not facing the sun.</li><li>• Identify locations on a globe.</li><li>• Make and record observations of the sky to figure out how to keep track of the sun's position in the sky.</li><li>• Articulate ideas for how to keep track of the sun's position in the sky based on their observations.</li><li>• Create the horizon on the Sky Mural and use it as a tool for tracking the sun's position in the sky at different times.</li><li>• Explain how the horizon can be used to describe where the sun is in the sky.</li><li>• Learn and utilize a system for determining the height and direction of the sun's position in the sky.</li><li>• Describe the pattern of where the sun is in the sky at different times.</li><li>• Explain the pattern of the Moon using what has been learned about Earth's spin and the pattern of the sun's position in the sky.</li><li>• Write to explain why it changed from daytime to nighttime when Sai talked on the phone with his grandma.</li><li>• Make predictions while constructing an understanding of the sun's daily repeating pattern.</li><li>• Create a data table to organize data collected about the position of the sun.</li><li>• Evaluate the strengths and weaknesses of different visual representations and consider how different ways of organizing data help to highlight different patterns.</li><li>• Make predictions about where the sun will be in the sky when observations are made at the same time.</li><li>• Draw and write in a mini-book to show what has been learned about patterns of the sun.</li><li>• Describe how the sun is in different places in the sky at the same times of day in different seasons.</li><li>• Analyze data showing daytime and nighttime in different seasons.</li><li>• Write to explain the seasonal differences in daytime and nighttime.</li></ul> |
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<ul style="list-style-type: none"><li>● As Earth spins, we face different directions, so the sky looks different to us.</li><li>● When the Moon is visible in the sky, it makes an arc-like pattern in the sky throughout the day.</li><li>● It changes from daytime to nighttime because Earth spins.</li><li>● The sun is in about the same place in the sky at the same time each day.</li><li>● Scientists can use patterns to make predictions.</li><li>● Scientists can test their predictions by investigating.</li><li>● We will observe the sun make the same pattern in the sky every day.</li><li>● Scientists sometimes organize their data in a data table to reveal patterns.</li><li>● Organizing data in different ways highlights different patterns in data.</li><li>● Scientists use different ways to study the world.</li><li>● Scientists look for patterns and order when making observations about the world.</li><li>● Scientists assume natural events happen today as they happened in the past.</li><li>● Many events are repeated.</li><li>● Earth is always spinning.</li><li>● Scientists search for cause-and-effect relationships to explain natural events.</li><li>● The sun makes the same pattern in the sky every day because Earth spins one full time every day.</li><li>● Sunrise and sunset happen at different times during different seasons.</li><li>● Daytime is shorter and nighttime is longer in winter than in other seasons.</li><li>● We can explain patterns in what we see in the sky using what we know about Earth's shape and spin.</li><li>● Scientists organize their data to look for patterns.</li></ul>	<ul style="list-style-type: none"><li>● Explain how what we see in the sky changes as Earth spins.</li><li>● Identify a pattern and describe how organizing data helps us see the pattern.</li></ul>
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**Core Instructional & Supplemental Materials**

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### **Suggested Activities/Resources:**

- Books in This Unit
  - *After Sunset*
  - *Nighttime Investigation*
  - *What Spins?*
  - *A Walk Through the Seasons*
  - *Patterns of Earth and Space*
- *Spinning Earth Kit*

### **Supplemental Materials**

- *Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds PDF*
- Digital Resources included in each unit
- Multi-language glossary

## **Suggested Accommodations**

### **English Language Learners:**

- Multi-sensory instruction
- Flexible grouping
- Small group instruction
- Provide peer tutoring
- Use a strong student as a “buddy” (does not necessarily have to speak the primary language)
- Chunking information
- Scaffolded questioning
- Academic language support
- Vocabulary support
- Co-Constructed Word Banks
- Anchor charts
- Gradual release model
- Visual models
- Native language support when possible (Multi-language glossary)
- Sheltered English Instruction Strategies
- Sentence starters

### **Special Education/Students with Disabilities:**

- Allow extra time to complete assignments or tests
- Work in a small group
- Allow answers to be given orally or dictated
- Follow all IEP modifications
- Calculators
- Manipulatives/concrete models
- Directions repeated, clarified, and reworded
- Breakdown task into manageable parts

### **504 Plans:**

- Allow extra time to complete assignments or tests
- Work in a small group
- Allow answers to be given orally or dictated
- Calculators
- Manipulatives/concrete models
- Follow all 504 modifications

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### **Gifted and Talented:**

- Higher level questioning
- Enriched assignments
- Tiered assignments
- Choice board to extend learning

### **Students at Risk of Failure:**

- Provide peer tutoring
- Use a strong student as a “buddy”
- Allow extra time to complete assignments or tests
- Work in a small group
- One on one instruction
- Provide immediate praise and feedback
- Create a nurturing environment
- Provide visuals
- Be flexible with assignments and time frames
- Provide needed academic resources
- Chunking information
- Scaffolded questioning
- Tiered activities
- Manipulatives/concrete models
- Modified assignments
- Brain breaks

### **Economically Disadvantaged:**

- Pre-teach vocabulary using visuals and gestures
- Chunk texts
- Summarize as you go
- Preview lessons
- Graphic organizers
- Highlight key words
- Sentence starters
- Prompting and cueing
- Activate schema
- Build background knowledge

### **Culturally Diverse:**

- Create an emotionally positive classroom climate.
- Create effective communication
- Model and teach cultural respect
- Build relationships with students by interviewing students to understand their background