

Unit 1 - Earth's Place in the Universe Patterns and Cycles	Grade 1	Days - 17
<p>Standards: Students who demonstrate understanding can:</p> <p>1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted. [Clarification Statement: Examples of patterns could include that the sun and moon appear to rise in one part of the sky, move across the sky, and set; and stars other than our sun are visible at night but not during the day.] [Assessment Boundary: Assessment of star patterns is limited to stars being seen at night and not during the day.]</p> <p>1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year. [Clarification Statement: Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.] [Assessment Boundary: Assessment is limited to relative amounts of daylight, not quantifying the hours or time of daylight.]</p>		
Anchoring Question:		
<ul style="list-style-type: none"> How can we predict, observe and explain why the sun, moon and stars look different at different times? 		
Essential Questions:		
<ol style="list-style-type: none"> What patterns of change can be predicted when observing the sun, moon and stars? How does the sun impact how we live? How can we use a compass rose to track and predict where the sun will be during the day? Does the amount of daylight relate to the time of year? 		
Enduring Understandings:		
<ul style="list-style-type: none"> Objects in the sky move based on the rotation of the Earth. Changes of patterns in the sky are predictable. Stars, other than the sun, can only be seen at night. The Sun does not move, instead Earth's movement causes day and night. Many events are repeated. The Sun rises in the East and sets in the West. A compass rose is a tool used to show direction (north, south, east, west) The amount of daylight differs according to the position of the sun and Earth throughout the year. 		
<p>Storyline Narrative / Big Ideas: In this unit of study, students will study the movement of the sun, moon and stars and that they can be observed and predicted. When we observe and predict the movements in the sky we understand how the sun and moon rise and set how the stars travel across the sky, and how daylight differs depending on the position of the sun and earth. Students will be planning and carrying out investigations as well as analyzing and interpreting data.</p>		
<p>Vocabulary Words: fall, moon, sky, spring, summer, sun, winter, daylight, month, season, shadow, star, sunlight, week, year, star</p>		

Science and Engineering Practices	Disciplinary Core Ideas	Cross Cutting Concept
<p><u>Planning and Carrying Out Investigations</u> Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions. Make observations (firsthand or from media) to collect data that can be used to make comparisons. (1-ESS1-2)</p> <p><u>Analyzing and Interpreting Data</u> Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations. Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (1-ESS1-1)</p>	<p>ESS1.A: The Universe and its Stars: Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted. (1-ESS1-1)</p> <p>ESS1.B: Earth and the Solar System: Seasonal patterns of sunrise and sunset can be observed, described, and predicted. (1-ESS1-2)</p>	<p>Patterns - Observed patterns in nature guide organization and classification and prompt questions about relationships and causes underlying them.</p>
<p>Consolidated Supply List:</p> <ul style="list-style-type: none"> • journal • flashlights • aluminum foil • compass rose - class set • chalk • paper plates • bottle caps • flour • construction paper • Book - <u>A Moon of My Own</u> by Jennifer Rustgi 		
<p>Episode 1 Engage/Elicit Ideas Days: 2 days</p>		
Lessons		Resources
Lesson 1: Phenomena		Episode Supply List:

<p>Gather - Elicit ideas - Show phenomena video and elicit initial ideas. Have students draw a model of what they saw in the video in their science journals. Point out what makes a good science model - labels, pictures, arrows, etc.</p> <p>Reason - Students write down their noticings and wonders about the phenomena.</p> <p>Communicate - Class Discussion - Share their noticings and wonders. Write some claims to the unit anchor question - How can we predict, observe and explain why the sun, moon and stars look different at different times of the day and year?</p> <p>Lesson 2: Write Around</p> <p>Gather - Place Earth and Sky pictures on pieces of chart paper and place it around the room. Students rotate around the room and draw or write what they would do at that time of day.</p> <p>Reason - Hang the charts and share the write arounds. Create a class KWL chart with the question - What do you know about the sun, moon and stars at different times of day.</p> <p>Communicate - Students look back at KWL created and draw and write about ways we can find out more about what the sun, moon and stars look like at different times of the day. List these claims and questions to be answered throughout the unit.</p>	<p>Lesson 1:</p> <ul style="list-style-type: none"> Phenomena video - link Noticing/Wonders pdf - link <p>Lesson 2:</p> <ul style="list-style-type: none"> Earth/Sky Pictures - link KWL - link
<p>Episode 2 Explore Days: 5 days</p>	
<p>Lessons</p>	<p>Resources</p>
<p>Lesson 3: Measure Sun and Shadows</p> <p>Gather - Students will go out three times a day to measure the sun's height above the horizon and shadow length in the same location using non-standard measurement . Recording data on a student created table or graph in their journals.</p> <p>Reason - Students look at data and write down 3 noticings and wonders about the data.</p> <p>Communicate - Share their findings with the class. In their journals students write or draw why the sun makes</p>	<p>Episode Supply List:</p> <p>Lesson 3:</p> <ul style="list-style-type: none"> Teacher videos - Sun Height and Shadow Length Measuring the distance of the sun above the horizon. and Measuring the shadow of the flag pole instructions Noticing/Wonders pdf - link

shadow patterns throughout the day.

Lesson 4: Observe the Rotation of the Earth Around the Sun

Gather - Students watch the Earth's Rotation video

Reason - Students draw a model in their journals to show their understanding of the rotation of the Earth around the Sun.

Communicate - Partners act out the rotation of the sun and earth using themselves as models. One plays the sun the other plays the earth.

Lesson 5: Observe Moon Patterns

Gather - Students look at a moon phase calendar data for the current month - [Today's Moon Phase | Current moon cycle for today and tonight](#) and communicate what they notice with their partner.

Reason - Students draw a model of the moon's changing pattern in their journals.

Communicate - Share the patterns observed.

Lesson 6: Observe How a Shadow Changes

Gather - Flashlight experiment - Partners create a sculpture using aluminum foil. Provide students with flashlights to observe how shadows are casted from three different locations. Trace the shadow and Record the measurements of the shadow in their science journals using non-standard units of measurement.

Reason - Look at the data recorded and discuss their noticings with their partners.

Communicate - Share with the class their findings. Reflect back on the claims or KWL made in the Engage lessons to see if any new information can be added or questions answered.

Lesson 7: Daylight Changes based on the Seasons

Gather - Boys and girls, you will need to look very closely at this graph [SunriseSunset Calendar.pdf](#) and see if you can answer our question, "Is there a pattern to the amount of daylight we have each day, month or season?" You will have to look at this graph and try and figure out if you see a pattern. This graph shows

Lesson 4:

- Earth's Rotation - [A Day on Earth: StudyJams! Science | Scholastic.com](#)
- Journal

Lesson 5:

- Moon phase calendar - <https://www.moongiant.com/phase/today/>

Lesson 6:

- Flashlights
- Aluminum foil

Lesson 7:

- [SunriseSunset Calendar.pdf](#)

<p>the sunrise and the sunset for each month. If you look at the bottom of the graph you will see the months of the year: January, February, March, April, May, June, July, August, September and October. If you look at the side of the graph you will see the times of day. If you see AM - that means before lunch and PM means after lunch. As you are finding patterns, you might find one. When you tell me your pattern, you are making a claim. When you show me your pattern on the graph, that will be your evidence. A claim is a lot like your hypothesis. A claim is your brain goes - AH-HA! I think I know the answer!! Are you ready to make some claims as you investigate this graph today?</p> <p>Reason - students work in partnerships to read and interpret data to develop a claim about the predictable patterns of our sunrise and sunset.</p> <p>Communicate - Students share their claims in a whole group setting. Ask them to show their evidence using the Sunset, Sunrise Graph.</p>	
<p>Episode 3 Explain Days: 6 days</p>	
<p>Lessons</p>	<p>Resources</p>
<p>Lesson 8:- Vocabulary Splash Gather - display all the unit's vocabulary words on the board. Read each word to the class with a brief explanation of the words.</p> <p>Reason - partners sort these words in an open sort using their prior knowledge. Students label each group of words.</p> <p>Communicate - share how they sorted these words to the class.</p> <p>Lesson 9: Identify How a Compass Rose Helps Show Us the Path the Sun Takes Vocab. Focus - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.</p> <p>Gather - What is a compass rose? Pass out a compass rose to all the students. Notice the markings on the compass. Watch video on compass rose - What is a</p>	<p>Lesson 8:</p> <ul style="list-style-type: none"> • Vocabulary words: fall, moon, sky, spring, summer, sun, winter, daylight, month, season, shadow, star, sunlight, week, year, star • Sentence Strips of vocab words or display digitally <p>Lesson 9:</p> <ul style="list-style-type: none"> • Compass rose - class set • Video - What is a Compass Rose • Recording sheet/journal

Compass Rose

Reason - Go outside 3 times during the day and track the sun on a recording sheet or in their journals. Jot down the direction of the sun using the compass rose.

Communicate - Students will share how a compass rose helps us show the path of the sun? In their science notebooks students draw a model of the compass rose with labels. Tell us how it helps us track the path of the sun.

Lesson 10: Identify How to Use a Sundial

Vocab. Focus - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

Gather - What is a sundial? Read article together <https://kids.kiddle.co/Sundial> and watch video <https://www.youtube.com/watch?v=1SN1BOPLZAs>

Reason - Students make a human sundial with chalk. Go out 3 or more times in the day to record.
<https://www.crayola.com/lesson-plans/human-sundial-less-on-plan/>

Communicate - Students draw a model in their notebooks of how a sundial works.

Lesson 11: Identify How the Earth Moves Around the Sun

Vocab. Focus - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

Gather - watch video [Earth's Rotation & Revolution: Crash Course Kids 8.1](#), talk about the Earth's tilt with the students and rotation and revolution.

Reason - students create a t-chart explaining the difference between rotation and revolution.

Communicate - In journal students write how the Earth moves around the sun causing day and night and the different seasons.

Lesson 12: The Moon

Vocab. Focus - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word

Lesson 10:

- article - [Sundial Facts for Kids](#)
- video - [Following the Sun: Crash Course Kid](#)
- Chalk

Lesson 11:

- Video - [Earth's Rotation & Revolution: Crash Course Kids 8.1](#)

Lesson 12:

- Book - [A Moon of My Own](#) by

<p>and write the word in a sentence in their journals.</p> <p>Gather - Read Aloud by an Astronaut - A Moon of My Own https://www.youtube.com/watch?v=aN3aGtjDXS8</p> <p>Reason - Moon Activity - Moon Flip Book</p> <p>Communicate - Students share 3 interesting facts about the moon and 3 things you like about the moon.</p>	<p>Jennifer Rustgi</p> <ul style="list-style-type: none"> • Moon Flip Book
<p>Episode 4 Elaborate/Build New Content/Apply new Content Days: 3 days</p>	
<p>Activity</p>	<p>Resources</p>
<p>Lesson 14: Project - Design Challenge - Students will design a solution to - How can we track the <u>pattern</u> of shadow's movement throughout the day?</p> <p>In groups students draw a model of a tool to use for this investigation in science journals. Groups then construct their tool to use. Students will then track the data in their journals over the next four days. Students evaluate the data gathered writing about the movement of the sun from the tool engineered.</p> <p>Teacher support: During this process walk around and observe student work. Provide support to groups that need it.</p> <p>Share with the class.</p>	
<p>Episode 5 Evaluate Days: 1 day</p>	
<p>Assessment</p>	<p>Resources</p>
<p>Lesson 15: What do you need to create a shadow? 1. Yes/No Shadow Pictures In their journals pick 2 yes pictures and 2 no pictures and write why.</p> <p>Or</p> <p>2. Me and My Shadow</p>	<p>Lesson 15:</p> <ul style="list-style-type: none"> • Yes/No Shadow Pictures <p>Or</p> <ul style="list-style-type: none"> • Me and My Shadow
<p>Common Core Curriculum Connections</p>	

ELA/Literacy –

- W.1.7 Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). (1-ESS1-1),(1-ESS1-2)
- W.1.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (1-ESS1-1),(1-ESS1-2)

Mathematics –

- 1.OA.A.1 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, e.g., by using objects, drawings, and equations to represent the problem. (1-ESS1-2)
- 1.MD.C.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. (1-ESS1-2)

Instructional Strategies: Supports for English Language Learners

Sensory Supports	Graphic Supports	Interactive Supports
Real-life objects (realia)	Charts	In pairs or partners
Manipulatives	Graphic organizers	In triads or small groups
Pictures & photographs	Tables	In a whole group
Illustrations, diagrams, & drawings	Graphs	Using cooperative group structures
Magazines & newspapers	Timelines	With the Internet (websites) or software programs
Physical activities	Number lines	In the home language
Videos & films		With mentors
Broadcasts		
Models & figures		

Differentiation Strategies

Accommodations	Interventions	Modifications
Allow for verbal responses	Multi-sensory techniques	Modified tasks/ expectations
Repeat/confirm directions	Increase task structure (e.g., directions, checks for understanding, feedback)	Differentiated materials
Permit response provided via computer or electronic device	Increase opportunities to engage in active academic responding (e.g., writing, reading aloud, answering questions in class)	Individualized assessment tools based on student need
Audio Books	Utilize prereading strategies and activities: previews, anticipatory guides, and semantic mapping	Modified assessment grading



Unit 2 - Waves: Light and Sound	Grade 1	Days - 17
<p>Standards: Students who demonstrate understanding can:</p> <p>1-PS4-1. Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. [Clarification Statement: Examples of vibrating materials that make sound could include tuning forks and plucking a stretched string. Examples of how sound can make matter vibrate could include holding a piece of paper near a speaker making sound and holding an object near a vibrating tuning fork.]</p> <p>1-PS4-2. Make observations to construct an evidence-based account that objects can be seen only when illuminated. [Clarification Statement: Examples of observations could include those made in a completely dark room, a pinhole box, and a video of a cave explorer with a flashlight. Illumination could be from an external light source or by an object giving off its own light.]</p> <p>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. [Clarification Statement: Examples of materials could include those that are transparent (such as clear plastic), translucent (such as wax paper), opaque (such as cardboard), and reflective (such as a mirror).] [Assessment Boundary: Assessment does not include the speed of light.]</p> <p>1-PS4-4. Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.* [Clarification Statement: Examples of devices could include a light source to send signals, paper cup and string “telephones,” and a pattern of drum beats.] [Assessment Boundary: Assessment does not include technological details for how communication devices work.]</p>		
Anchoring Question:		
<ul style="list-style-type: none"> • What makes sound and how can we see light? 		
Essential Questions:		
<ol style="list-style-type: none"> 1. How does sound impact the way we live? 2. How does light impact the way we live? 3. Why is it important to know about light and sound energy? 		
Enduring Understandings:		
<ul style="list-style-type: none"> • Sound & light can travel • We are able to see things due to light • Light travels in a straight line • Natural sources include the sun while artificial sources include light bulbs and tv. • Sound is another type of wave and these waves allow us to hear music, people and noise. 		
Storyline Narrative / Big Ideas:		



In this unit of study, students will be exploring light and sound around us. Students will learn that light is created by both natural and artificial sources. Light travels in a straight line and is energy we can see. Students will also learn that shadows are areas of darkness behind an object that is being illuminated. The students will be able to define the terms opaque, transparent, translucent, refraction, and reflection. While exploring sound, students will learn that sound is another type of wave. Sound waves are created by vibrations. Sound waves travel through a medium, such as wires (headphones) or the molecules in the air.

Vocabulary Words: reflect, sound, space, speed, tuning fork, vibrate, beam, light source, transparent, translucent, opaque

Science and Engineering Practices	Disciplinary Core Ideas	Cross Cutting Concepts
<p><u>Planning and Carrying Out Investigations</u> Planning and carrying out investigations to answer questions or test solutions to problems in K-2 builds on prior experience and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <ul style="list-style-type: none"> - Plan and conduct investigations collaboratively to produce evidence to answer a question (1-PS4-1), (1-PS4-3) <p><u>Constructing Explanations and Designing Solutions</u> Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of evidence and ideas in construction evidence-based accounts of natural phenomena and designing solutions.</p> <ul style="list-style-type: none"> - Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. (1-PS4-2) - Use tools and materials provided to design a 	<p>PS4.A: Wave Properties: Sound can make matter vibrate, and vibrating matter can make sound. (1-PS4-1)</p> <p>PS4.B: Electromagnetic Radiation: Objects can be seen if light is available to illuminate them or if they give off their own light. (1-PS4-2)</p> <p>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. (Boundary: The idea that light travels from place to place is developed through experiences with light sources, mirrors, and shadows, but no</p>	<p>Cause and Effect - 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)</p>

<p>device that solves a specific problem. (1-PS4-4)</p> <p><u>Scientific Investigations Use a Variety of Methods</u> Scientists use different ways to study the world. (1-PS4-1) Science investigations begin with a question. (1-PS4-1)</p>	<p>attempt is made to discuss the speed of light.) (1- PS4-3)</p> <p>PS4.C: Information Technologies and Instrumentation: People also use a variety of devices to communicate (send and receive information) over long distances. (1- PS4-4)</p>	
<p>Consolidated Supply List:</p> <ul style="list-style-type: none"> • tuning forks • pie pans • flashlights • paper plates • glass/plastic • cardboard • aluminum foil • rubber mallet • paper towels • rubber Bands of various sizes • Epic Books subscription • Brainpop Jr subscription • Mystery Science subscription • Kahoot 		
<p>Episode 1 Engage/Elicit Ideas Days: 2 days</p>		
<p>Lessons</p>		<p>Resources</p>
<p>Lesson 1: Phenomena <u>Gather</u> - Elicit ideas - Show phenomena video and elicit initial ideas. Have students draw a model of what they saw in the video in their science journals. Point out what makes a good science model - labels, pictures, arrows, etc. <u>Reason</u> - Students write down their noticings and wonders about the phenomena. <u>Communicate</u> - Class Discussion - Share their noticings and wonders. Write some claims to the unit anchor</p>		<p>Lesson 1:</p> <ul style="list-style-type: none"> • Phenomena- Sound & Light Travel in Waves • Noticing/Wonder PDF- Notice and Wonder Note Catcher

<p>question - How can we predict, observe and explain how vibrations allow us to hear?</p> <p>Lesson 2: Write Around Gather- Place pictures of different objects around the room (flashlight, rubber band, computer, projector, piece of paper, instruments, etc).</p> <p>Reason- Students will rotate around the room and answer the question: Do you think this object makes a sound or provides light? Record in science journal.</p> <p>Communicate- Share student predictions from the write around. Then create a KWL chart with the question: What do you know about sound/light?</p>	<p>Lesson 2:</p> <ul style="list-style-type: none"> • KWL- KWL Chart or Digital KWL Chart •  WriteAroundPictures
<p>Episode 2 Explore Days: 3 days</p>	
<p>Lessons</p>	<p>Resources</p>
<p>Lesson 3: How Could You Send a Secret Message? Gather- Use the Mystery Science video for this lesson on communicating using light and sound. How could you send a secret message to someone far away?</p> <p>Reason - Partners will send secret messages to each other using flashlights. (Follow instructions from the Mystery Science video).</p> <p>Communicate - Students will share how they can send a secret message to their partner using light and color.. assessment</p> <p>Lesson 4: Tuning Fork Experiment Gather - Tell students - We may not be able to see sound waves move through the air, but we can demonstrate how sound made by a tuning fork creates a pattern of waves in water.</p> <p>Reason - Have students activate the tuning fork by striking it with a rubber mallet or on a block of wood, the heel of their hand, or the bottom of a shoe. Ask them to describe the sound it makes. Is the volume loud or soft? Does it make a high-pitch or low-pitch sound?</p>	<p>Lesson 3:</p> <ul style="list-style-type: none"> • Mystery Science Lesson - How could you send a secret message to someone far away? • Flashlights • Assessment • Hands-on Activity-  Mystery Science - Lights an... <p>Lesson 4:</p> <ul style="list-style-type: none"> • Student notebooks • Tuning fork • Large bowl of water • Rubber mallet or other soft surface • Paper towels

<ol style="list-style-type: none"> 1. Show them how to use their hands to stop the vibrations of the tuning fork. 2. Next, place the bowl of water on a paper towel. 3. Have students activate the tuning fork again, and place it on the surface of the water (not submerged into it). 4. The result: waves will form as the vibrations are transmitted through the water! <p>Communicate - Students will draw a model of sound waves. Use labels, pictures and words. Share models with the class</p> <p>Lesson 5: Opaque, Transparent, Translucent, & Reflective Experiment</p> <p>Gather - Give students the directions for today's experiment. Tell them that they will shine their flashlights on various objects around the room. Objects that can be classified as opaque, transparent, and translucent; such as printer paper, construction paper, paper plates, glass/plastic, cardboard, aluminum foil,</p> <p>Reason- With the lights off, students will explore various objects with a flashlight while in stations. Students will shine the light on each object and record their observations on this recording sheet.</p> <p> Exploring Light Recording Sheet Students will draw or write what happens to the light after being shone onto each different object (note for teachers- certain objects will absorb the light while others reflect).</p> <p>Communicate- Students will share the data they collected while completing the experiment. Add any additional claims or questions to the KWL chart from the previous lesson.</p>	<p>Lesson 5:</p> <ul style="list-style-type: none"> •  Exploring Light Recording ... • Paper • Aluminum foil • Paper plate • Construction paper • Clear plastic • Cardboard • flashlights
<p>Episode 3 Explain Days: 5 days</p>	
<p>Lessons</p>	<p>Resources</p>
<p>Lesson 6:- Vocabulary Splash</p> <p>Gather - Display all the unit's vocabulary words on the board. Read each word to the class with a brief explanation of the words.</p> <p>Reason - Partners sort these words in an open sort using</p>	<p>Lesson 6:</p> <ul style="list-style-type: none"> • Vocabulary words: reflect, sound, space, speed, tuning fork, vibrate, beam, light source, transparent, translucent, opaque • Sentence Strips of vocab words

their prior knowledge. Label each group of words.

Communicate - Share how they sorted these words to the class.

Lesson 7: How does sound travel?

Vocab. Focus - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

Gather - Watch the BrainPop Jr. Sound video:
[Brain Pop Jr - Sound](#)

Reason - As a class perform the Make Music with Water experiment in the activity section of the video. Discuss their observations.

Communicate - Shared Writing - Students and Teacher complete a shared writing. Go to Write About It activity in the activity section of the video. Using vocabulary words teacher and students will write to this prompt: Imagine you are at a music concert. What different sounds might you hear? How are these sounds made? Then cut apart story parts and have students illustrate their section. Put together as a class book.

Lesson 8: What are Sound Waves?

Vocab. Focus - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

Gather - Read the book *What are Sound Waves?* on Epic! <https://www.getepic.com/app/read/10647>, Ask questions while reading to pull out key details.

Reason - Wrap different sized rubber bands (thick/thin) around a plastic cup. Students will pluck the rubber bands and observe the vibrations and the different sounds each band makes. (Teacher - Point out various lengths and widths of rubber bands. Ask them - Does this have an affect on the different sounds?)

Communicate - Students will show understanding of sound energy by completing this sort. [Sound Energy Sort](#)

or display digitally






Lesson 7:

- 4-6 glasses
- Metal spoon
- Water
- Make Music with Water Experiment (brainpop jr sound)
- Write About It activity (brainpop jr sound)

Lesson 8:



- Rubber bands (various thickness)
- Cups
- Book - What are Sound Waves? <https://www.getepic.com/app/read/10647>,
- Sound Energy sort - [Sound Energy Sort](#)

<p>Lesson 9: Where Does Light Come From? Vocab. Focus - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.</p> <p>Gather- Watch the video  Light for Kids Where does light come from? Learn ...</p> <p>Reason- Students will draw and label three different sources of light as well as determine whether it is a nature-made or human-made source.  SourcesofLightEnergy-1.pdf</p> <p>Communicate- Students will share the three sources they identified as a light source and whether they are nature-made or human-made.</p> <p>Lesson 10: Final Vocabulary Activity Gather - Review vocab. for this unit.</p> <p>Reason - Play a Kahoot! https://create.kahoot.it/share/light-and-sound-grade-1/beb9419d-9419d-9de2-4a98-ac0c-76b0fa69308f</p> <p>Communicate - Students use vocabulary words to create a conversation between two people.  iMessages</p>	<p>Lesson 9:</p> <ul style="list-style-type: none"> Graphic organizer -  SourcesofLight... Student notebooks Video -  Light for Kids ... <p>Lesson 10:</p> <ul style="list-style-type: none"> List of vocabulary Kahoot - https://create.kahoot.it/share/light-and-sound-grade-1/beb9419d-9419d-9de2-4a98-ac0c-76b0fa69308f
<p>Episode 4 Elaborate/Build New Content/Apply new Content Days: 4-5 days</p>	
<p>Activity</p> <p>Project: Design Challenge Gather- Design a structure that uses light or sound to solve a communication problem defined by the class.</p> <ul style="list-style-type: none"> Have students come up with a problem they see where students are not getting information across a distance. For example, they want to send a message to a friend who lives across the street, or the teacher needs to call students to attention from anywhere in the classroom. Students may use available materials. These may be a variety of materials: flashlights, paper cups, string, balloons, boxes, sticks, paper <p>Reason- Students will brainstorm different ways to get their message across then design a structure that uses</p>	<p>Resources</p> <p>Episode Supply List: flashlights paper cups, String balloons, Boxes Sticks Paper or other classroom items students can use</p>

light or sound to send information over a distance. Students should draw the structure, include the materials used, and show how the device sends the message.

Questions you can ask to help students design a solution:

- *What message are you trying to convey?*
- *How will you send your message?*
- *How will this design send the message over the distance?*
- *What materials will be useful?*
- *How will others know what the message means?*
- *How will the device work?*
- *How will it use light/sound to communicate?*

Communicate- Students communicate their argument for their structure and how it uses light or sound to communicate over a distance as a solution to the defined problem.

And/Or

Design Lesson -

<https://mysteryscience.com/waves/mystery-4/sound-waves-engineering/235> (**Hands on Activity from the Mystery Lesson**)

STEM Project: Create a Sound

Day 1: Planning

Tell students that they will be creating an instrument that will need to produce a sound. First they will decide what pitch they will want their instrument to make, either high or low. Next, using what they know about pitch, volume, wavelength they will design an instrument that will make that pitch. Make sure to provide students with a supply list of materials before they design their instrument. Their design should have labels using the vocabulary terms they have learned throughout the unit.

Day 2: Construction

Students will gather the supplies needed and use their plan to create their instrument. Once students are done creating their instrument it will be time to test it out in front of their peers.

Episode 5

Evaluate

Days: 2 days

Assessment	Resources
<p>Create a gallery walk around the room with all the student design project devices. Students will go around and comment/provide feedback to their classmates' devices. Students should use relevant vocabulary when providing feedback to classmates. Students may also share their devices on Flipgrid and share their feedback using comments on classmates' videos.</p> <p>After reviewing classmate devices, students will then self assess their devices using a rubric.</p> <p>Teacher will then assess devices using a teacher rubric.</p>	<p>Episode Supply List:</p> <ul style="list-style-type: none"> Jamboard with feedback sentence starters- Gallery Walk Student self assessment rubric- SelfAssessmentRubric Teacher rubric- TeacherRubric

Common Core Curriculum Connections

ELA/Literacy

- 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. (1-PS4-2)
- W.1.7 Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions). (1-PS4- 1),(1-PS4-2),(1-PS4-3),(1-PS4-4)
- W.1.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (1-PS4-1),(1-PS4-2),(1- PS4-3)
- SL.1.1 Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. (1-PS4-1),(1-PS4-2),(1- PS4-3)

Mathematics

- 1.MD.A.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object. (1-PS4-4)
- 1.MD.A.2 Express the length of an object as a whole number of length units, by layering 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. (1-PS4-4)

Instructional Strategies: Supports for English Language Learners

Sensory Supports	Graphic Supports	Interactive Supports
Real-life objects (realia)	Charts	In pairs or partners
Manipulatives	Graphic organizers	In triads or small groups
Pictures & photographs	Tables	In a whole group
Illustrations, diagrams, & drawings	Graphs	Using cooperative group structures
Magazines & newspapers	Timelines	With the Internet (websites) or software programs
Physical activities	Number lines	In the home language
Videos & films		With mentors
Broadcasts		
Models & figures		

Differentiation Strategies

Accommodations	Interventions	Modifications
Allow for verbal responses	Multi-sensory techniques	Modified tasks/ expectations
Repeat/confirm directions	Increase task structure (e.g., directions, checks for understanding, feedback)	Differentiated materials
Permit response provided via computer or electronic device	Increase opportunities to engage in active academic responding (e.g., writing, reading aloud, answering questions in class)	Individualized assessment tools based on student need
Audio Books	Utilize prereading strategies and activities: previews, anticipatory guides, and semantic mapping	Modified assessment grading

Unit 3 - Animal Powers (Molecules to Organisms)	Grade 1	Days - 19
<p>Standards: Students who demonstrate understanding can: 1-LS1-1. 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.* [Clarification Statement: Examples of human problems that can be solved by mimicking plant or animal solutions could include designing clothing or equipment to protect bicyclists by mimicking turtle shells, acorn shells, and animal scales; stabilizing structures by mimicking animal tails and roots on plants; keeping out intruders by mimicking thorns on branches and animal quills; and, detecting intruders by mimicking eyes and ears.]</p> <p>1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive. [Clarification Statement: Examples of patterns of behaviors could include the signals that offspring make (such as crying, cheeping, and other vocalizations) and the responses of the parents (such as feeding, comforting, and protecting the offspring).]</p>		
Question		
<ul style="list-style-type: none"> How do plants/animals' external parts help them and their offspring survive? 		
Essential Questions:		
<ol style="list-style-type: none"> How do animals use their external parts to help them survive, grow, and meet their needs? How do plants use their external parts to help them survive, grow, and meet their needs? How do the behaviors of parents and offspring help the offspring survive? What can humans learn from plants and animals in order to help us survive? 		
Enduring Understandings:		
<ul style="list-style-type: none"> Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. Young animals are very much, but not exactly, like their parents. Plants also are very much, but not exactly, like their parents. 		
<p>Storyline Narrative / Big Ideas: Living things (plants and animals, including humans) depend on their surroundings to get what they need, including food, water, shelter, and a favorable temperature. Plants and animals have external features that allow them to survive in a variety of environments. Young plants and animals are similar but not exactly like their parents. In many kinds of animals, parents and offspring engage in behaviors that help the offspring to survive.</p>		
<p>Vocabulary Words: offspring, organisms, external, roots, stems, leaves, flowers, fruits, survive, behaviors, function, features, biomimicry</p>		

Science and Engineering Practices	Disciplinary Core Ideas	Cross Cutting Concepts
<p><u>Constructing Explanations and Designing Solutions</u> Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions. -Use materials to design a device that solves a specific problem or a solution to a specific problem. (1-LS1-1)</p> <p><u>Obtaining, Evaluating, and Communicating Information</u> Obtaining, evaluating, and communicating information in K– 2 builds on prior experiences and uses observations and texts to communicate new information. -Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. (1-LS1-2)</p>	<p>LS1.A: Structure and Function: 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)</p> <p>LS1.B: Growth and Development of Organisms: 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)</p> <p>LS1.D: Information Processing: 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)</p>	<p>Patterns - Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2)</p> <p>Structure and Function - The shape and stability of structures of natural and designed objects are related to their function(s). (1-LS1-1)</p>

Consolidated Supply List:

- student notebooks
- Dot Stickers
- Pipe cleaners
- Playdough
- straws
- Dixie cups (small ones)
- Straws
- Marshmallows
- Plastic spoons
- Forks
- knives
- White construction paper
- Mystery Science subscription

Episode 1**Engage/Elicit Ideas****Days: 2 days****Lessons****Lesson 1: Phenomena**

Gather - Elicit ideas - Show phenomena videos and elicit initial ideas.

Reason - Have students share in their journals what they think is happening in the videos. Write down their noticings and wonders about the phenomena.

Communicate - Class Discussion - Share their noticings and wonders. Write some claims to the unit anchor question - How can we predict, observe and explain how animals/plants depend on their surroundings to survive?

Lesson 2: Write Around

Gather - Place these pictures on chart paper around the room. [Animals and their Offspring](#)

Reason - Students will rotate around the room and answer the question: Do you notice any patterns of these animals with their babies? How are they taking care of their babies? Students jot down what they notice in the pictures.

Communicate - Share the write arounds. Then create a KWL chart with the question: What do you know about how animals take care of their offspring/babies? What do you want to find out about how animals or plants take care of their offspring?

Resources**Lesson 1:**

- Phenomena videos - [Baby Red Fox Calling!](#) and [The first howls of a wolf pup in the Northwoods of Minnesota](#)
- Noticing/Wonder PDF- [Notice and Wonder Note Catcher](#)

Lesson 2:

- KWL- [KWL Chart](#)
- [Digital KWL Chart](#)

Episode 2
Explore
Days: 4 days

Lessons

Lesson 3: Structure Experiment

Gather - Explain to students that they will be exploring different structures and functions of an animal. Follow these steps to complete the experiment. Students will receive one marshmallow, plastic spoon, knife, and fork.

Reason - They will attempt to scoop, pick up, and cut the marshmallow in half with all three plastic utensils. Students will fill in a data table of the results (whether the spoon/fork/knife was able to scoop/pick up/cut the marshmallow). Students place a check mark in the box.

Communicate - Students will communicate the explanation of which structure completed the function the best.

☐ MYSTERY SCIENCE - Animal Superpowers - M1 - ...

Lesson 4: Why Don't Trees Blow Down in the Wind?

Mystery Lesson - [Why don't trees blow down in the wind?](#)

Gather - Start lesson with exploration video

Reason - Follow lessons in Mystery Science to prepare for hands-on activity. Students examine structures like roots, branches, and leaves that keep trees from blowing down. In the activity, Wind-Proof Umbrella (mimicking trees), they use their observations to create their own tree-inspired umbrellas that stay up in the wind.

Communicate - Students reflect on the experiment. In their journal's answer - Why don't trees blow down in the wind?

Lesson 5: Why do baby ducks follow their mothers?

Mystery Lesson - [Why do baby ducks follow their mother?](#)

Gather - Students read along with you a book called - [The Ducks in Grandmas Pond](#)

Resources

Lesson 3:



- Marshmallows
- Plastic spoons
- Forks
- knives
- Data table-
☐ Function and St...

Lesson 4:

- Dixie cups
- Dot Stickers
- Pipe cleaners
- Playdough
- straws

Lesson 5:

- See Think Wonder - [Link](#)
- [assessment](#)
- Lesson - [Why do baby ducks follow their mother?](#)

<p>Reason - Students will make observations of some animals and their behaviors with their mothers. Stopping and asking questions like:</p> <ul style="list-style-type: none"> • What are they doing? • Why are they doing that? <p>Students use observation chart to record their findings - Link</p> <p>Communicate- Students complete the prompt to check for understanding - assessment</p>	
<p>Episode 3 Explain Days: 8 days</p>	
<p>Lessons</p>	<p>Resources</p>
<p>Lesson 6 - Vocabulary Splash</p> <p>Gather - Display all the unit's vocabulary words on the board. Read each word to the class with a brief explanation of the words.</p> <p>Reason - Partners sort these words in an open sort using their prior knowledge. Label each group of words.</p> <p>Communicate - Share how they sorted these words to the class.</p> <p>Lesson 7: Structures</p> <p>Vocab. Focus - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.</p> <p>Gather - Students will watch the video  Structure & Function for Kids Science Lesson for ...</p> <p>Reason - After watching the Function and Structure video, students will take a look at pictures of some animals and their offspring. Pictures - Animals and their Offspring. Students will identify and explain the function of these features in a share out.</p> <p>Communicate - Students will choose one of the animals and its features to write what function a particular structure has. (Ex. Wings help birds fly). Draw a picture to match the words. Share out and create a class book.</p> <p>Lesson 8: Why do animals hide?</p>	<p>Lesson 6:</p> <ul style="list-style-type: none"> • Vocabulary Words - offspring, organisms, external, roots, stems, leaves, flowers, fruits, survive, behaviors, function, features <p>Lesson 7:</p> <ul style="list-style-type: none"> • Video -  Structure & Function for Kid... • Pictures - Animals and their Offspring • Writing paper <p>Lesson 8:</p> <ul style="list-style-type: none"> • Book - Why Do Animal Hide? -

Vocab. Focus - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

Gather - Read the following book to students
<https://www.getepic.com/app/read/52341>

Reason - Use this article to discuss the animal - chameleon. [Why Do Chameleon Camouflage? – Reptiles Guide](#)

Students will then use the chameleon template to disguise him so he won't be in danger in his environment. Instructions:

1. Chart a list of backgrounds to hide their chameleon. (ex. forest, mountains, tree,) Draw this background on a piece of white construction paper.
2. Then they will decorate their chameleon to hide in the background.
[template](#)

Communicate - Share with classmates. See if students can see their chameleon in their background.

Lesson 9: All About My Animal (3 days)

Vocab. Focus - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

Gather - Make a list of animals that have interesting external parts. Students will choose an animal they would like to research with a group of students.

Reason - Using epic books students will work in groups based on the same animal interest to create an All About book. This research could also be put into a Buncee or Jamboard. Pages should include a diagram/picture of the animals with labeled survival structures Template you could use - [Animal Research](#)

Communicate - Author's chair for groups to share their research books.

Lesson 10: Biomimicry

Vocab. Focus - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

<https://www.getepic.com/app/read/52341>

- Article - [Why Do Chameleon Camouflage? – Reptiles Guide](#)
- Chameleon - [template](#)
- White construction paper
- Crayons or markers

Lesson 9:

Book template - [Animal Research](#)

Lesson 10:

- Video - [Biomimicry 101 - Examples Of How We Copied Nature](#)
- Match cards -

<p>Gather - Watch video about biomimicry - Biomimicry 101 - Examples Of How We Copied Nature Discuss example of biomimicry - Solar panels inspired by plant leaves, airplanes inspired by birds, Ice pick for mountain climbers inspired by the woodpecker, swimsuits for triathlon athletes inspired by shark skin, shape of submarines inspired by shape of dolphins</p> <p>Reason - Groups of students will sort the animals and plants to the invention. Teach prep - Teacher will print and cut out cards and place in baggies, enough for several groups of students. BiomimicryMatchCards</p> <p>Communicate - Students choose an animal or plant they learned about and write how a scientist used the animal or plant to make or create something in our world. Enrichment - See if your students can think up a new invention using either an animal or plant.</p>	<p>BiomimicryMatchCards</p>
<p>Episode 4 Elaborate/Build New Content/Apply new Content Days: 3 days</p>	
<p>Activity</p>	<p>Resources</p>
<p>Create Your Own Animal <i>Students are going to draw or build a model of an animal or plant using different structures from different animals or plants. The teacher will assign specific habitats for the students. You can pick any habitat to assign to the students. But make sure you have a variety of assignments. The animal they come up with has to survive in the habitat the teacher assigned to them, but they can use any structures from different animals within that specific habitat.</i></p> <ul style="list-style-type: none"> For example: If a student was assigned the tundra, they may take the claws and teeth of a polar bear, the short body of a caribou, the white fur of an arctic fox, and small ears of an arctic hare. Students will then have to explain and justify why they chose each structure for their new animal to live in the Tundra. <p>Students can use craft materials, Buncie or draw pictures to create their animal. Students will share their creation in a gallery walk and explain how the structures of the animal will help them survive in their environment.</p>	
<p>Episode 5</p>	

Evaluate Days: 2 days	
Assessment	Resources
<p>Create a gallery walk around the room with all the student models. Students will go around and comment/provide feedback to their classmates' models. Students should use relevant vocabulary when providing feedback to classmates. Students may also share their models on Flipgrid and share their feedback using comments on classmates' videos.</p> <p>After reviewing classmate devices, students will then self assess their devices using a rubric.</p> <p>Teacher will then assess models using a teacher rubric.</p>	<ul style="list-style-type: none"> Jamboard with feedback sentence starters- Gallery Walk Student self assessment rubric- SelfAssessmentRubric
Common Core Curriculum Connections	
<p>ELA/Literacy – RI.1.1 Ask and answer questions about key details in a text. (1-LS1-2) RI.1.2 Identify the main topic and retell key details of a text. (1-LS1-2) RI.1.10 With prompting and support, read informational texts appropriately complex for grade. (1-LS1-2) W.1.7 Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). (1-LS1- 1)</p> <p>Mathematics – 1.NBT.B.3 Compare two two-digit numbers based on the meanings of the tens and one digits, recording the results of comparisons with the symbols $>$, $=$, and $<$. (1-LS1-2) 1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning uses. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. (1- LS1-2) 1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. (1-LS1-2) 1.NBT.C.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. (1-LS1-2)</p>	
Instructional Strategies: Supports for English Language Learners	

Sensory Supports	Graphic Supports	Interactive Supports
Real-life objects (realia)	Charts	In pairs or partners
Manipulatives	Graphic organizers	In triads or small groups
Pictures & photographs	Tables	In a whole group
Illustrations, diagrams, & drawings	Graphs	Using cooperative group structures
Magazines & newspapers	Timelines	With the Internet (websites) or software programs
Physical activities	Number lines	In the home language
Videos & films		With mentors
Broadcasts		
Models & figures		

Differentiation Strategies

Accommodations	Interventions	Modifications
Allow for verbal responses	Multi-sensory techniques	Modified tasks/ expectations
Repeat/confirm directions	Increase task structure (e.g., directions, checks for understanding, feedback)	Differentiated materials
Permit response provided via computer or electronic device	Increase opportunities to engage in active academic responding (e.g., writing, reading aloud, answering questions in class)	Individualized assessment tools based on student need
Audio Books	Utilize prereading strategies and activities: previews, anticipatory guides, and semantic mapping	Modified assessment grading

Unit 4 - Heredity		Grade 1	Days - 13
Standards: Students who demonstrate understanding can: 1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents. [Clarification Statement: Examples of patterns could include features plants or animals share. Examples of observations could include leaves from the same kind of plant are the same shape but can differ in size; and, a particular breed of dog looks like its parents but is not exactly the same.] [Assessment Boundary: Assessment does not include inheritance or animals that undergo metamorphosis or hybrids.]			
Anchoring Question:			
<ul style="list-style-type: none"> Why do young plants and animals look alike, but not exactly like their parents? 			
Essential Questions:			
<ol style="list-style-type: none"> Are the features of plants or animals similar or different? What features of a plant or animal vary in size, color and shape? 			
Enduring Understandings:			
<ul style="list-style-type: none"> Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. Plants have the same features but are different. Animals share the same features but are different. 			
Storyline Narrative / Big Ideas: Students will observe that adult and young plants and animals share similarities and differences and record these findings in their science journals. They will be able to explain the life cycle of a plant and what features are similar and different about an animal or plant's offspring.			
Vocabulary Words: exact, exist, growth parent, sibling, environmental, differences, offspring			
Science and Engineering Practices	Disciplinary Core Ideas	Cross Cutting Concepts	
<u>Constructing Explanations and Designing Solutions</u> Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions. Make observations (firsthand or from media) to construct an evidence-based account for	LS3.A: Inheritance of Traits: Young animals are very much, but not exactly like, their parents. Plants also are very much, but not exactly, like their parents. (1-LS3-1) LS3.B: Variation of Traits: Individuals of the same kind of plant or animal	Patterns - Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-LS3-1)	

natural phenomena. (1-LS3-1)	are	
Consolidated Supply List: <ul style="list-style-type: none"> • Bird seed • magnifying glass • Baggies • paper towels • pea seeds • Lima Beans • magnifying glasses • Book - <u>The Tiny Seed</u> by Eric Carle • Book - Are You My Mother? By PD Eastman • Book - <u>Stellaluna</u> by Janell Cannon 		
Episode 1 Engage/Elicit Ideas Days: 1 day		
Lessons		Resources
Lesson 1: Phenomena Gather - Display photos on smartboard/white board, maternal and paternal, puppies with an adult dog, family pictures - Heredity Phenomena Reason - Students look at pictures and write down what they notice or wonder about the pictures on their graphic organizer. link Communicate - share findings with the class to make a class chart of noticings and wonders. Ask the question - <u>Why do young plants and animals look alike, but not exactly like their parents?</u> Add these noticings to the chart.		Lesson 1: <ul style="list-style-type: none"> • Pictures - Heredity Phenomena • Notice and Wonders Student Chart - link
Episode 2 Explore Days: 4 days		
Lessons		Resources
Lesson 2: Seeds (2 days) Gather - Read Aloud or Listen Aloud of <u>The Tiny Seed</u> book - https://www.youtube.com/watch?v=Is6wTeT2cKA Questions during read aloud: <ol style="list-style-type: none"> 1. How do you think the seed is traveling? 2. Why can't it grow in the beg. of the story? 3. What did the seed need to grow? Draw the seeds traveling journey in their journals or on a piece of paper. Make sure your picture shows the things		Lesson 2: <ul style="list-style-type: none"> • Book - <u>The Tiny Seed</u> by Eric Carle • Bird seed • Sorting template - circle sorting template

the seed needs to grow.

Reason - Hand out various seeds, partners sort their seeds to create data - [circle sorting template](#), label how you sorted the seeds. What are their similarities?

Communicate - groups share how they sorted their seeds and share their data to the class

Lesson 3: Planting a Seed

Gather - remember yesterday we sorted seeds that look alike. Today we will observe a pea seed and see how they resemble their parents. Teacher will display a pea plant pic from google. Show a pea seed and a plant pic from google discuss similarities and differences.

Reason -

Follow the steps below to plant a pea seed:

- Step 1: I give each child a zip-lock and write their name with a permanent marker.
- Step 2: I give each child a dry piece of paper towel folded in half and have them place it in the zip-lock bag.
- Step 3: I pour the water in the bags - just enough to moisten the paper towel. I make sure the paper towel is not dripping because this can cause the pea to mold.
- Step 4: Place a row of staples through the middle of the zip-lock bag.
- Step 5: Allow each child to place a dry bean on top of the staples and seal the bag.
- Step 6: Tape each bag to a window or a wall that gets the most sunlight.
- Step 7: The seeds will begin to germinate in 3-6 days.

Communicate - Tell students that throughout the growing process have your students measure, observe and record seed growth in their journals.

Lesson 4: Animal Traits

Gather - Read aloud or Listen Aloud - [Are you my Mother?](#) By PD Eastman


Ask these questions to guide the conversations:

1. How do you know that animal is not that baby's mother?
2. What should this baby's mother look like?

Lesson 3:

- magnifying glass
- Ziplock Baggies
- paper towels
- Pea seeds

Lesson 4:

- Book - Are You My Mother? By PD Eastman
- Sorting cards - [parents](#) and [babies](#)
- Extra -
-  Plant Feature F...

<p>Reason - Hand out sorting cards - parents and babies Match animals to their offspring. Discuss with your partner how you know they are a match. What are similar traits?</p> <p>Communicate - Discuss with class - Do all animal babies look exactly like their parents? Each students Chooses one of the animals and their baby and draw a model. Label/explain how they are similar.</p> <p>Lesson 5: Snails Gather- Watch the following video about snails focusing on the parts of the snail. ▶ SNAIL move : Animal Video Give students a diagram of a snail here - ☰ 1.2.2.2a Snail Outline . Together label the parts of the snail - shell, foot, eyes, mouth, tentacles.</p> <p>Reason - Look at pictures of baby snails. Have students compare a baby snail to an adult snail. Using parts as the comparison. 🖼 1.2.2.2a Young Snails Photos</p> <p>Communicate- Students will draw a picture of a baby snail next to its mother on the diagram. Label the parts to communicate the differences they found between a baby snail and an adult snail.</p>	<p>Lesson 5:</p> <ul style="list-style-type: none"> • ▶ SNAIL move : Animal Video • ☰ 1.2.2.2a Snail Outline • 🖼 1.2.2.2a Young Snails Photos
<p>Episode 3 Explain Days: 5 days</p>	
<p>Lessons</p> <p>*****Preparation - Send a letter home with children to bring in a picture of their family.</p> <p>Lesson 6: Vocabulary Splash Gather - Display the unit's words up on the board or printed out on (Blank-Word-Sort-Template) for group work. Read the words first and then give students directions on sorting with their partners.</p> <p>Reason - Partners sort the words with a partner, label why they go together.</p> <p>Communicate - Partners share with the class how you sorted the words.</p> <p>Lesson 7: Life Cycle of a Plant Vocab. Focus - choose a few vocabulary words to focus</p>	<p>Resources</p> <p>Lesson 6:</p> <ul style="list-style-type: none"> • Word sort - Blank-Word-Sort-Template <p>Lesson 7:</p>

on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

Gather - watch video - of baby seed to adult plant - [How Does A Seed Become A Plant? | Biology for Kids | SciShow Kids](#)

Reason - As a class use the printable book - [Life Cycle of a Flowering Plant](#) to draw a model/picture on pg 7 of how the beanstalk grew - life cycle of a plant.

Communicate - Check for understanding. Have students finish on their own with this worksheet - [plant life cycle](#) . Then Students can check their pea seeds and check for what life cycle their plant is in.

Lesson 8: Seeds

Vocab. Focus - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

Gather - Watch video - [Parts of a Bean Seed](#) - Discuss with students if they notice any parts found on an adult plant.

Reason - Give each child an open seed(lima bean). Use the diagram in the printable book from yesterday's lesson - [Life Cycle of a Flowering Plant](#), to find the parts of the seed with a partner. Use a magnifying glass to make further observations.

Communicate - Then in their printable book label any new parts to their seed diagram they drew in their books. Then Students can check their pea seeds and see if they can identify any parts of their seeds.

Lesson 9: Alike and Different

Vocab. Focus - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

Gather - Read Aloud - [Stellaluna](#) by Janell Cannon. Discuss why the bird and bat babies were confused. Show a picture of two fish from this - [link](#) . As a class jot down those things that are alike and those things that are different on the blank graphic organizer.

Reason - Give partners the picture of the cat and kittens

- Video - [Does A Seed Become A Plant? | Biology for Kids | SciShow Kids](#)
- Printable book - [Life Cycle of a Flowering Plant](#),
- Worksheet - [plant life cycle](#)

Lesson 8:

- Video - [Parts of a Bean Seed](#)
- Lima Beans
- Magnifying glasses
- Printable book - [Life Cycle of a Flowering Plant](#),

Lesson 9:

- Book - [Stellaluna](#) by Janell Cannon
- Pictures and graphic organizer - [1-LS3-1 Assessment - Alike and Different](#)

<p>and students jot down those things that are alike and those things that are different on a blank graphic organizer.</p> <p>Communicate - Share their findings. Ask the students - Why do young plants and animals look alike, but not exactly like their parents? Go back to the chart and see if more wonderings can be answered or more noticings can be added to the chart.</p>	
<p>Episode 4 Elaborate/Build New Content/Apply new Content Days: 2 days</p>	
<p>Activity</p>	<p>Resources</p>
<p>Lesson 10: Investigation</p> <p>Gather - Guide the conversation by asking your students to pay close attention to your hair, eyes, skin color, nose shape, lip shape, etc. Students display their family pictures on their desks like a museum viewing.</p> <p>Reason - Students walk around the room looking at pictures of their classmates and their classmates' family to compare and contrast traits.</p> <p>Instructions: <i>looking very closely at your classmates pic and then look at the photograph of his or her parent. Be sure to look at eye color, hair color or texture, face shape, skin color, etc. You might notice that your partner has curly hair but her mom has straight hair and her dad has curly hair. Be sure to write down that her dad has curly hair.</i></p> <p>Students use a record sheet here to record their evidence from one or more of their classmates. Investigation Worksheet - Compare and Contrast.pdf</p> <p>Communicate - share findings with the class</p>	<ul style="list-style-type: none"> Recording Sheet - Investigation Worksheet - Compare and Contrast.pdf
<p>Episode 5 Evaluate Days: 1 day</p>	
<p>Assessment</p>	<p>Resources</p>
<p>Alike and Different</p> <p>Print page 4 in this document. Print and give to each student. Use their independent answers to check for unit understanding.</p> <p>1-LS3-1 Assessment - Alike and Different</p>	<p>1-LS3-1 Assessment - Alike and Different</p>

Common Core Curriculum Connections:

ELA/Literacy –

- RI.1.1 Ask and answer questions about key details in a text. (1-LS3-1)
- W.1.7 Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). (1-LS3- 1)
- W.1.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (1-LS3-1)

Mathematics –

- 1.MD.A.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object. (1-LS3-1)

Instructional Strategies: Supports for English Language Learners

Sensory Supports	Graphic Supports	Interactive Supports
Real-life objects (realia)	Charts	In pairs or partners
Manipulatives	Graphic organizers	In triads or small groups
Pictures & photographs	Tables	In a whole group
Illustrations, diagrams, & drawings	Graphs	Using cooperative group structures
Magazines & newspapers	Timelines	With the Internet (websites) or software programs
Physical activities	Number lines	In the home language
Videos & films		With mentors
Broadcasts		
Models & figures		

Differentiation Strategies

Accommodations	Interventions	Modifications
Allow for verbal responses	Multi-sensory techniques	Modified tasks/ expectations
Repeat/confirm directions	Increase task structure (e.g., directions, checks for understanding, feedback)	Differentiated materials
Permit response provided via computer or electronic device	Increase opportunities to engage in active academic responding (e.g., writing, reading aloud, answering questions in class)	Individualized assessment tools based on student need
Audio Books	Utilize prereading strategies and activities: previews, anticipatory guides, and semantic mapping	Modified assessment grading