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PLANNED INSTRUCTION

A PLANNED COURSE FOR:

Science

Curriculum Writing Committee:
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Grade Level: First Grade

Date of Board Approval: _____

Curriculum Map

Overview: The DVSD First-Grade Science Curriculum covers the Pennsylvania STEELS (Science, Technology, Engineering, and Environmental Literacy Standards) and uses inquiry-based learning and phenomena-driven instruction that aims to spark curiosity and engage students in exploring real-world concepts. The curriculum emphasizes hands-on activities and investigations that encourage students to think like scientists by asking questions, making observations, and using evidence to draw conclusions about scientific phenomena in three units: **Light and Solar Patterns**, **Observing Objects with Sight and Hearing**, and **Structures and Behavior in Organisms.**

Time/Credit for the Course: Full Academic Year

Marking Period One: 45 Days (9 weeks) allotting for approximately 2 hours of science instruction per week for a total of 18 hours. **Day Patterns 4 Lessons**: Approximately 2 hours per lesson (8 hours) and **Night Patterns 3 Lessons**: Approximately 2 hours per lesson (6 hours) with 4 hours allotted for extensions and corrections as needed throughout the unit.

Unit 1 Light and Solar Patterns (Day Patterns and Night Patterns) pages 6-27.

Goals: Students will learn that:

- Experiments, readings, and models can be used as clues to find information about a phenomenon and develop possible solutions.
- The concepts of seasonal patterns of sunrise and sunset can be observed, described, and predicted.
- Objects can be seen if they emit light or if there is light to illuminate them.
- Some materials allow light to pass through them.
- Some materials block light and create a dark shadow on any surface beyond them where light cannot reach.
- The sun “appears” to continually move across the sky each day in a predictable pattern from East to West.
- Shadows move throughout the day due to the change in position of the sun in the sky.
- The height of the sun in the sky affects the length of shadows.
- Student-created models of the Sun and the Earth can be used to illustrate the position of the sun throughout the day.

- The moon has different shapes or phases that occur over 28 days.
- The light from stars is not visible during the day, but the moon is visible during the day and night.
- The North Star is visible in the sky near the Big Dipper.
- The North Star can be used to find your way if you are lost.

Marking Period Two: 45 Days (9 weeks) allotting for approximately 2 hours of science instruction per week for a total of 18 hours.**Light, Sound & Communication 6 lessons.** Approximately 2 ½ hours per lesson for 15 hours total with 3 hours for extensions and corrections.

Unit 2 Observing Objects with Light and Hearing (Light, Sound, and Communication) pages 28-44

Goals: Students will learn that:

- Experiments, readings, and models can be used as clues to find information about a phenomenon and develop possible solutions.
- Vibrations are used as sound effects for movies.
- Objects only make sounds at certain times.
- Paper can be used to investigate the connection between vibrations and sound.
- Some vibrations can only be heard, but others can also be seen.
- Some materials are translucent and let light through.
- Transparent items are difficult to see when there is low light.
- Some animals are silent, but they can be seen even when it is dark at night.
- To see objects, they must be externally illuminated or lit from within.
- Most living things need light to be seen.
- Some animals such, as fireflies, make their own light.
- Light can be used to communicate over long distances.
- Sound can be used to communicate when you can not see someone.
- Like other animals, humans use light and sound to communicate.
- Sight and sounds can help boats find their way.
- Cause and effect relationships can be used to explain the relationship behind the ways alligators and fireflies look and sound under the darkness of night.

Marking Period Three: 45 Days (9 weeks) allotting for approximately 2 hours of science instruction per week for a total of 18 hours. Structures and Behavior in Organisms: **Animal Traits & Survival.** Five Lessons and Activities. 2 ½ hours each for a total of 12 ½ hours total with 5 ½ hours for extensions and correctives.

Unit 3 Structures and Behavior in Organisms: Animal Superpowers: Animal Traits and Survival pages 44-58

Goals: Students will learn that:

- Experiments, readings, and models can be used as clues to find information about a phenomenon and develop possible solutions.
- Baby animals look similar to their parents because they share many of the same traits.
- Baby birds can be identified based on their observed traits.
- Parent animals pass their traits to their young.
- Birds have different shaped beaks for different needs.
- Different bird beaks are better for eating certain foods than other beaks.
- Baby birds have the same kind of beak as their parents.
- Birds are not the only animals that have specialized mouths.
- Ducks follow their parents due to imprinting.
- Some animals hide to stay safe.
- Some animals can walk and climb at birth, but other babies are carried in their parents' mouths to move quickly.
- Observations can be used to explain why camouflage is helpful to animals.
- They can create patterns on paper to mimic the camouflage ability of moths.
- Squirrels are one animal that is camouflaged in many different environments.
- Camouflage can protect animals.
- Baby animals (including humans) look similar to their parents, and they also act similarly.
- Observations of animals can be used to interpret the behavior of different animals to see how they care for their young.
- Animals can make their home in different and surprising places, but they still share some common behaviors with one other.

Marking Period Four: 45 Days (9 weeks) allotting for approximately 2 hours of science instruction per week for a total of 18 hours. Structures and Behavior in Organisms: Plant Survival Traits. Three Lessons each 2 ½ hours for a total of 7 ½ hours with the remaining hours available for extensions and corrections in all units.

Unit 3 Structures and Behaviors of Organisms: Plant Superpowers-Plant Traits and Survival pages 44-49 and pages 58-71

Goals: Students will learn that:

- Experiments, readings, and models can be used as clues to find information about a phenomenon and develop possible solutions.
- Young plants are a lot like their parents.
- Characteristics of seedlings and adult plants can be observed to match the seedling with its adult counterpart.
- Giant floating objects share many characteristics with leaves.
- The Giant Floating things are lily pads which are leaves.
- Through experimentation, wind-proof umbrellas can be constructed that do not blow down in the wind.
- Wind-proof umbrellas often share characteristics with trees.
- Lily pads can support themselves due to their large veins that act like ribs.
- That sunflowers move so that their heads always face the sun.
- Giant Lily Pad leaves gather sunlight and live in bright locations around the world.
- Observations can be used to predict what a new tiny water lily will look like.
- The plant with the tiniest leaves is a water lily.
- The scientific name for the tiny water lily is Nymphaea thermarum.

Curriculum Plan

Unit 1: Light and Solar Patterns Curriculum Map

Unit Overview
The concept that seasonal patterns of sunrise and sunset can be observed, described, and predicted connects to the idea that objects can be seen if they give off their own light or if there is light to illuminate them. This idea in turn connects to the idea that 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.

Standards	Big Idea	Essential Questions
Science: 3.2.1.B Make observations to construct an evidence based account that objects can be seen only when illuminated. (1-PS4-2) 3.2.1.C Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light. (1-PS4-3) 3.3.1.B Make observations at different times of year to relate the amount of daylight to the time of year. (1-ESS1-2) **Technology & Engineering:** STEL-2B: Safely use tools to complete tasks. STEL-2C: Explain that materials are selected for use because they possess desirable properties and characteristics. STEL-1A: Compare the natural world and human-made world.	Electromagnetic radiation (e.g., radio, microwaves, light) can be modeled as a wave pattern of changing electric and magnetic fields that interact with matter. Observations of the sky can be explained by predictable patterns of the movement of Earth, moon, sun and planets.	What is light? How can one explain the varied effects that involve light? What other forms of electromagnetic radiation are there? What are the predictable patterns caused by Earth's movement in the solar system?

Environmental Literacy & Sustainability: K-4 Strand 1.C. Collecting information: Learners locate and collect information about the environment and environmental topics. K-4 Strand 1.B. Designing investigations: Learners design simple environmental investigations. K-4 Strand 1.E. Organizing and analyzing information: Learners describe data and organize information to search for relationships and patterns concerning the environment and environmental topics.		

Textbook and Supplemental Resources:

1. DVSD First Grade Curriculum Unit 1 Light and Solar Patterns pages 6-27.
2. Mystery Science
3. Epic
4. IXL Science: O Astronomy The Daytime Sky, O Astronomy The Nighttime Sky
5. Light and Shadows: https://www.youtube.com/watch?v=YuUJCNzfoBw
6. Shadows: The Dr. Bincos Show: https://www.youtube.com/watch?v=lOIGOT88Aqc
7. How the Sun Affects the Earth: https://www.youtube.com/watch?v=i_jiQzoQF5M
8. Sun Position During the Day: https://www.youtube.com/watch?v=hVGXKKYdbfU
9. What are Stars? https://www.youtube.com/watch?v=ZrS3Ye8p61Y

Unit 1: Light and Solar Patterns Curriculum Plan

Learning Objectives/DOK Levels:

Students will know…. (DCI)	Students will be able to… (SEP)	Students will apply…(CCC)	DOK Level(s)
Objects can be seen if light is available to illuminate them or if they give off their own light. 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. Seasonal patterns of sunrise and sunset can be observed, described, and predicted.	Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. Plan and conduct investigations collaboratively to produce evidence to answer a question. Make observations (firsthand or from media) to collect data that can be used to make comparisons.	Simple tests can be designed to gather evidence to support or refute student ideas about causes. Simple tests can be designed to gather evidence to support or refute student ideas about causes. Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.	DOK Level 3 (Strategic Thinking): Constructing an evidence-based account involves using observations to interpret data and develop explanations, requiring reasoning and deeper understanding. DOK Level 3 (Strategic Thinking): Planning and conducting investigations requires strategic thinking to design experiments, collect evidence, and collaborate to solve a problem or answer a question. DOK Level 2 (Skills/Concepts): Collecting data for comparisons involves using observations to gather and organize information, requiring reasoning but not complex analysis.

Core Activities and Corresponding Instructional Methods

Mystery Science Unit(s)	Core Activities	Corresponding Instructional Methods	Extensions	Correctives	Time/Days
Day Patterns Unit (Sun & Shadows)	**Day Patterns Lesson O** (MS): **Shadow Surprises** The anchor phenomenon for this unit is a set of strange shadows that are moving in a mysterious way. Students will generate observations and questions about the phenomenon and create a list of possible explanations. Students gather clues during and after the unit to help improve their understanding	Analyzing and Interpreting Data	Science Circle Lesson Extension Box		12 weeks to cover Unit 1 Day Patterns and Night Patterns

	and explanations. Use and create a "See, Think, Wonder Chart" as a Driving Questions Board(DQB) Mystery Science: See, Think & Wonder Chart: https://mysteryscience.com/docs/2301				
3.3.1.A Use observations of the sun, moon, and stars to describe patterns that can be predicted.	**Lesson 1 (MS) Could a statue's shadow move?** Students will investigate what it takes to make a stationary object's shadow move. Students use flashlights and paper gnomes to explore how	Planning and Carrying Out investigations Analyzing and interpreting data	Science Circle Lesson Extension Box *What are Shadows and Reflections?*Book by Robin Johnson ages 7-9 with optional quiz. Found on Epic *What are Light Waves?* Book by Robin Johnson ages 7-9 with optional	IXL Lesson F 2. Investigate Shadows Epic Books Follow It Learn About Shadows Playing with Light and Shadows	

	moving the position of the light makes shadows move. Students relate these observations to shadows changing throughout the day and the Sun's position moving across the sky. Students view slides and participate in a teacher led discussion. Students wonder How does the sun make shadows change? Students learn that shadows move when the object making		quiz. Found on Epic. *Light Waves* Book by David A. Adler. Ages 7-9.. Optional Quiz at the end. Found on Epic *Light Makes Colors.* Book by Jennifer Boothroyd. Ages 5-7. Optional Quiz at the end. Found on Epic. *Light Helps Me See* Book by Jennifer Boothroyd for ages 5-7 with optional quiz at the end. Found on Epic.		

	the shadow moves or when the light source moves. Students learn that the Sun "appears" to continually move across the sky each day. Review and add to the See, Think, Wonder Chart as Driving Question Board(DQB).				
3.3.1.A Use observations of the sun, moon, and stars to describe patterns that can be predicted.	**Lesson 2 (MS) Read Along What Does your shadow do when you're not looking?** Students will explore why a shadow changes over the course of a day.	Analyzing and interpreting data.	Science Circle Lesson Extension Box Trace Your Shadow Activity *Follow It! Learn About Shadows* book by Pamela Hall for ages 5-7 with optional quiz at the end. Found on Epic	Light and Shadows https://www.youtube.com/watch?v=YuUJCNzfoBw Shadow The Dr. Bincos Show https://www.youtube.com/watch?v=lOIGOT88Aqc	

	Through a read-along story, students learn why shadows change over the course of a day. Students act out movement of shadows with their body. Students participate in a teacher led discussion. Students wonder In which directions does the sun move? Students learn that the height of the sun in the sky affects the length of shadows: As the sun rises in the morning the shadows get shorter. As the		*Discover Shadows* by Pamela Hall for ages 5-7 with an optional quiz at the end. Found on Epic. *Let's Explore the Sun* book by Walt K. Moon for ages 4-7 with optional quiz at the end. Found on Epic		

	sun sets in the evening the shadows get longer. Optional activity-students will trace their shadow in the morning and then in the afternoon. Each shadow will be traced with different colored chalk. They will observe the differences. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).				
3.3.1.A Use observations of the sun, moon, and stars to describe patterns that can be predicted.	**Lesson 3 (MS) How can the sun help you when you're lost?** Students will develop a model	Developing and Using Models Engaging in Argument from Evidence	Science Circle Lesson Extension Box	IXL Science O Astronomy The Daytime Sky How the Sun Affects the Earth	

	of the sun's daily path across the sky, then use this model to help someone who's lost. In the Sun Finder Activity, Students create a Mobile paper model of the Sun and the Earth to illustrate the position of the sun throughout the day. Students view wrap-up slides and participate in a teacher-led discussion. Students wonder "Does the sun always move the same way every day?" Students learn that the sun			https://www.youtube.com/watch?v=i_jiQzoQF5M Sun Position During the Day https://www.youtube.com/watch?v=hVGXKKYdbfU	

	moves higher when it is in the east and lower when it is in the west. Students learn that they can find their position based on which way the Sun and shadows are falling. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).				
3.3.1.B Make observations of different times of year to relate the amount of daylight to the time of year.	**Lesson 4 (MS) Read Along Why do you have to go to bed early in the summer?** Students will learn why they have to go to bed	Obtaining, evaluating, and communicating information.	Science Circle Lesson Extension Box Summer Sunshine Reader	Epic Books The Reason For Seasons	

	while the sun is still up, and learn that the sun stays up longer on some days than others. Students get moving by acting out their bedtime routine. Students participate in a teacher led discussion. Students learn that days get longer and shorter throughout the year, but the Sun is in consistent directions throughout the day, and they can use the position of the sun to tell the time of day.				

	Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).				
	Performance Task: Where will the Sun be tomorrow? Students will observe and predict the apparent location of the sun in the sky at different times of the day. After a review of the unit, students will gather observations of the sun from a single location Students will see that the sun follows a repeating pattern in its apparent motion.	Analyzing and Interpreting Data	Science Circle		

	Students then use that apparent pattern to predict the location of the sun at various times of the day in the future. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).				

Night Patterns Unit	**Night Patterns Lesson O** (MS): **Moon Mysteries** The anchor phenomenon for this unit is a set of surprising photos of the Moon. During the introduction, students generate observations and questions about the phenomenon and create a list	Analyzing and Interpreting Data	Science Circle Lesson Extension Box		
	Lesson 1 (MS) Moon Phases and patterns When can you see the full moon? Students explore all of the different shapes of the Moon that can appear on different nights.	Analyzing and interpreting data		IXL Science O Astronomy The Night Sky	

	In the hands-on activity, My Moon Book, students observe photos of the Moon taken over the course of four weeks and draw pictures of the Moon's phases in their book. They use these observations to discover patterns in how the Moon's shape changes and predict when the next full moon will appear. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).				

	Lesson 2(MS) Stars and Daily Patterns **Why do the stars come out at night?** In this session, students use a model to investigate why the stars are visible at night but disappear when the Sun comes out during the day. In the hands-on activity, Star Projector, students use paper cups to project stars onto a sky picture, and observe what happens to these stars when a flashlight acts as a model of the Sun.	Developing and Using Models Planning and Carrying Out Investigations Constructing Explanations and Designing Solutions		What are Stars? https://www.youtube.com/watch?v=ZrS3Ye8p61Y	

	Students wonder: Can stars help us if we down know where to go at night? Students learn: Stars are only visible at night because they aren't bright enough to be seen during the day. The Moon is bright enough to be seen during both the night and day. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB). Assessment: Draw and write to show and tell why you can't see the stars during the day.				

	Lesson 3(MS) **Seasonal Star Patterns** **How can stars help you if you get lost** Students imagine what they might see looking through a telescope. You can extend the lesson with the optional activity, Where Is North?, that helps students learn the cardinal directions. In this Read-Along lesson, Ryan's camping trip with his dad includes a night of stargazing,	Obtaining, evaluating, and communicating information		Epic Books: *Stars A First Look* *Let's Explore the Stars*	

	and a mystery to solve. Students learn: The Sun changes what we can see in the sky. This happens in a predictable pattern. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB). Assessment: Students will draw to show where the north star is in relationship to the big dipper.				

	Performance Task(MS) When can we see the sun, moon, and stars? Students will indicate when the sun, moon, and stars are visible in the sky.	Analyzing and Interpreting Data			

Assessments:

Diagnostic	Formative	Summative
Science Journal See, Think, Wonder Chart	Sun, Shadows, and Daily Patterns **Lesson 1** Could a statue's shadow move; Mystery Science Lesson 1 Assessment **Lesson 2** What does your shadow do when you are not looking; Mystery Science Lesson 2 Assessment **Lesson 3** How can the sun help you if you are lost; Mystery Science Lesson 3 Assessment	**Performance Task -** Where will the sun be tomorrow? Hands on activity - students will draw to show the location of sun in the sky at different times of the day.

	Lesson 4 Why do you have to go to bed early in the summer? Mystery Science Lesson 4 Assessment	

Curriculum Plan

Unit 2: Observing Objects with Sight and Hearing

Unit Overview
The idea that seasonal patterns of sunrise and sunset can be observed, described, and predicted connects to the concept that the patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted. These ideas also connect to the concept that objects can be seen if light is available to illuminate them or if they give off their own light. The concept of how objects can be seen can also connect to the idea that people also use a variety of devices to communicate (send and receive information) over long distances. Ideas about communication devices also connect to the concept that sound can make matter vibrate, and vibrating matter can make sound. The engineering design idea that a situation that people want to change or create can be approached as a problem to be solved through engineering could be applied to different science concepts, such as to the concept that sound can make matter vibrate, and vibrating matter can make sound, and to the concept that people also use a variety of devices to communicate (send and receive information) over long distances. Connections can be made through engineering tasks such as a task in which students identify devices they, or their families, may use that have been created to solve the problem of communicating over long distances, through a task in which students are challenged to create an instrument that uses vibrations to make sound, or through a task in which students try to make something move with vibrations created by sound. Additionally, students could connect these science concepts to the idea that, because there is always more than one possible solution to a problem, it is useful to compare and test designs. For example, students could test the instruments they created or they can compare different devices for how well the device allows people to communicate over long distances.

Textbook and Supplemental Resources

1. **DVSD First Grade Science Curriculum Observing Objects with Light and Hearing pages 28-44**
2. **Mystery Science**
3. **Epic (Books, audiobooks, and videos)**
4. **IXL**
5. **What is Sound?** https://www.youtube.com/watch?v=3-xKZKxXuu0
6. **What is Sound? The Dr. Bincos Show:** https://www.youtube.com/watch?v=gdGyvGPZ1G0
7. **Bill Nye the Science Guy: Sound** https://www.youtube.com/watch?v=pCrJctg3aeM&t=34s
8. **Bill Nye the Science Guy: Light and Color** https://www.youtube.com/watch?v=LGC6wM28LFM
9. **How Do Animals See in the Dark?** https://www.youtube.com/watch?v=t3CjTU7TaNA
10. **How Can You Send A Secret Message?** https://www.youtube.com/watch?v=4mTpMpU8e90
11. **Boating in the Fog** https://www.youtube.com/watch?v=KB6gboRYvfs&t=17s

Standards	Big Idea	Essential Questions

Science: 3.2.1.A Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. (1-PS4-1) 3.2.1.B* Make observations to construct an evidence based account that objects can be seen only when illuminated. (1-PS4-2)3.2.1.D Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance. (1-PS4-4) 3.3.1.A Use observations of the sun, moon, and stars to describe patterns that can be predicted. (1-ESS1-1) 3.3.1.B Make observations at different times of year to relate the amount of daylight to the time of year. (1-ESS1-2) *also addressed in Topics Unit 1 **3.4 Environmental Literacy and Sustainability** 3.4.K-2.D Plan and carry out an investigation to address an issue in the local environment and community. **3.5 Technology & Engineering:** 3.5.K-2.A Identify and use everyday symbols. 3.5.K-2.B Describe qualities of everyday products.	Sound is made by motion. Sound can be modeled as waves. Light is necessary to see objects. Useful modern technologies and instruments have been designed based on an understanding that light and sound travel The sun, moon, and stars move in predictable patterns Observations of the sky can be explained by predictable patterns of the movement of Earth, moon, sun and planets.	How does motion create sound? What is light? How do devices using light and sound help humans communicate over long distances? What are the predictable patterns caused by Earth's movement in the solar system?

3.5.K-2.G Explain the tools and techniques that people use to help them do things. 3.5.K-2.C Explain ways that technology helps with everyday tasks. 3.5.K-2.1 Compare simple technologies to evaluate their impact. 3.5.K-2.J Design new technologies that could improve their daily lives, 3.5.K-2.K Safely use tools to compare tasks 3.5.K-2.L Explore how technologies are developed to meet individual and societal needs and wants. 3.5.K-2.M Demonstrate essential skills of the engineering design process. 3.5.K-2.O Illustrate that there are different solutions to a design and that none are perfect. 3.5.K-2.P Discuss that all designs have different characteristics that can be described. 3.5.K-2 Apply skills necessary for making in design. 3.5.K-2.R Draw connections between technology and human experience. 3.5.K-2.S Apply design concepts, principals, and processes through play and exploration. 3.5.K-2.T Demonstrate that designs have requirements. 3.5.K-2.U Explain that design is a response to wants and needs. 3.5.K-2.V Explain that materials are selected for use because they possess desirable properties and characteristics. 3.5.K-2.W Apply concepts and skills from technology and engineering activities that		

reinforce concepts and skills across multiple areas. 3.5.K-2.X Develop a plan in order to complete a task. 3.5.K-2.AA Demonstrate that creating can be done by anyone. 3.5.K-2.DD Collaborate effectively as a team.		

Unit 2: Observing Objects with Sight and Hearing

Learning Objectives/DOK Levels:

Students will know…. (DCI)	Students will be able to… (SEP)	Students will apply…(CCC)	DOK Level(s)
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. Objects can be seen if light is available to illuminate them or if they give off their own light. People also use a variety of devices to communicate (send and receive information) over long distances. Patterns of the motion of the sun, moon, and stars in	Plan and conduct investigations collaboratively to produce evidence to answer a question. Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. Use tools and materials provided to design a device that solves a specific problem. Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. Make observations (firsthand or from	Simple tests can be designed to gather evidence to support or refute student ideas about causes. People depend on various technologies in their lives; human life would be very different without technology. Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. Science assumes natural events happen today as they happened in the past. Many events are repeated	DOK Level 3 (Strategic Thinking): Planning and conducting investigations involves collaboration, reasoning, and the strategic collection of evidence, requiring students to think critically and apply their understanding. DOK Level 3 (Strategic Thinking): Constructing an evidence-based account from observations involves analyzing data and using it to form a coherent explanation, which requires deeper thinking and reasoning. DOK Level 4 (Extended Thinking): Designing a device to solve a specific problem requires extended thinking, creativity, and problem- solving, as it involves multiple steps, integration of ideas, and the evaluation of outcomes. DOK Level 2 (Skills/Concepts): Describing patterns based on observations involves interpreting and organizing data to answer questions,

the sky can be observed, described, and predicted. Seasonal patterns of sunrise and sunset can be observed, described, and predicted.	media) to collect data that can be used to make comparisons.		requiring some reasoning but not complex analysis. DOK Level 2 (Skills/Concepts): Collecting data for comparisons involves gathering and organizing information, which requires reasoning but is not overly complex.

Core Activities and Corresponding Instructional Methods

Mystery Science Unit(s)	Core Activities	Corresponding Instructional Methods	Extensions	Correctives	Time/Days
Light Sound and Communication Unit **(Everglades Adventure)**	**Lesson 0 (MS) Light, Sound & Communication. Anchor Phenomenon: Everglades Adventure** Students generate observations and	Constructing Explanations and Designing Solutions	Science Circle Lesson Extension Box		12 weeks to cover Unit 2 Light, Sound, and Communication

	questions about the phenomenon, gather clues, and create a list of possible explanations for the phenomenon. Use and create a "See, Think, Wonder" Chart as a Driving Questions Board (DQB) Mystery Science: See, Think & Wonder Chart: https://mysteryscience.com/docs/2301				
	Lesson 1 (MS) How do they make silly sounds in cartoons? Students will investigate vibrations as a source of sound effects for movies. Students will use their hands and feet to create a "rainstorm" Students will use rulers to create a "boing"	Constructing Explanations and Designing Solutions	Science Circle Lesson extension box Readings, videos, and activities *What is Sound?* Audiobook by Kim Mitzo Thompson and Karen Mitzo Hilderbrand for ages 5-8 on Epic. *What are Sound Waves?* Book by	Epic Books Vibrations Make Sounds What is Sound https://www.youtube.com/watch?v=3-xKZKxXuu0	

	sound for a cartoon bouncy ball. Students wonder: Why do things only make sounds sometimes? Students learn that all objects that make sound do so by vibrating. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).		Robin Johnson for ages 7-9 with optional quiz at the end. found on Epic.		
	Lesson 2 (MS) **Read Along** **Where do sounds come from?** Students will explore sounds made by different kinds of instruments and discover what happens when vibrations start and stop. Students experiment with a piece of paper to investigate the connection between vibrations and sound.	Constructing Explanations and Designing Solutions	Science Circle Lesson Extension Box: Head Harp Activity where students make simple musical instruments using only their head and string. *How does Sound Change* book by Robin Johnson for ages 7-9 with	What is Sound The Dr. Bincos Show https://www.youtube.com/watch?v=gdGyvGPZ1G0	

	Students discuss observations and develop explanations Students wonder: How do we see through things? Students observe an alligator's body to see it vibrating. Students learn that some vibrations can only be heard, but others can also be seen. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).		optional quiz at the end. Found on Epic *Sound Waves* by Katie Marsico and Jeff Bane for ages 6-7 with optional quiz at the end. Found on Epic. *Sound: Zoom In on Science Concepts* by Andrea Rivera for ages 5-7 with optional quiz at the end. Found on Epic. Bill Nye the Science Guy-"Sound" SO1E12 found on YouTube https://www.youtube.com/watch?v=pCrJctg3aeM&t=34s		
	Lesson 3 (MS) What if there were no windows? Students will consider materials from the perspective of how	Planning and Carrying Out Investigations Engaging in argument from Evidence	Science Circle Lesson extension box *What are Light Waves?* by Robin		

	much light they let through. Students will explore materials in the Paper Stained Glass activity as they create a work of art. Students will participate in a teacher led discussion Students will wonder: Can we see transparent things when there is no light? Students learn that some animals in the Everglades are silent, but they can be seen even when it is totally dark at night. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).		Johnson for ages 7-9 with optional quiz at the end. Found on Epic. *Light Helps Me See* by Jennifer Boothroyd for ages 5-7 with optional quiz at the end. Found on Epic. Bill Nye the Science Guy: "Light and Color" S01E16 found on YouTube https://www.youtube.com/watch?v=LGC6wM28LFM		

	Lesson 4 MS) Read along. **Can you see in the dark?** Students will learn that when it's dark (really dark) you cannot see anything. Students will explore to find sources of light around them. Students will participate in a teacher led discussion. Students will wonder: How can you send a message to someone when you can't see them? Students will learn that in order to see objects they must be externally illuminated or lit from within. Students will learn that most living things need external light to be	Planning and Carrying Out Investigations Constructing Explanations and Designing Solutions	Science Circle Lesson Extension Box: MS Dark Box Activity	U-Tube Video How Do Animals See in the Dark? Ted ed. https://www.youtube.com/watch?v=t3CjTU7TaNA	

	seen, but a few living things, such as fireflies, make their own light. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).				
	Lesson 5 (MS) How could you send a secret message to someone far away? Students will learn to use light to communicate information. In the Secret Signals activity, students will work in pairs to build a device to solve the problem of communicating over long distances by using light and colored markers. Students will participate in a teacher led discussion	Constructing Explanations and Designing Solutions	Science Circle	How could you send a secret message to someone far away? Mystery Science How Could You Send A Secret Message-video IXL Lesson F Light and Sound Lesson 4 How Do We Use Light and Sound to Communicate? https://www.ixl.com/science/grade-1/how-do-we-use-light-and-sound-to-communicate	

	Students will wonder: How can you send a message to someone when you can't see them? Students will learn that alligators use sound and fireflies use light to communicate. Students will make the connections that just like other animals, humans also use light and sound to communicate. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).				
	Lesson 6 (MS) Read along **How do boats find their way in the fog?** Students discover how sights and sounds can	Obtaining, Evaluating, and Communicating Information	Science Circle Lesson Extension Box: MS Navigating by Sights and Sounds Activity	Boating in the Fog youtube video https://www.youtube.com/watch?v=KB6gboRYvfs&t=17s	

	help them find their way. Students read to discover how sights and sounds on a bay help boats find their way. Students use movement and pretend to be boats to learn how sights and sounds help boats navigate. Students participate in teacher led discussion. Students wonder: How can you send a message to someone when you can't see them? Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).				
	Performance Task: What do we see and hear in the Everglades at night?	Constructing Explanations and Designing Solutions	Science Circle		

	Students will use observations to explain the cause and effect relationship behind the ways that alligators and fireflies look and sound under the darkness of night. Students will review the unit with the teacher. Students will make final nighttime observations of alligators and fireflies. Students will use what they have learned over the course of the unit to explain the cause and effect relationship behind what they see and hear.				

Assessments:

Diagnostic	Formative	Summative
Science Journal See, Think, Wonder Chart	Light and Sounds **Lesson 1** Sound and VibrationsHow do they make silly sounds in cartoons? **-** Mystery Science Lesson 1 Assessment **Lesson 2** Sounds and Vibrations - Where do sounds come from - Mystery Science Lesson 2 Assessment **Lesson 3** Light, Materials, Transparent, and Opaque - What if there were no windows - Mystery Science Lesson 3 Assessment **Lesson 4** Light and Illumination - Can you see in the dark? Mystery Science Lesson 4 Assessment . **Lesson 6** Light, Sounds, and Communication - How do boats find their way in the fog; Optional activity/extension	**Lesson 5** Light, communication, and Engineering - How can you send a secret message to someone far away; Mystery Science Lesson 5 Grade Color Code created and applied in lesson 5

Curriculum Plan

Unit 3: Structures and Behaviors in Organisms

Unit Overview
What structures and behaviors help plants and animals survive? The idea of seasonal patterns of sunrise and sunset can be connected to the idea that plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow through the concept of sunlight, which varies by season and is captured by plants, mostly through their leaves so that they can grow and survive. The idea of organism survival also connects to the concept that, in many kinds of animals, parents and their offspring engage in behaviors that help the offspring survive. This concept connects to the idea that young animals are very much, but not exactly like, their parents. The engineering design idea that designs can be conveyed through sketches, drawings, or physical models could be applied to multiple concepts such as that plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow or that animals respond to inputs with behaviors that help them survive. Connections could be made through tasks such as one in which students are asked to design a structure that mimics a way in which a plant part helps it grow and survive. Students can share their design ideas through sketches, drawings, or physical models. Another connection could be through a task in which students design a device that has different responses for different inputs, and then students can compare their device to an animal's response to the same inputs.

Standards	Big Idea	Essential Questions
Science: 3.1.1.A 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. (1-LS1-1) 3.1.1.B Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive. (1-LS1-2)	Plants and/or animals have characteristic structures, functions, and behaviors that allow them to grow, reproduce, and die. Parents exhibit predictable behavior to help offspring survive. Young plants and animals have similarities to their parents.	How do the structures of plants and/or animals help them survive? How do parent behavior support survival of offspring? How are plants and animals similar to their parents? How does the amount of daylight relate to the time of year?

3.1.1.C Make observations to construct an evidence based account that young plants and animals are like, but not exactly like, their parents. (1-LS3-1) 3.3.1.B Make observations at different times of year to relate the amount of daylight to the time of year. (1-ESS1-2) **Technology & Engineering:** STEL-3A: Apply concepts and skills from technology and engineering activities that reinforce concepts and skills across multiple content areas. STEL-4E: Design new technologies that could improve their daily lives. STEL-3A: Apply concepts and skills from technology and engineering activities that reinforce concepts and skills across multiple content areas. **Environmental Literacy & Sustainability:** K-4 Strand 2.1.B. Earth's living systems: Learners identify basic similarities and differences among a wide variety of living organisms. They explain ways that living organisms, including humans, affect the environment in which they live, and how their environment affects them.	Amount of daylight relates to the time of year	

K-4 Strand 1.C. Collecting information: Learners locate and collect information about the environment and environmental topics. K-4 Strand 1.E. Organizing and analyzing information: Learners describe data and organize information to search for relationships and patterns concerning the environment and environmental topics.		

Textbook and Supplemental Resources

1. DVSD First Grade Science Curriculum: Structures and Behaviors of Organisms pages 44-71
2. Mystery Science
3. IXL Science I Plants: Match Plants to their Parents J Living Things: # 4 Compare Young Living things to their Parents,
4. Epic (Books, audiobooks, and Videos)
5. Imprinting Animal Behavior: https://www.youtube.com/watch?v=Y8rel_fYuqI
6. Animal Camouflage-Learn How Animals Can Blend in with Their Environment: https://www.youtube.com/results?search_query=Animal+Camouflage%2FLearn+How+Animals+Can+Blend+in+with+Their+Environments.+
7. Animals and Offspring: Caring for Young: https://www.youtube.com/watch?v=IOEha4yyP4Av
8. Sun Position in the Sky https://www.youtube.com/watch?v=hVGXKKYdbfU
9. Why Don't Trees Blow Down in the Wind? https://www.youtube.com/watch?v=TmWNpI9h6Es
10. The Engineering Design Process for Kids: https://stemsmartly.com/engineering-design-process-for-kids/
11. Why do Sunflowers ALWAYS Face the Sun? How Do They Even Rotate? https://www.youtube.com/watch?v=9RBktO4RK8s

Unit 3: Structures and Behaviors in Organisms Curriculum Plan

Learning Objectives/DOK Levels:

Students will know…. (DCI)	Students will be able to… (SEP)	Students will apply…(CCC)	DOK Level(s)
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. 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.	Use materials to design a device that solves a specific problem or a solution to a specific problem. Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. Scientists look for patterns and order when making observations about the world. Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. Make observations (firsthand or from media) to collect data that can be used to make comparisons.	The shape and stability of structures of natural and designed objects are related to their function(s). Every human-made product is designed by applying some knowledge of the natural world and is built using materials derived from the natural world. Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.	DOK Level 4 (Extended Thinking): Designing a device to solve a problem requires extended thinking, creativity, problem-solving, and multiple steps to achieve a solution, going beyond routine tasks. DOK Level 2 (Skills/Concepts): This involves understanding and applying information from texts or media to identify patterns, which requires comprehension and reasoning. DOK Level 1 (Recall): This is a basic factual statement that requires simple recall of knowledge about scientific observation. DOK Level 3 (Strategic Thinking): Constructing an evidence-based account requires interpreting data and synthesizing observations to explain phenomena, which involves deeper reasoning.

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. Young animals are very much, but not exactly like, their parents. Plants also are very much, but not exactly, like their parents. Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. Seasonal patterns of sunrise and sunset can be observed, described, and predicted.			DOK Level 2 (Skills/Concepts): Collecting data for comparison involves organizing and interpreting observations, requiring reasoning but not extensive analysis.

Core Activities and Corresponding Instructional Methods

Mystery Science Unit(s)	Core Activities	Corresponding Instructional Methods	Extensions	Correctives	Time/Days
<u>Animal Traits and Survival : Animal Superpowers</u>	**Lesson 0 MS: Anchor Phenomenon Squirrel Secrets** The anchor phenomenon for this unit is a small collection of animals that live in very different places and do very different things, but they all have something in common. They all rely upon the place in which they live to meet their needs. Students generate observations and questions about the phenomenon and create a list of possible explanations. Students gather clues during and after each lesson to help them	Obtaining , evaluating, and communicating information	Science Circle Science Notebooks		12 Weeks to cover Unit 3 Structures and Behaviors in Organisms

	improve their understanding and explanations. Students will learn that although they do not have all the answers to their questions now, they will learn a lot throughout this unit and will be able to visit this phenomenon over time. Create a See, Think, Wonder Chart as a Driving Question Board(DQB).				
	Lesson 1 (MS) Parent and Offspring Traits: How Can You Help a Lost Baby Animal Find Its Parents? Students make observations of baby animals and their parents, gathering evidence that they look similar because they share many of the same traits.	Constructing explanations and designing solutions.	Mystery Science extensions include readings, videos, and activities	Correctives: IXL Science H Animals Lesson 3: Match Animals to their Parents	

	Students help identify lost baby birds based on observations of their specific traits. Students view wrap-up slides and participate in teacher-led discussion. Students Wonder: How do animals help their babies? Students learn: Parent animals pass their traits to their young and discover that this is true for birds and squirrels. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).				
	Lesson 2 (MS) Animal Structure and Survival. Why Do Birds Have Beaks?	Developing and using models Planning and Carrying Out Investigations	Extensions: MS Readings and Activities.	Correctives: IXL Science H Animals Lesson 2: How do animals use their body parts?	

	Students carry out an investigation to determine the relationship between the shape of different bird beaks and the food each bird eats. Students experiment with long pointy beaks that are great for picking up seeds and wide flat beaks that are good for scooping. Students discover that different beaks are best for different kinds of food. Students view wrap-up slides and participate in teacher-led discussion. Students wonder: Do baby birds have the same kind of beak as their parents? Students learn that birds are not the only animals that have	Analyzing and Interpreting Data		IXL Science J Living Things Lesson 4 Compare Young Living Things to their Parents	

	specialized mouths. Squirrels also have special mouths that allow them to carry food and save it for later. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).				
	Lesson 3 Why Do Baby Ducks Follow their Mother? In this lesson, students will listen to a read aloud story about a boy who visits his grandmother who has a backyard full of ducks. Students will get moving by acting like ducks. Students will participate in a teacher led discussion.	Obtaining, evaluating, and communicating information.	Extension: MS Video "What's Going On". Students watch and discover ways that animal parents help their offspring.	Correctives: YOUTube Video Imprinting Animal Behavior https://www.youtube.com/watch?v=Y8rel_fYuqI	

	Students wonder: How do animals hide and stay safe? Students learn: While young squirrels walk and climb, mothers carry their babies in their mouths in order to move them quickly to safety. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).				
	Lesson 4: Camouflage and Animal Survival Why are Polar Bears White? Students make observations to construct an explanation of why camouflage is helpful to animals. Students test their ability to spot camouflage moths and	Planning and Carrying Out Investigations. Engaging in Argument from Evidence	Science Circle Science Notebooks	Correctives: Epic Books: *Amazing Animal Adaptations: Masters of Camouflage* *Hidden in Plain Sight: Animal Camouflage* *Amazing Animal Camouflage* U-Tube: Animal Camouflage/Learn How Animals Can Blend in with Their Environments.	

	then design a camouflage pattern for a moth of their own and hide it in the classroom. Students participate in wrap-up slides and teacher-led discussion. Students wonder: Why do baby animals look like their parents? Students learn: Squirrels are camouflaged in many different environments. This helps them stay safe. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).			https://www.youtube.com/results?search_query=Animal+Camouflage%2FLearn+How+Animals+Can+Blend+in+with+Their+Environments.+	
	Lesson 5 with Read Along: Why Do	Constructing Explanations and Designing	Extension: Match-Up Game		

	Family Members Look alike? In the read along, students will learn that baby animals look a lot like their parents and so do people. Students get moving by acting like farm animals. Students participate in a teacher led discussion. Students learn that baby animals look similar to their parents and they also act similarly. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).	Solutions.			
	Performance Task: How do Animals Take Care of their Babies?	Obtaining, evaluating, and Communicating Information.	Science Circle	Correctives" Video U-Tube: Animals and Offspring: Caring For Young	

	Students will observe and interpret the behavior of different animals to see how they care for their young. Students will take part in a unit review. Students will "visit" the homes of three different animals to see how they take care of themselves and their offspring. Students will learn that animals can make their homes in different and surprising places, but they share some behaviors in common with one another.			https://www.youtube.com/watch?v=IOEha4yyP4Av	
Plant Superpowers: Plant Traits and Survival	**Lesson 0 (MS) Anchor Phenomenon: Unidentified Floating Objects** The Anchor phenomenon is based on the fact that large	Constructing Explanations and Designing Solutions	Extensions: Science Circle		

	floating objects can be found in ponds around the world. Students generate observations and questions about the phenomenon and create a list of possible explanations. Students gather clues during and after each lesson to help them improve their understanding and explanations. Students will learn that even if they don't know the answer yet, they will learn a lot in this unit and will be able to revisit the phenomenon later. Construct and use a See, Think, Wonder Chart as Driving Question Board(DQB).				

3.1.1.C Make observations to construct an evidence based account that young plants and animals are alike, but not exactly like their parents.	**Lesson 1 MS: What will a Baby Plant Look Like When it Grows Up?** Students identify the pattern that young plants are a lot like their parents. Students observe three seedlings and three adult plants and use their observations to match the seedling to its adult counterpart. Students view slides and participate in teacher-led discussion. Students Wonder: Can we build things that look like plants? Students Learn: If we look closely at unidentified floating objects, we see that they have many characteristics in common with leaves	Constructing Explanations and Designing Solutions.	Science Circle	IXL Science Plants #4 Match Plants to Parents. Sun Position During the Day https://www.youtube.com/watch?v=hVGXKKYdbfU	

	because the giant floating objects are leaves. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).				
3.1.1.A 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. 3.5.K-2.B Describe qualities of everyday products. (windproof, safe) **3.5.K-2.H** Explain the needs and wants of	**Lesson 2 (MS) Plant Survival and Engineering: Why Don't Plants Blow Down in the Wind?** Students examine structures like roots, branches, and leaves that keep trees from blowing down. In the activity, Wind-Proof Umbrella, they use their observations to create their own tree-inspired umbrellas that stay up in the wind. Students participate in wrap up and teacher-led discussion.	Developing and Using Models Planning and Carrying Out Investigations. Constructing Explanations and Designing Solutions.	Science Circle Discuss the steps in the **engineering design process** before students construct their umbrellas to incorporate technology and engineering standards. Read through 3.5.K-2 standards and add discussions to Science Circle time. . **Crash Course Kids: The Engineering Design Process**	U-Tube Video: Why Don't Trees Blow Down in the Wind? https://www.youtube.com/watch?v=TmWNpI9h6Es	

individuals and societies. (need-safe products, wants-functioning products) **3.5.K-2.K** Safely use tools to complete tasks. **3.5.K-2.L** Explore how technologies are developed to meet individual and societal needs and wants (desire for stronger, safer, lightweight products encourages development of new technologies to create them). **3.5.K-2.M** Demonstrate essential skills of the engineering design process **3.5.K-2.N**	Students Wonder: Where do plants grow best? Students Learn: Giant lily leaves are able to support themselves, in part, due to a strong set of veins that act like the ribs of an umbrella. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).		**Video. Epic** ages 6-12 6 minutes **STEM Smartly: The Engineering Design Process for Kids** explained for teachers. https://stemsmartly.com/engineering-design-process-for-kids/		

Analyse how things work (umbrellas). **3.5.K-2.O** Illustrate that there are different solutions to a design and that none are perfect. (View and discuss each others' umbrella designs). **3.5.K-2.P** Discuss that all designs have different characteristics that can be described. (View and discuss each other's projects.) **3.5.K-2.P** Discuss that all designs have different characteristics that can be described. **3.5.K-2.Q** Apply skills necessary for					

making in design. **3.5.K-2.R** Draw connections between technology and human experience. (People need to know and understand their product and materials to create new technologies.) **3.5.K-2.S** Apply design concepts, principles, and processes through play and exploration. **3.5.K-2.T** Demonstrate that designs have requirements. (Discuss various classmate's designs.) **3.5.K-2.U** Explain that design is a response to wants					

and needs. **3.5.K-2.V** Explain that materials are selected for use because they possess desirable properties and characteristics (lightweight, windproof, durable, easily accessible) **3.5.K-2.W** Apply concepts and skills from technology and engineering activities that reinforce concepts and skills across multiple areas. **3.5.K-2.X** Develop a plan in order to complete a task. **3.5.K-2.Y** Discuss the way that people live and work has changed throughout					

history because of technology. (technology- equipment- makes jobs easier, global markets are available through computers and the internet to source and sell materials and products, and share ideas.					
3.1.1.B Read texts and use media to determine patterns in behaviors of parents and offspring that help offspring survive.	**Lesson 3 Plant Movement and Survival: What Do Sunflowers Do When You're Not Looking?** In this Read-Along lesson, Students learn what happens when Jin plants some sunflowers	Constructing Explanations and Designing Solutions	Extension Activity MS: *Plants on the Move*. Students observe how plants respond to light by bending towards the light source.	U-Tube Video: Why do Sunflowers ALWAYS Face the Sun? How Do They Even Rotate? https://www.youtube.com/watch?v=9RBktO4RK8s Epic Books *From Seed to Sunflower*	

	in a sunny spot and some in a shady spot, watches to see which group grows best and then figures out why. Students stand up and pretend to be sunflowers, turning their faces to the sun as young sunflowers do. .Students participate in a teacher-led discussion. Students learn that Giant Lily Leaves gather lots of sunlight and live in bright locations around the world. Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).		Science Circle Science Notebooks		
3.1.1.C Make observations to construct and	**Performance Task: What are the Tiniest Water Lily Leaves?**	Constructing Explanations and Explaining	Science Circle Science Notebooks	IXL First Grade I Plants #5 Where do Water	

evidence based account that young plants and animals are alike, but not exactly alike, their parents.	Students will gather observations of a new species of water lily plant. This species is the opposite of the giant water lily plants that students have been learning about in this unit. The new plant grows the tiniest water lily leaves in the world. Students will participate in a unit review and compare and contrast the tiny water lily plants with the giant water lily plants. Students will use these observations to predict what a new tiny water lily plant might look like. The students will learn that the scientific name for the tiny water lilies is Nymphaea thermarum.	Solutions. Asking Questions and Defining Problems	Review additional information about the tiny water lilies- Nymphaea thermarum on MS.	Lily's and Sqguaros Live?	

	Review and add to See, Think, Wonder Chart as Driving Question Board(DQB).				

Assessments:

Diagnostic	Formative	Summative
Science Journal See, Think, Wonder Chart	**Animals** **Lesson 1** Parent and Offspring Traits How can you help a lost baby animal find its parents? Mystery Science Lesson 1 Assessment **Lesson 2** Animal Structures and Survival - Why do baby birds have beaks? Mystery Science Lesson 2 Assessment **Lesson 3** Animal Behavior and Offspring Survival - Why do baby ducks follow their mother? Mystery Science Lesson 3 Assessment **Lesson 4** Camouflage and Animal Survival - Why are polar bear white? Mystery Science Lesson 4 Assessment **Performance Task -** Animal Homes - How do animals take care of their babies - optional extension **Plants**	**Lesson 5** Inheritance and Variation of Traits - Why do family members look alike? Mystery Science Lesson 5 Assessment

	Lesson 1 Pant Traits and Offspring - What will a baby plant look like when it grows up? Mystery Science Lesson 1 Assessment **Lesson 2** Plant Survival and Engineering - Why don't tree blow down in the wind? Mystery Science Lesson 2 Assessment **Lesson 3** Plant Movement and Survival - What do sunflowers do when you are not looking? Mystery Science Lesson 3 Assessment	**Performance Task** Plant Traits - What are the tiniest water lily leaves? Draw a tiny water lily.