

First Grade Science

Emma Arleth, Dwight D. Eisenhower, Harry S. Truman, and Woodrow Wilson Elementary Schools

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Statement of Purpose

Commented [1]: @michelle.dipaolo@sayrevillek12.net
I pulled this off the original curriculum and edited it to better match the new curriculum and order. Looking for feedback or if it's OK to proceed with adding it to Oncourse.

Summary of the Course:

First Grade Science Science inquiry is an integral part of building curiosity about the world around us. As natural phenomena occur every day, the ability to observe, question and analyze them are crucial skills. In developing these skills, students will become independent, lifelong thinkers and self-catalyzed learners. The first grade science curriculum has been developed through integration of crosscutting concepts, disciplinary core ideas, and science and engineering practice standards promoting inquiry and exploration into natural phenomena through the New Jersey Student Learning Standards in Science (NJSLS-S). Through hands-on activities, students will see themselves as problem-solvers and engineers. They will engage in the engineering and design process to identify and solve problems. The first grade science curriculum will foster curiosity for science and facilitate exploration beyond the walls of the classroom. First grade students will learn that light is a form of energy that travels in waves and can be used as a tool for communication. They will then learn about the energy of sound and use that information to compare it to what they learned about light, also designing ways to use sound patterns to communicate ideas. Additionally, they will discover that patterns in the natural world can be observed, used to describe phenomena, and used as evidence. They will explore ideas of heredity, recognizing that offspring and adults share certain traits, but are not exactly the same, receiving hands-on experience in this area through the hatching and observation of baby chicks during the spring.

Unit 1: How can we read under covers when it's dark?

Content Area: **Grade One Science**
Course(s):
Time Period: **Academic Year**
Length: **3 weeks**

Summary of the Unit

In this unit, students will explore their understanding of how light impacts the world around us. Students will define light as a source of energy and understand how light interacts with different objects. They will explore how light is essential to communication by creating a "dark box" to demonstrate how light impacts reading, and by creating a system of communication using lights and colors to create commands. Students will explore how shadows form and change based on the source of light.

Enduring Understandings

- Light is a source of energy that is essential to life on earth.
- Light can pass through some objects but not through others.
- Light and color can be used as forms of voiceless communication to quickly express ideas or commands.

Essential Questions

- How can we see objects when it is dark?
- How does light interact with different objects?
- How do shadows form?
- How do shadows move?
- How can we communicate without sound?

Summative Assessment and/or Summative Criteria

Mystery Science assessment
Science journal and/or writing samples
Lesson participation/observation
Lesson assignments/writing samples

Resources

Mystery Science
Discovery Education
YouTube (links in the lessons)
Pebble, Go! (light)
Brainpop Jr.

Unit Plan

Topic/Selection Timeframe	General Objectives (SWBAT)	Instructional Activities	Benchmarks/Assessments	Standards
Defining light (1 week)	- identify light as a type of energy - identify and describe why we need light - differentiate between natural and man made sources of light	- Use Brainpop video to introduce concept of light - Use Mystery Science Activity: Can you see in the dark? (Lights and Sounds Unit, Lesson 4) to identify sources of light and why we need light. Activity: Students create "Dark Box" in pairs and take turns sending secret messages to each other to understand how light helps us to read.	teacher observations/ anecdotal notes	1-PS4-2 1-PS4-3 1-PS4-4 ELA.RI.AA.1.7 ELA.RI.MF.1.6 ELA.RI.PP.1.5 ELA.RI.TS.1.4 ELA.SL.II.1.2 ELA.SL.PE.1.1
Light and Shadows (1 week)	- define essential vocabulary that describes how objects interact with light: opaque, translucent/translucent, transparent, refract, reflect) - determine how a light's source and strength can impact the appearance of shadows	- Use Mystery Science Activity: Light, Materials, Transparent, and Opaque (Lights and Sounds Unit, Lesson 3) - Use sorting sheet or create anchor chart of items that are transparent or opaque - Activity: Create "stained glass" flower using Press and Seal cling sheet and tissue paper to observe how light moves through semi opaque objects. - Use Mystery Science Activity: Could a statue's shadow move? (Day Patterns Unit, Lesson 1) Activity: Students rotate through stations to determine what direction light needs to come from to create the shadow patterns at that station - Use Mystery Science: What does your shadow do when you're not looking?	- Sorting sheet - Teacher observation/ anecdotal notes	1-PS4-2 1-PS4-3 1-PS4-4 ELA.RI.AA.1.7 ELA.RI.MF.1.6 ELA.RI.PP.1.5 ELA.RI.TS.1.4 ELA.SL.II.1.2 ELA.SL.PE.1.1

		(Day Patterns Unit, Lesson 2) • Activity: completed outdoors. Students work in teams. 1 student stands in marked spot while another traces their shadow with sidewalk chalk) Repeat process at 3-4 different points in the day and discuss how shadow moved.		
Using light to communicate (1 Week)	• describe ways that light can be used to communicate information (ex - traffic lights) • create and execute a form of communication that uses only light and colors to give commands.	• Use Mystery Science: How could you send a secret message to someone far away? to explore ways to use light as communication. • Activity: Color Codes: Students will pair up to create a color coded communication system that they can use to practice communicating with only light (no sound).	• Teacher Observation/ anecdotal notes • Activity - Color Codes	K-2-ETS1-1 1-PS4-2 1-PS4-3 1-PS4-4 ELA.RI.AA.1.7 ELA.RI.MF.1.6 ELA.RI.PP.1.5 ELA.RI.TS.1.4 ELA.SL.II.1.2 ELA.SL.PE.1.1

Suggested Modifications for Students with Disabilities, MLL and Gifted Students

Consistent with individual plans, when appropriate.

- Modifications for any individual student's IEP plan must be met.
- Alter assignment lengths if necessary.
- Provide additional examples of annotation and the signposts.
- Allow additional time when in full class discussing for processing and discussion.
- Students should be provided with graphic organizers during annotations and discussions.
- Check for understanding by conferencing with the teacher.
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read chapter tests aloud/test orally

Suggested Technological Innovations/Use

- **CS.K-2.8.1.2.CS.1:** Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
- **CS.K-2.NI:** Computer networks can be used to connect individuals to other individuals, places, information, and ideas. The Internet enables individuals to connect with others worldwide.
- **CS.K-2.8.1.2.IC.1:** Compare how individuals live and work before and after the implementation of new computing technology.
- **CS.K-2.ITH.1-2:** Human needs and desires determine which new tools are developed.
- **CS.K-1.ITH.3-5:** Technology has changed the way people live and work. Various tools can improve daily tasks and quality of life.
- **CS.K-2.ETW:** The use of technology developed for the human designed world can affect the environment, including land, water, air, plants, and animals. Technologies that use natural sources can have negative effects on the environment, its quality, and inhabitants. Reusing and recycling materials can save money while preserving natural resources and avoiding damage to the environment.
- **CS.K-2.8.2.2.EC.1:** Identify and compare technology used in different schools, communities, regions, and parts of the world.

Cross Curricular/Life Literacies

All students will possess an understanding of scientific concepts and processes required for personal decision making, participation in civic life, and preparation for careers in STEM fields (for those that chose).

Prepare students to become scientifically literate individuals who can effectively:

- Apply scientific thinking, skills, and understanding to real-world phenomena and problems;
 - Engage in systems thinking and modeling to explain phenomena and to give a context for the ideas to be learned;
 - Conduct investigations, solve problems, and engage in discussions;
 - Discuss open-ended questions that focus on the strength of the evidence used to generate claims;
 - Read and evaluate multiple sources, including science-related magazine and journal articles and web-based resources to gain knowledge about current and past science problems and solutions and develop well reasoned claims;
 - Communicate ideas through journal articles, reports, posters, and media presentations that explain and argue.
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- 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) Connections to NJSL – Mathematics •
 - MP.2 Reason abstractly and quantitatively. (1-ESS1-2) • MP.4 Model with mathematics. (1-ESS1-2) •
 - MP.5 Use appropriate tools strategically. (1-ESS1-2) • 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)
 - SOC.6.1.2.CivicsPD.1: Engage in discussions effectively by asking questions, considering facts, listening to the ideas of others, and sharing opinions.
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- SEL.PK-12.1: Self Awareness: Recognize one’s feelings and thoughts; personal traits, strengths, and limitations.
 - SEL.PK-12.2.2: Self-Management: Recognize the skills needed to establish and achieve personal and educational goals
 - SEL.PK-12.5: Relationship Skills: Utilize positive communication and social skills to interact effectively with others; Identify who, when, where, or how to seek help for oneself or others when needed

Unit 2: How can we communicate using objects that make sound?

Content Area: **Grade One Science**
Course(s):
Time Period: **Academic Year**
Length: **10 days**

Summary of the Unit

In this unit of study, students continue to develop their understanding of the relationship between sound and vibrating materials. Students apply their knowledge of light and sound to engage in engineering design to solve a simple problem involving communication with light and sound. The crosscutting concepts of *structure and function* and *influence of engineering, technology, and science on society and the natural world* are called out as organizing concepts for the disciplinary core ideas. Students are expected to demonstrate appropriate grade proficiency in *constructing explanations and designing solutions, asking questions and defining problems, and developing and using models*. Students are also expected to use these practices to demonstrate understanding of the core ideas.

Enduring Understandings

- Sound is the movement of energy caused by vibrations.

Essential Questions

- How is sound created?
- How can people communicate over distance?

Summative Assessment and/or Summative Criteria

Mystery Science assessment
Science journal and/or writing samples
Lesson participation/observation
Lesson assignments/writing samples

Resources

Mystery Science
Discovery Education
YouTube (links in the lessons)
Epic! collection (linked in lessons)
Pebble, GO! (sound)

Unit Plan

Topic/Selection Timeframe	General Objectives (SWBAT)	Instructional Activities	Benchmarks/Assessments	Standards
Identify and categorize sound (1 week)	- identify the connection of light and sound as forms of energy. - distinguish the difference between manmade sound and natural sounds - categorize objects that make sound	- Explain to students that they will be learning about energy. Energy is the ability to do work. Tell them that light and sound are types of energy. Students sort energy sources into light/sound. Guess the Sounds "game" on YouTube. Stop and discuss what the students think the sounds are. Sort the sounds. Ask them why they were sorted the way they were (natural vs manmade). - Mystery Science "How do they make silly sounds in cartoons?" Complete the activity and assessment. - Watch the BrainPop Jr. movie about sound. Discuss things that make sound and things that don't. Sort sound energy and not sound energy. Discuss the reasons why we have certain sounds. - Mystery Science "Where do sounds come from?"	- Light and Sound sort (in resources) - Mystery Science Activity - Sort: sound energy vs. energy not made by sound - Teacher observations/anecdotal notes	1-PS4-1 ELA.RI.AA.1.7 ELA.RI.MF.1.6 ELA.RI.PP.1.5 ELA.RI.TS.1.4 ELA.SL.II.1.2 ELA.SL.PE.1.1
Using sound energy to communicate and make objects move (1 week)	- investigate how loud sounds can make other objects move. - explore different ways sound can be used to communicate - explain the purpose of different sounds as	How can we see sound? experiment. (Experiment #1 on the link) - Mystery Science - How could you send a secret message to someone far away? - Make paper cup/string "telephones" and	- Written response to "seeing sound" experiment - Cup/String experiment - Energy sort - Teacher observations/anecdotal notes	1-PS4-1 ELA.RI.AA.1.7 ELA.RI.MF.1.6 ELA.RI.PP.1.5 ELA.RI.TS.1.4 ELA.SL.II.1.2 ELA.SL.PE.1.1

	communication tools.	students use them to talk. - Students experiment with different variables when using their cup phones. (page 20 in the file) - Students will complete a Light energy sort. Discuss each light source and what it is used for. As students already completed the sound one, review why people use sounds if necessary. - Discuss how lights/sounds can be used to communicate when there are emergencies. Students write about how an ambulance uses light and sound to communicate.		
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- Allow additional time when in full class discussing for processing and discussion.
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- Check for understanding by conferencing with the teacher.
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read chapter tests aloud/test orally

Suggested Technological Innovations/Use

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- **CS.K-2.ETW:** The use of technology developed for the human designed world can affect the environment, including land, water, air, plants, and animals. Technologies that use natural sources can have negative effects on the environment, its quality, and inhabitants. Reusing and recycling materials can save money while preserving natural resources and avoiding damage to the environment.
- **CS.K-2.8.2.2.EC.1:** Identify and compare technology used in different schools, communities, regions, and parts of the world.

Cross Curricular/Life Literacies

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 - Conduct investigations, solve problems, and engage in discussions;
 - Discuss open-ended questions that focus on the strength of the evidence used to generate claims;
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- 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) •
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 - MP.2 Reason abstractly and quantitatively. (1-ESS1-2) • MP.4 Model with mathematics. (1-ESS1-2) •
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- SEL.PK-12.1: Self Awareness: Recognize one’s feelings and thoughts; personal traits, strengths, and limitations.
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Unit 3: Earth’s Place in the Universe

Content Area: **Grade One Science**
Course(s):
Time Period: **Academic Year**
Length: 15 days

Summary of the Unit

In this unit of study, students observe, describe, and predict some patterns of the movement of objects in the sky. Throughout the unit students look for patterns as they plan and carry out investigations and analyze and interpret data. In this unit’s progression of learning, students develop the understanding that natural events happen today as they happened in the past, and that many events are repeated. In addition, they observe and use patterns in the natural world as evidence and to describe phenomena. First graders ask questions and use observations of the sun, moon, and stars to describe apparent patterns of change in each. In this unit, students also learn that seasonal patterns of sunrise and sunset can be observed, described, and predicted.

Enduring Understandings

- Science assumes that natural events happen today as they happened in the past
- Many events are repeated.
- Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.
- Patterns in the motion of the sun, moon, and stars in the sky can be observed, described, and predicted.

Essential Questions

What patterns of change can be predicted when observing the sun, moon, and stars?
What is the relationship between the amount of daylight and the time of year?
Where is the Earth in relation to the other planets/sun?

Summative Assessment and/or Summative Criteria

Mystery Science assessments
Science journal and/or writing samples
Lesson participation/observation
Planet research activity

Resources

Mystery Science
Discovery Education
YouTube

Pebble, Go!

Epic! books (space/planet collection)

Lakeshore Science kits- Space

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments	Standards
Patterns of the sun, moon, and stars. (1.5 weeks)	Students will be able to describe patterns of the sun, moon, and stars.	- Use Mystery Science "When Can You See the Full Moon?" to explore the different phases of the moon and understand why they occur - Use Discovery Education video clip (Where does the sun go at night?" (5:32) . - Refer back to Unit 1 lesson: "Can a Statue's Shadow Move?" to discuss how the position of the sun can change how light is viewed and how shadows appear. - Use resource: Sky Patterns to observe how the sun, moon, and stars change throughout the course of a day. . - Use video: Let's Look at Constellations to understand how patterns of stars change throughout the year - Use Mystery Science "Why do the stars come out at night?" to discuss why we only see stars at night - STEM Activity: Sun/Earth/Moon Spinner model	- Teacher Observation/anecdotal notes - Mystery Science Lesson activities - Sun/Moon spinner	1-ESS1-1 1-ESS1-2 ELA.RI.AA.1.7 ELA.RI.MF.1.6 ELA.RI.PP.1.5 ELA.RI.TS.1.4 ELA.SL.II.1.2 ELA.SL.PE.1.1
Sunlight in the Summer (0.5 weeks)	Students will be able to compare the amount of daylight in the summer to other times of the year.	Use Mystery Science read along to explore why it feels like bedtime is earlier in the summer than it is in the winter.	- Teacher observations/anecdotal notes - Fill in the blank worksheet	1-ESS1-1 1-ESS1-2 ELA.RI.AA.1.7 ELA.RI.MF.1.6 ELA.RI.PP.1.5

		Use read along attached in link to help students follow along Fill in the blank: Winter and Summer Sunlight		ELA.RI.TS.1.4 ELA.SL.II.1.2 ELA.SL.PE.1.1
The Earth's Place in the Universe (1 week)	Students will be able to name the planets and recall facts about each.	- Discuss how Earth is where we live and how it is a planet. - Watch, Earth, Yay! on Discovery Education. Pause and talk about how the planets go around the sun. - Write planet names on an anchor chart (facts to be added later) - Read planet mini book and add facts to an anchor chart. - Students "write the room" with planet names. - Activities: -create a class book about each planet (use Pebble Go! for research) -create a solar system headband	- Teacher observation/anecdotal notes - Write the room activity - Class planet book	1-ESS1-1 1-ESS1-2 ELA.RI.AA.1.7 ELA.RI.MF.1.6 ELA.RI.PP.1.5 ELA.RI.TS.1.4 ELA.SL.II.1.2 ELA.SL.PE.1.1

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 - 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) •
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Unit 4: How Living Organisms Grow and Survive

Content Area: **Grade One Science**
Course(s): Science
Time Period: **Academic Year**
Length: **13 days**

Summary of the Unit

In this unit of study, students develop an understanding of how plants and animals use their parts to help them survive, grow, and meet their needs. They will recognize that all living organisms need air, food, and water to grow and survive. Also, that plants have parts that help them grow and survive. Students will understand that living organisms adapt and respond to their environment. They will learn that engineers get ideas from plants and animals when designing solutions to human problems. Additionally, students will get an opportunity for hands on exploration of the subject by observing the hatching process of baby chicks.

Enduring Understandings

- Patterns in the natural world can be observed and used to describe phenomena.
- 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 have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.
- The shape and stability of structures of natural and designed objects are related to their function(s).

Essential Questions

- What helps plants and animals survive?
- What are the roles of animal and plant parts?

Summative Assessment and/or Summative Criteria

Mystery Science assessments
Science journal and/or writing samples
Lesson participation/observation
Lesson assignments/writing samples

Resources

Mystery Science
Discovery education

YouTube video links (listed and linked)

Worksheets in resources (and linked)

F and P Shared Reading (Big and Little Series)

[EPIC! book collection](#)

F and P IRAs “Planting and Growing”

Lakeshore Science kit- Plants

Unit Plan

Topic/Selection Timeframe	General Objectives (SWBAT)	Instructional Activities	Benchmarks/Assessments	Standards
What is alive? (1 week)	- understand the needs of living things - sort and categories different objects/things as living or non-living	- Create a list on an anchor chart of the different things students need throughout the day (food, water, clothes, shelter). - Have students write 1-2 sentences describing what a living thing might need every day. - Refer back to discussion on what we need during a day. Discuss - does a desk/rock/lamp need those things? - Use Discovery Education Video: Living vs. Nonliving to introduce comparison between the two types of things. - Refer back to living things discussion to recall what living things need. Create a T-chart where students interactive write living vs. nonliving items. - Students complete living vs. nonliving sort	- Teacher Observation/Anecdotal notes - Student writing Living/nonliving sort	1-LS1-1 ELA.RI.AA.1.7 ELA.RI.MF.1.6 ELA.RI.PP.1.5 ELA.RI.TS.1.4 ELA.SL.II.1.2 ELA.SL.PE.1.1
All About Plants (2 weeks)	- Identify the main parts of a plant. - explain the purpose of each part of a plant and how it helps the plant meet its needs. - identify and explain how the shape of a	- Watch the discovery education plant parts video clip. Discuss. Plant parts song - Students label a plant part picture. (or complete online as a class) - Use Discovery Education Video: What Plants Need to Live to begin discussion on what plants need to survive and thrive. - Complete plant needs worksheet	- Teacher Observation/Anecdotal notes - Plant Parts worksheet - Plant Needs worksheet - Umbrella Tops project - Look for Clues activity	1-LS1-1 1-LS1-2 1-LS3-1 ELA.RI.AA.1.7 ELA.RI.MF.1.6 ELA.RI.PP.1.5 ELA.RI.TS.1.4 ELA.SL.II.1.2 ELA.SL.PE.1.1

	plant helps it to meet its needs • explain and illustrate how plants adapt with the seasons • understand and explain how plants adapt to their surroundings and how engineers use this information to help in their designs • define biomimicry and explain how people use it to solve real life engineering problems • compare and contrast the traits of an adult plant and its offspring	• Use Mystery Science Read Along: What do Sunflowers do when you're not looking? to observe how plants can adapt to their surroundings to help them thrive. • Use Mystery Science Activity: Why don't trees blow down in the wind? to introduce adaptability • Activity: Umbrella tops (in Mystery Science Activity) - students will create umbrella tops that allow wind to pass through without breaking or blowing away • Use Biomimicry song to introduce how engineers and scientists look to nature to solve human problems • Use Mystery Science: What will a baby plant look like when it grows up? to discuss plant traits and make hypothesis about how baby plants will grow. • Complete Mystery Science Activity "Look for Clues" (part of above activity) to observe plant traits and how they grow from baby plants to adult plants.		
All About Animals (2 weeks)	• compare varying animals based on parts. • understand and explain the basic differences between the 6 main animal classifications (mammal, bird, arthropod, fish, reptiles, amphibians) • indicate the parts of animals that help them adapt to their needs (severe weather, protection, eating) • construct explanations of	• use Discovery Education video: Basic Classifications of animal groups to introduce that there are six different kinds of animals • Use posters or create anchor chart to describe traits of different animal types (amphibian, arthropod, bird, fish, mammal, reptile) • Optional Activity: Classify It on smartboard. Sort animals into different categories • Students complete animal sort activity • Use Mystery Science "Why do birds have beaks?" to open exploration and discussion about how animals with similar classifications (birds), can have different body structures (beaks), as a way to adapt to what they need.	• Teacher Observation/Anchor Chart Notes • Animal sort activity • Bird Beak Activity • Possible Puppy Activity • Self Portrait with inherited trait labels	1-LS1-1 1-LS1-2 1-LS3-1 ELA.RI.AA.1.7 ELA.RI.MF.1.6 ELA.RI.PP.1.5 ELA.RI.TS.1.4 ELA.SL.II.1.2 ELA.SL.PE.1.1

	how an animal's different parts help it meet its needs. - compare and contrast the physical characteristics of an adult animal and its offspring - describe physical traits of themselves and connect to traits in their parents.	- Activity "Bird Beaks" (part of mystery science activity to explore the usefulness of different types of bird beaks. - Discuss how this might apply to other types of animals. - Use Mystery Science How can you help a lost baby animal find its parents? to explore shared traits of baby animals and their parents. - Complete activity: Baby Birds (part of mystery science activity) to match baby birds to their parents by observing shared traits. - Use Mystery Science - Can you predict what an animals babies will look like? to explore how babies can have shared traits with their parents but not look exactly like their parents - Complete activity: Possible Puppies (part of mystery science activity) to match baby puppies and their parents. - Use video The Inherited Traits song to introduce concept of physical traits. Discuss with students how just like animals and plants get things from their parents, so do we humans. Create a chart and list different physical traits students might inherit from their parents (height, eye color, hair, etc) - Have students draw a self portrait and label it with three traits they inherited from their parents.		
Life Cycles of Animals - Baby Chicks (2 weeks, ongoing with other lessons)	tell the stages in the life cycle of an animal.	- Pair with baby chick arrival. Connect back to butterflies in kindergarten - review the life cycle of butterflies. - Watch Life Cycle of a Chicken video - Students will create a life cycle mini book - Students will complete an observation journal to display their understanding of the life cycle of the chick	- Teacher observation/ane cdotal notes - Life cycle worksheets - Chicken observation journal	1-LS1-1 1-LS1-2 1-LS3-1 ELA.RI.AA.1.7 ELA.RI.MF.1.6 ELA.RI.PP.1.5 ELA.RI.TS.1.4 ELA.SL.II.1.2 ELA.SL.PE.1.1

		and different stages of the egg. ● Repeat with other animals		
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Suggested Modifications for Students with Disabilities, MLL and Gifted Students

Consistent with individual plans, when appropriate.

- Modifications for any individual student's IEP plan must be met.
- Alter assignment lengths if necessary.
- Provide additional examples of annotation and the signposts.
- Allow additional time when in full class discussing for processing and discussion.
- Students should be provided with graphic organizers during annotations and discussions.
- Check for understanding by conferencing with the teacher.
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read chapter tests aloud/test orally

Suggested Technological Innovations/Use

- **CS.K-2.8.1.2.CS.1:** Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
- **CS.K-2.NI:** Computer networks can be used to connect individuals to other individuals, places, information, and ideas. The Internet enables individuals to connect with others worldwide.
- **CS.K-2.8.1.2.IC.1:** Compare how individuals live and work before and after the implementation of new computing technology.
- **CS.K-2.ITH.1-2:** Human needs and desires determine which new tools are developed.
- **CS.K-1.ITH.3-5:** Technology has changed the way people live and work. Various tools can improve daily tasks and quality of life.
- **CS.K-2.ETW:** The use of technology developed for the human designed world can affect the environment, including land, water, air, plants, and animals. Technologies that use natural sources can have negative effects on the environment, its quality, and inhabitants. Reusing and recycling materials can save money while preserving natural resources and avoiding damage to the environment.
- **CS.K-2.8.2.2.EC.1:** Identify and compare technology used in different schools, communities, regions, and parts of the world.

Cross Curricular/Life Literacies

All students will possess an understanding of scientific concepts and processes required for personal decision making, participation in civic life, and preparation for careers in STEM fields (for those that chose).

Prepare students to become scientifically literate individuals who can effectively:

- Apply scientific thinking, skills, and understanding to real-world phenomena and problems;

- Engage in systems thinking and modeling to explain phenomena and to give a context for the ideas to be learned;
 - Conduct investigations, solve problems, and engage in discussions;
 - Discuss open-ended questions that focus on the strength of the evidence used to generate claims;
 - Read and evaluate multiple sources, including science-related magazine and journal articles and web-based resources to gain knowledge about current and past science problems and solutions and develop well reasoned claims;
 - Communicate ideas through journal articles, reports, posters, and media presentations that explain and argue.
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- 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) Connections to NJSL – Mathematics •
 - MP.2 Reason abstractly and quantitatively. (1-ESS1-2) • MP.4 Model with mathematics. (1-ESS1-2) •
 - MP.5 Use appropriate tools strategically. (1-ESS1-2) • 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)
 - SOC.6.1.2.CivicsPD.1: Engage in discussions effectively by asking questions, considering facts, listening to the ideas of others, and sharing opinions.
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- SEL.PK-12.1: Self Awareness: Recognize one’s feelings and thoughts; personal traits, strengths, and limitations.
 - SEL.PK-12.2.2: Self-Management: Recognize the skills needed to establish and achieve personal and educational goals
 - SEL.PK-12.5: Relationship Skills: Utilize positive communication and social skills to interact effectively with others; Identify who, when, where, or how to seek help for oneself or others when needed