Branchburg Township Public Schools

Office of Curriculum and Instruction

Kindergarten Science Curriculum

Adopted by the Board of Education September 2023

This curriculum is aligned with the 2020 /New Jersey Student Learning Standards in Science

Curriculum Scope and Sequence			
Content Area	**Science**	**Course Title/Grade Level:**	**Kindergarten**

Topic/Unit Name		Suggested Pacing
Topic/Unit #1	Unit 1 - Pushes & Pulls	November
Topic/Unit #2	Unit 2 - Living & Nonliving Things	January - Mid. Feb.
Topic/Unit #3	Unit 3 - Weather Patterns, Earth, and Human Activity	Mid Feb.- March
Topic/Unit #4	Unit 4 - Energy (Sunlight)	May

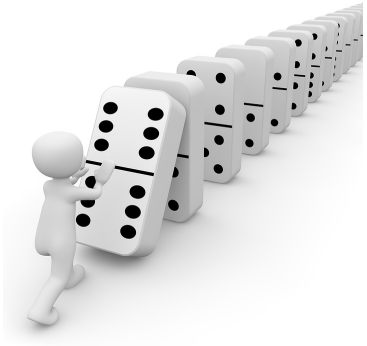
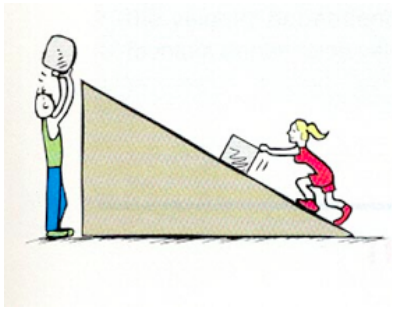
Topic/Unit 1 Title	Pushes and Pulls	Approximate Pacing	November
STANDARDS			
NJSLS Science			
Students will be able to… Students who demonstrate understanding can: K-PS2-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. [Clarification Statement: Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other.] [Assessment Boundary: Assessment is limited to different relative strengths or different directions, but not both at the same time. Assessment does not include non-contact pushes or pulls such as those produced by magnets.] K-PS2-2. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.* [Clarification Statement: Examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular path, and knock down other objects. Examples of solutions could include tools such as a ramp to increase the speed of the object and a structure that would cause an object such as a marble or ball to turn.] [Assessment Boundary: Assessment does not include friction as a mechanism for change in	Student will know… **PS2.A: Forces and Motion** Pushes and pulls can have different strengths and directions. (KPS2-1),(K-PS2-2) Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. (K-PS2-1),(K-PS2-2) **PS2.B: Types of Interactions** When objects touch or collide, they push on one another and can change motion. (K-PS2-1) **PS3.C: Relationship Between Energy and Forces** A bigger push or pull makes things speed up or slow down more quickly. (secondary to K-PS2-1) **ETS1.A: Defining Engineering Problems** A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have	Crosscutting Concepts **Cause and Effect** Simple tests can be designed to gather evidence to support or refute student ideas about causes. (K-PS2-1),(K-PS2-2)	

	many acceptable solutions. (secondary to KPS2-2)	

Interdisciplinary Connections:	**CS & DT:**
ELA: ● RI.K.1 With prompting and support, ask and answer questions about key details in a text. (K-PS2-2) ● Example: Students will ask and answer questions about informational science texts related to current learning topics. ● SL.K.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood. (K-PS2-2) ● Example: Students will ask and answer questions related to science topics and terminology. Mathematics: ● K.MD.A.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. (K-PS2-1) (Students work to sort objects that need to be rolled/pushed and discuss what they observe about them)	8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process. Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions. Example: Students will collaborate to determine which materials will be used to demonstrate push and pull in the classroom. 8.2.2.ED.3: Select and use appropriate tools and materials to build a product using the design process. Example: Students will use various objects in the classroom to demonstrate push and pull. (exploration centers)

CKLS:

9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). Brainstorming can create new, innovative ideas.
Example: Students will collaborate and participate in discussions to explain why they think the ball will move when kicked or pushed and why it will stop when it hits something.

UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS
Pictures of kids moving objects (kicking,pushing, rolling, pulling etc.)      

STUDENT LEARNING OBJECTIVES	
Key Knowledge	**Process/Skills/Procedures/Application of Key Knowledge**
Students will know: Pushes and pulls can have different strengths and directions. Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. When objects touch or collide, they push on one another and can change motion.	***Students will be able to:*** Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull

A bigger push or pull makes things speed up or slow down more quickly. A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have many acceptable solutions.	
ASSESSMENT OF LEARNING	
Summative Assessment (Assessment at the end of the learning period)	Students will develop a model and construct and argument with evidence to explain the science behind the phenomena using the Disciplinary Core Ideas, Cross Cutting Concepts, and Science and Engineering Practices
Formative Assessments (Ongoing assessments during the learning period to inform instruction)	Models, claims, planning and carrying out investigations, classroom discussions, Teacher led discussion of inquiry activities to summarize student understanding, anecdotal notes
Alternative Assessments (Any learning activity or assessment that asks students to *perform* to demonstrate their knowledge, understanding and proficiency)	worksheets/activities, PBL (extensions)
Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)	**Science Benchmark K** (given in October & June)
RESOURCES	
Core instructional materials:	

• **Unit 1 Exploration Launching Guide** • **Teacher created lessons**
Supplemental materials: • **NGSS** • **Pushes and Pulls** • **Discovery Education (through classlink)** • **BrainPop Jr. (through classlink)** • **Mystery Science**
Modifications for Learners
See appendix

Topic/Unit 2 Title	Living and Nonliving Things	Approximate Pacing	Beg. February- Mid. February

STANDARDS
NJSLS Science

Students will be able to:	Students will know…	Crosscutting Concepts
K-ESS3 Earth and Human Activity Students who demonstrate understanding can: **K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live**. (Clarification Statement: Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas; and, grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.) **K-ESS3-2 Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather. *** (Clarification Statement: Emphasis is on local forms of severe weather.) **K-ESS3-3 Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.*** (Clarification Statement: Examples of human impact on the land could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles.) K-LS1-1 **.Use observations to describe patterns of what plants and animals (including humans)**	Disciplinary Core Ideas **ESS3.A: Natural Resources** Living things need water, air, and resources from the land and they live in places that have the things they need. Humans use natural resources for everything they do. (K-ESS3-1) **ESS2-E Biology** Plants and animals can change their environment. (K-ESS2-2) **ETS1.A: Defining and Delimiting an Engineering Problem** Asking questions, making observations, and gathering information are helpful in thinking about problems. (secondary to K-ESS3-2) **ETS1.B: Developing Possible Solutions** Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (secondary to K-ESS3-3) **LS1.C: Organization for Matter and Energy Flow in Organisms** All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. (K-LS1-1)	**Cause and Effect** Events have causes that generate observable patterns. (K-ESS3-2), (K-ESS3-3) **Systems and System Models** Systems in the natural and designed world have parts that work together. (K-ESS3-1) **Patterns** Patterns in the natural and human designed world can be observed and used as evidence. (K-LS1-1) ---------- **Connections to Engineering, Technology and Applications of Science** **Interdependence of Science, Engineering, and Technology** People encounter questions about the natural world every day. (K-ESS3-2) **Influence of Engineering, Technology, and Science on Society and the Natural World** People depend on various technologies in their lives; human life would be very

need to survive (Clarification Statement: Examples of patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; and, that all living things need water.)		different without technology. (K-ESS3-2)
Interdisciplinary Connections:	**CS & DT:**	
ELA: ● RI.K.1 With prompting and support, ask and answer questions about key details in a text. (K-ESS3-2) (Students will read about different living things and ask and answer questions about the natural resources that they use to survive.) ● SL.K.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood. (K-ESS3-1) (Students will look at the phenomenon and ask/answer questions to gain understanding about the commonalities in the pictures and what all living things need)	**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. (Example: Students will use iPads and Chromebooks to explore videos and games related to current learning topics) **8.2.2.ED.3:** Select and use appropriate tools and materials to build a product using the design process (Example: Students will use various materials to build and create designs during Explorations)	
CLKS:		
9.1.2.CAP.1: Make a list of different types of jobs and describe the skills associated with each job. Different types of jobs require different knowledge and skills. Example: Science Explorations (dramatic play) What type of jobs relate to living and nonliving things? What responsibilities come along with those jobs?		
UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS		

Show pictures of a squirrel holding nuts in his cheeks, plants being watered, a child eating food, a bear eating fish and deer eating foliage.





STUDENT LEARNING OBJECTIVES	
Key Knowledge	**Process/Skills/Procedures/Application of Key Knowledge**
Students will know: Living things need water, air, and resources from the land and they live in places that have the things they need. Humans use natural resources for everything they do. Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air and other living things. Asking questions, making observations, and gathering information are helpful in thinking about problems	***Students will be able to:*** Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live. Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment. Use observations to describe patterns of what plants and animals (including humans) need to survive

Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow.	
ASSESSMENT OF LEARNING	
Summative Assessment (Assessment at the end of the learning period)	Students will develop a model and construct and argument with evidence to explain the science behind the phenomena using the Disciplinary Core Ideas, Cross Cutting Concepts, and Science and Engineering Practices
Formative Assessments (Ongoing assessments during the learning period to inform instruction)	Models, claims, planning and carrying out investigations, classroom discussions,Teacher led discussion of inquiry activities to summarize student understanding, anecdotal notes
Alternative Assessments (Any learning activity or assessment that asks students to *perform* to demonstrate their knowledge, understanding and proficiency)	worksheets/activities, PBL (extensions)
Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)	**Science Benchmark K** (given in October & June)

RESOURCES
Core instructional materials: ● **Unit 2 Explorations** ● **Teacher created lessons**
Supplemental materials: ● **NGSS** ● **Living/ Non-Living Things** ● **Discovery Education (through classlink)** ● **BrainPop Jr. (through classlink)** ● **Mystery Science**
Modifications for Learners
See appendix

Topic/Unit 3 Title	Weather Patterns, Earth, and Human Activity	Approximate Pacing	Mid. February - March

STANDARDS		
NJSLS Science		
Students will be able to… K-ESS2-1 Earth's Systems Student who demonstrate understanding can: **K-ESS3-1 Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.** (Clarification Statement: Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas; and, grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.) **K-ESS2-1 Use and share observations of local weather conditions to describe patterns over time.** (Clarification Statement: Examples of qualitative observations could include descriptions of the weather (such as sunny, cloudy, rainy and warm); examples of quantitative observations cold include numbers of sunny, windy, and rainy days in a month.) (Assessment Boundary: Assessment of quantitative observations limited to whole numbers and relative measures such as warmer/cooler.) **K-ESS2-2 Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.** (Clarification Statement: Examples of plants and animals changing their environment could include a squirrel digs in the ground to hide its food and tree roots can break concrete.)	Students will know… Disciplinary Core Ideas ETS1.A Defining and Delimiting Engineering Problems A situation that people want to change or create can be approached as a problem to be solved through engineering. (K-2-ETS1-1) Asking questions, making observations, and gathering information are helpful in thinking about problems. (K-2-ETS1-1) Before beginning to design a solution, it is important to clearly understand the problem. (K-2-ETS1-1) ETS1.B Developing Possible Solutions Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (K-2-ETS1-2) ETS1.C Optimizing the Design Solution Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (K-2-ETS1-3) **ESS2.D: Weather and Climate** Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure	Crosscutting Concepts **Structure and Function** The shape and stability of structures of natural and designed objects are related to their function(s). (K-2-ETS1-2) **Patterns** Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (K-ESS2-2) **Systems and System Models** Systems in the natural and designed world have parts that work together. (K-ESS2-2)

K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. **K-2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.** **K-2-ETS1-3 Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.**	these conditions to describe and record the weather and notice patterns over time (K-ESS2-1) **ESS3.B Natural Hazards** Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events. (K-ESS3-2) **ESS3.C: Human Impacts on Earth Systems** Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things. (secondary to K-ESS2-2)	

Interdisciplinary Connections:	**CS & DT:**
SL.K.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood. (K-ESS3-2) SMP 3 Construct viable arguments and critique the reasoning of others *Example: After analyzing the weather graph pictures they make discussions and arguments to each other and learn to reason*	8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats *Example: Students look at the weather graphs and look for patterns and determine the reasons for the weather changes.* 8.2.2.ITH.3: Identify how technology impacts or improves life. Technology has changed the way people live and work. *Example: Students learn that some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events.* 8.2.2.ITH.1: Identify products that are designed to meet human wants or needs. Human needs and desires determine which new tools are developed. *Example: Discuss items related to weather that help, i.e. umbrellas, raincoats, etc.)*

	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. (Example: Students will use iPads and Chromebooks to explore videos and games related to current learning topics) **8.2.2.ED.3:** Select and use appropriate tools and materials to build a product using the design process (Example: Students will use various materials to build and create designs during Explorations)
CLKS:	
9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive). *Students look at the weather graphs and look for patterns and determine the reasons for the weather changes. Patterns are looked at in many careers, trends in data, sports teams etc.* 9.1.2.CAP.1: Make a list of different types of jobs and describe the skills associated with each job. Different types of jobs require different knowledge and skills. Example: Students will ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather on a basic level but understanding that this is what meteorologists and weathermen(women) do.	
UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS	
Picture graphs of the weather through the school year that the students have charted.	
STUDENT LEARNING OBJECTIVES	
Key Knowledge	**Process/Skills/Procedures/Application of Key Knowledge**
Students will know: A situation that people want to change or create can be approached as a problem to be solved through engineering	***Students will be able to:*** Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live Use and share observations of local weather conditions to describe patterns over time.

Asking questions, making observations, and gathering information are helpful in thinking about problems Before beginning to design a solution, it is important to clearly understand the problem. Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. Because there is always more than one possible solution to a problem, it is useful to compare and test designs. Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and notice patterns over time Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things.	Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.
ASSESSMENT OF LEARNING	
Summative Assessment (Assessment at the end of the learning period)	Students will develop a model and construct and argument with evidence to explain the science behind the phenomena using the Disciplinary Core Ideas, Cross Cutting Concepts, and Science and Engineering Practices

Formative Assessments (Ongoing assessments during the learning period to inform instruction)	Models, claims, planning and carrying out investigations, classroom discussions,Teacher led discussion of inquiry activities to summarize student understanding, anecdotal notes
Alternative Assessments (Any learning activity or assessment that asks students to *perform* to demonstrate their knowledge, understanding and proficiency)	worksheets/activities, PBL (extensions)
Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)	**Science Benchmark K** (given in October & June)
RESOURCES	
Core instructional materials: ● **Unit 3 Explorations** ● **teacher created lessons**	
Supplemental materials: ● **NGSS** ● **Weather Patterns** ● **Discovery Education (through classlink)** ● **BrainPop Jr. (through classlink)** ● **Mystery Science**	
Modifications for Learners	
See appendix	

Topic/Unit 4 Title	Energy (Sunlight)	Approximate Pacing	May
STANDARDS			
NJSLS Science			
Students will be able to... **K-PS3-1 Make observations to determine the effect of sunlight on the Earth's surface.** (Clarification Statement: Examples of Earth's surface could include sand, soil, rocks, and water.)(Assessment Boundary: Assessment temperature is limited to relative measures such as warmer/cooler.) **K-PS3-2 Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.*** (Clarification Statement: Examples of structures could include umbrellas, canopies, and tents that minimize the warming effect of the sun.) **K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.** **K-2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.** **K-2-ETS1-3 Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.**	Students will know… **PS3.B**: Conservation of Energy and Energy Transfer Sunlight warms the Earth's surface. (P-PS3-1), (K-PS3-2) ETS1.A: Defining and Delimiting Engineering Problems A situation that people want to change or create can be approached as a problem to be solved through engineering. (K-2-ETS1-1) Asking questions, making observations, and gathering information are helpful in thinking about problems. (K-2-ETS1-1) Before beginning to design a solution, it is important to clearly understand the problem. (K-2-ETS1-1) ETS1.B: Developing Possible Solutions Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (K-2-ETS1-2) ETS1.C: Optimizing the Design Solution Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (K-2-ETS1-3)	Crosscutting Concepts **Cause and Effect** Events have causes that generate observable patterns. (K-PS3-1), (K-PS3-2) Structure and Function The shape and stability of structures of natural and designed objects are related to their function(s). (K-2-ETS1-2)	

Interdisciplinary Connections:	CS & DT:
RI.K.1 With prompting and support, ask and answer questions about key details in a text. (K-PS2-2) Example: Students will ask and answer questions about informational science texts related to current learning topics. SL.K.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood. (K-PS2-2) Example: Students will ask and answer questions related to science topics and terminology. K.MD.A.2 Directly compare two objects with a measurable attribute in common, to see which object has “more of”/”less of” the attribute, and describe the difference. Example: Students will compare sunlight of areas outdoors.	8.1.2.AP.4: Break down a task into a sequence of steps. *Example: Students will break their task of creating sunshade into smaller parts. First brainstorming, then sketching, then creating or acting out.* **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. (Example: Students will use iPads and Chromebooks to explore videos and games related to current learning topics) **8.2.2.ED.3:** Select and use appropriate tools and materials to build a product using the design process (Example: Students will use various materials to build and create designs during Explorations)

CLKS:
9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a). 9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3) *Example: Students will be creative and come up with a way to solve the problem of not enough shade on the playground. They will share their ideas of how to solve the problem. Students can draw or build a model similar to what an engineer or architect does*
UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS
Phenomenon Scenario: Mrs. Shober went outside on a sunny summer day and as she stood in the sun she started to feel really hot.
STUDENT LEARNING OBJECTIVES

Key Knowledge	Process/Skills/Procedures/Application of Key Knowledge
Students will know: Sunlight warms the Earth's surface A situation that people want to change or create can be approached as a problem to be solved through engineering	***Students will be able to:*** Make observations to determine the effect of sunlight on the Earth's surface. Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

ASSESSMENT OF LEARNING	
Summative Assessment (Assessment at the end of the learning period)	Students will develop a model and construct and argument with evidence to explain the science behind the phenomena using the Disciplinary Core Ideas, Cross Cutting Concepts, and Science and Engineering Practices
Formative Assessments (Ongoing assessments during the learning period to inform instruction)	Models, claims, planning and carrying out investigations, classroom discussions,Teacher led discussion of inquiry activities to summarize student understanding, anecdotal notes
Alternative Assessments (Any learning activity or assessment that asks students to *perform* to	worksheets/activities, PBL (extensions)

demonstrate their knowledge, understanding and proficiency)	
Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)	**Science Benchmark K** (given in October & June)
RESOURCES	
Core instructional materials: ● **Unit 4 Explorations** ● **Teacher created lessons**	
Supplemental materials: ● **NGSS** ● **Sun** ● **Discovery Education (through classlink)** ● **BrainPop Jr. (through classlink)** ● **Mystery Science**	
Modifications for Learners	
See appendix	