| **SUBJECT:** Science | **GRADE:** Kindergarten |
|---|---|
| **UNIT TITLE:** Animal Needs | |
| **UNIT OVERVIEW** | |
| In this unit, students use observations to understand the basic needs of animals. Students explore how animals need things to eat and a safe place to live, and also how animals can change their environments to meet those needs. | |
| **LRG SKILLS AND DISPOSITIONS** | **STANDARDS** |
| Collaboration and Teamwork: As part of the Cornerstone, students collaborate to research their farm animal and record their findings. (S1A)<br>Creativity and Innovation: As part of the Cornerstone, students create a representation of their farm animal to share its structures and functions. (S3A) | **PA Standards**<br>● 3.1.K.A Use observations to describe patterns of what plants and animals (including humans) need to survive.<br>● 3.3.K.B Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.<br>● 3.3.K.C Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live. |
| **COMPETENCIES** | **LEARNING TARGETS** |
| Competency: I can examine and evaluate the patterns, processes and relationships of living organisms. | ● <Code> I can use observations to describe patterns of what plants and animals (including humans) need to survive. |
| Competency: I can examine and evaluate processes that operate on Earth and in space. | ● <Code> I can use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.<br>● <Code> I can construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs. |

| **SUBJECT:** Science | **GRADE:** Kindergarten |
|---|---|
| **UNIT TITLE:** Plant Needs | |
| **UNIT OVERVIEW** | |
| In this unit, students use observations to understand the basic needs of plants, such as water and sunlight. They also observe young plants and the changes they undergo as they grow from seed to seedling. | |
| **LRG SKILLS AND DISPOSITIONS** | **STANDARDS** |
| | **PA Standards**<br>● 3.1.K.A Use observations to describe patterns of what plants and animals (including humans) need to survive.<br>● 3.3.K.B Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.<br>● 3.3.K.C Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live. |
| **COMPETENCIES** | **LEARNING TARGETS** |
| Competency: I can examine and evaluate the patterns, processes and relationships of living organisms. | ● <Code> I can use observations to describe patterns of what plants and animals (including humans) need to survive. |
| Competency: I can examine and evaluate processes that operate on Earth and in space. | ● <Code> I can use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.<br>● <Code> Earth and Space Science: I can construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs. |

| **SUBJECT:** Science | **GRADE:** Kindergarten |
|---|---|
| **UNIT TITLE:** Severe Weather | |
| **UNIT OVERVIEW** | |
| In this unit, students explore storms and severe weather! They obtain information from weather forecasts to prepare for storms and stay safe. They also practice describing the various characteristics of weather (wind, clouds, temperature, and precipitation) in order to make their own predictions about storms. | |
| **LRG SKILLS AND DISPOSITIONS** | **STANDARDS** |
| | **PA Standards**<br>● 3.3.K.A Use and share observations of local weather conditions to describe patterns over time.<br>● 3.3.K.D Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather. |
| **COMPETENCIES** | **LEARNING TARGETS** |
| Competency: I can examine and evaluate processes that operate on Earth and in space. | ● <Code> I can ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.<br>● <Code> I can use and share observations of local weather conditions to describe patterns over time. |

| **SUBJECT:** Science | **GRADE:** Kindergarten |
|---|---|
| **UNIT TITLE:** Weather Patterns | |
| **UNIT OVERVIEW** | |
| In this unit, students gather evidence in order to identify daily and seasonal weather patterns. They use those patterns to explain mysteries like why you might lose your jacket during the day or why birds lay their eggs at certain times of the year. | |
| **LRG SKILLS AND DISPOSITIONS** | **STANDARDS** |
| | **PA Standards**<br>● 3.3.K.A Use and share observations of local weather conditions to describe patterns over time.<br>● 3.3.K.B Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs. |
| **COMPETENCIES** | **LEARNING TARGETS** |
| Competency: I can examine and evaluate processes that operate on Earth and in space. | ● <Code> I can construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.<br>● <Code> I can use and share observations of local weather conditions to describe patterns over time. |

| **SUBJECT:** Science | **GRADE:** Kindergarten |
|---|---|
| **UNIT TITLE:** Sunlight and Warmth | |
| **UNIT OVERVIEW** | |
| In this unit, students make observations to explore how sunlight warms the Earth's surface. The Sun's energy heats up the pavement, keeps us warm, and can even melt marshmallows. Using what they learn, students think about ways that shade and structures can reduce the warming effect of the Sun. | |
| **LRG SKILLS AND DISPOSITIONS** | **STANDARDS** |
| | **PA Standards**<br>● 3.2.K.C Make observations to determine the effect of sunlight on Earth's surface.<br>● 3.2.K.D Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.<br>● 3.5.K-2.C Explain ways that technology helps with everyday tasks. |
| **COMPETENCIES** | **LEARNING TARGETS** |

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|---|---|
| Competency: I can examine and evaluate what things are made of and how they interact with each other. | ● <Code> I can make observations to determine the effect of sunlight on Earth's surface.<br>● <Code> I can use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area. |
| Competency: I can examine and evaluate the interactions among technology, engineering, and society. | ● <Code> I can explain ways that technology helps with everyday tasks. |

| **SUBJECT:** Science | **GRADE:** Kindergarten |
|---|---|
| **UNIT TITLE:** Pushes and Pulls | |
| **UNIT OVERVIEW** | |
| In this unit, students are introduced to pushes and pulls and how those affect the motion of objects. Students observe and investigate the effects of what happens when the strength or direction of those pushes and pulls are changed. | |
| **LRG SKILLS AND DISPOSITIONS** | **STANDARDS** |
| | **PA Standards**<br>● 3.2.K.B 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. |

| | |
|---|---|
| | ● 3.2.K.A 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.<br>● 3.5.K-2.G Explain the tools and techniques that people use to help them do things.<br>● 3.5.K-2.Y Discuss how the way people live and work has changed throughout history because of technology.<br>● 3.5.K-2.U Explain that design is a response to wants and needs.<br>● 3.5.K-2.O Illustrate that there are different solutions to a design and that none are perfect. |
| **COMPETENCIES** | **LEARNING TARGETS** |
| Competency: I can examine and evaluate what things are made of and how they interact with each other. | ● <Code> I can 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.<br>● <Code> I can 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. |
| Competency: I can examine and evaluate the interactions among technology, engineering, and society. | ● <Code> I can explain the tools and techniques that people use to help them do things.<br>● <Code> I can discuss how the way people live and work has changed throughout history because of technology. |
| Competency: I can create, utilize, and assess new and existing designs. | ● <Code> I can illustrate that there are different solutions to a design and that none are perfect.<br>● <Code> I can explain that design is a response to wants and needs. |