SCIENCE
Kindergarten

Unit 1
Plants and Animals

Essential Question
This question guides the student experience throughout the unit and is open-ended and enduring.
How do living things, including people, change the environment to meet their needs, and what can we do to take care of the Earth?

Unit Summary
This summary provides high-level information about the main learning outcomes within this unit.
Students are introduced to the unit's anchoring phenomenon of how beavers change land and water. Students find out that sometimes animals have nowhere to go. Students create a space for animals to live at a fictional park where they discover what animals need to live and thrive. Students investigate how people can take care of Earth as they find out how the choices people make can reduce their impacts on the land, water, air, and other living things. Using what they know about what plants, animals, and people need to live and grow, can students identify the many ways beavers change land and water to meet their needs?

Guiding Questions
At the end of this unit, students should be able to respond to these questions as they demonstrate understanding of key concepts, skills and relevance to their own lives.

Content

- What do all living things need to survive, and how do their needs connect to where they live?
- How do plants, animals, and people change the environment to meet their needs?
- What problems do humans cause in nature, and how can we help take care of the Earth?

Process

- How can we observe and describe what living things need to live and grow?
- How can we use evidence, pictures, and models to explain how living things change their environment?

- How can we ask questions, solve problems, and share ideas to help take care of the Earth?

Reflective

- What did I learn about what all living things—plants, animals, and people—need to stay alive?
- How do I think plants, animals, and people change the Earth, and why do they do it?
- What can I do to help take care of our Earth and make it a better place for all living things?

Power Standards

These state standards have been identified as critical to students' long-term learning progression in this discipline. They are assessed within the scope of this unit.

- K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.
- K-ESS2-2 Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.
- 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.
- 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.
- 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.

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Unit 2
Forces and Interactions: Pushes and Pulls

Essential Question
This question guides the student experience throughout the unit and is open-ended and enduring.
How do pushes and pulls help us move things and solve problems in our world?

Unit Summary
This summary provides high-level information about the main learning outcomes within this unit.
Students are introduced to the unit's anchoring phenomenon of how they move in different ways on the playground. Performing investigations and simple tests, students explore the relationship between forces and motion and discover how things move through pushes and pulls, and what happens when objects bump. Students also explore how people design things that move. Can students use what they know to build a marble playground?

Guiding Questions
At the end of this unit, students should be able to respond to these questions as they demonstrate understanding of key concepts, skills and relevance to their own lives.

Content

- How do pushes and pulls make things move in different ways?
- What happens when objects bump into each other or change direction?
- How can people design or improve things that move using pushes or pulls?

Process

- What do you notice when you push or pull an object in different directions or with different strength?
- How can you tell if your push or pull made the object move the way you planned?
- What questions did you ask and what did you learn while designing something that moves?

Reflective

- What did I learn about how pushes and pulls can change how something moves?
- How did I know if my idea or design worked the way I wanted it to?
- What would I do differently next time to improve how my object moves?

Power Standards

These state standards have been identified as critical to students' long-term learning progression in this discipline. They are assessed within the scope of this unit.

- 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.
- 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.
- 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.

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Unit 3
Weather

Essential Question
How does weather affect our lives, and how can we prepare for and stay safe in different weather conditions?

Unit Summary
Students are introduced to the unit's anchoring phenomenon of weather not being the same everywhere. This unit is grouped into two main concepts. In the first half of the unit, students explore how to identify different types of weather and the factors that contribute to weather. In the second half of the unit, students take a look at severe weather and understand how to plan for it. Students discover how weather forecasts let us know what kind of weather is coming. Students also examine what weather is like where they live. Using what they know about weather, how should students plan, prepare, and keep safe in the event of a storm?

Guiding Questions
Content
- What is weather, and how can we observe and describe how it changes over time?
- How does the sun affect Earth's surface, and how can we stay cool in hot weather?
- What can we learn from weather forecasts, and how can we get ready for storms?

Process
- What do I see, feel, or measure when I observe the weather outside each day?
- How can I use tools and materials to build something that helps protect us from the sun or weather?
- How can I ask questions and use information to help people stay safe during storms?

Reflective

- What did I learn about how weather changes and how we can tell what the weather is like?
- How did my design help protect from the sun or heat, and what would I change to make it better?
- Why is it important to learn about weather and storms, and how can we stay safe when they happen?

Power Standards

- K-PS3-1 Make observations to determine the effect of sunlight on Earth's surface.
- K-PS3-2 Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.
- K-ESS2-1 Use and share observations of local weather conditions to describe patterns over time.
- K-ESS3-2 Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to severe weather.
- 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 texts of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.