

KINDERGARTEN STORYLINE

UNIT 1

Push, Pull, Go

Pushes & Pulls

What happens if you push or pull an object harder?

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

How can I change the speed and direction of an object with a push or pull?

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.

UNIT 2

Animals, Plants & Their Environment

Part 1: Plants & Animal needs

Why do animals live where they do?

K-LS1-1 Use observation to describe patterns of what plants and animals (including humans) need to survive.

K-ESS3-1 Use a model to represent the relationship between the needs of different animals (including humans) and the places they live.

Part 2: Plants & Animal Impact

How can humans reduce the impact they have on the environment?

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-ESS3-3 Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment

UNIT 3

Weather & Climate

Part 1: Weather Prediction

What is the weather like today?

How is the weather different from yesterday?

K-ESS2-2 Use and share observations of local weather conditions to describe patterns over time.

Why do we predict the weather?

K-ESS3-2 Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.

Part 2: The Effects of Sunlight

How does the sunlight effect the Earth's surface?

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.

1ST GRADE STORYLINE

UNIT 1

Earth's Place in the Universe

Part 1: The Universe and its Stars

What objects are in the sky and how do they seem to move?

1-ESS1-1 Use observations of the sun, moon, and stars to describe patterns that can be predicted.

Part 2: The Universe and its Stars

What is the relationship between the amount of daylight and the time of year?

1-ESS1-2 Make observations at different times of the year to relate the amount of daylight to the time of the year.

UNIT 2

Waves

Part 1: Sounds

What happens when materials vibrate?

1-PS4-1 Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate

1-PS4-4 Use tools and materials to design and build a device that uses light or sound to solve the problems of communicating over a distance

Part 2: Light

How do we use light to see different objects?

1-PS4-2 Make observations to construct an evidence based account that objects can be seen only when illuminated.

1-PS4-3 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-PS4-4 Use tools and materials to design and build a device that uses light or sound to solve the problems of communicating over a distance

UNIT 3

Structure & Processes

What are some ways plants and animals meet their needs so they can survive and grow?

1-LS1-1 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-LS1-2 Read texts and use media to determine patterns in behavior of parents and offsprings that help offsprings survive

UNIT 4

Heredity

How are plants and animals and their offspring similar and different?

1-LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like their parents.

2ND GRADE STORYLINE

UNIT 1

Properties & Behavior of Matter

Properties and Behavior of Matter

How are materials similar and different from one another?

2-PS1-1 Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

2-PS1-3 Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.

How do the properties of the materials relate to their use?

2-PS1-2 Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for intended purpose

2-PS1-4 Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.

UNIT 2

Ecosystems

Part 1: How Plants Survive

What do plants need to grow?

2-LS2-1 Plan and conduct an investigation to determine if plants need sunlight and water to grow

2-LS2-2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants

2-ETS1-B Designs can be conveyed through sketches, drawing or physical models. These representations are useful in communicating ideas for a problem's solutions to other people.

Part 2: Diversity of Organisms

How many types of living things live in a place?

2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats

UNIT 3

Land & Water

Land and Water

How does land change and what are some things that cause it to change?

2-ESS1-1 Use information from several sources to provide evidence that Earth events can occur quickly or slowly.

2-ESS2-1 Compare multiple solutions designed to slow or prevent wind or water from changing the shape of land.

What are the different kinds of land and bodies of water?

2-ESS2-2 Develop a model to represent the shapes and kinds of land and bodies of water in an area

2-ESS2-3 Obtain information to identify where water is found on Earth and that it can be solid or liquid.

3RD GRADE STORYLINE

UNIT 1 Force & Motion

Part 1: Equal and Unequal Forces

How do equal and unequal forces on an object affect the object?

3-PS2-1 Plan and conduct an investigation to evidence of the effects of balanced and unbalanced forces on the motion of an object

3-PS2-2 Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

Part 2: Magnetic Forces

How can magnets be used?

3-PS2-3 Ask questions to determine cause and effect relationships of electrical or magnetic interactions between two objects not in contact with each other.

3-PS2-4 Define a simple design problem that can be solved by applying scientific ideas about magnets.

UNIT 2 Organisms

Part 1: Growth and Development of Organisms

How do organisms grow, develop and survive?

3-LS1-1 Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

3-LS2-1 Construct an argument that some animals form groups that help members survive.

Part 2: Genetics

How do organisms vary in their traits?

3-LS3-1 Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms

3-LS3-2 Use evidence to support the explanation that traits can be influenced by the environment.

Part 3: Environmental Effects

How are plants, animals, and environments of the past similar or different from current plants, animals, and environments?

3-LS4-1 Analyze and interpret data from fossils to provide evidence of the organisms and environments in which they lived long ago.

What happens to organisms when their environment changes?

3-LS4-2 Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates and reproducing.

3-LS4-3 Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

3-LS4-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

4TH GRADE STORYLINE

UNIT 1 Energy

Part 1: Motion

How is energy related to motion?

4-PS3-1 Use evidence to construct an explanation relating the speed of an object to energy of that object.

4-PS3-3 Ask questions and predict outcomes about the changes in energy that occur when objects collide.

Part 2: Transfer & Transformation

How can energy be transferred?

4-PS3-2 Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

How can energy be used to solve a problem?

4-PS3-4 Apply scientific ideas to design, test and refine a device that converts energy from one form to another.

4-ESS3-1 Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

UNIT 2 Waves

Part 1: Wave Properties

How are the properties of waves described?

4-PS4-1 Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.

How do waves cause objects to move?

4-PS4-1 Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.

Part 2: Information Transfer

How can waves be used to transfer information?

4-PS4-3 Generate and compare multiple solutions that use patterns to transfer information

UNIT 3 Process the shape of the Earth

Part 1: Change Over Time

How do we know the Earth's landscape has changed over time?

4-ESS1-1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.

Part 2: Weathering & Erosion

How can water, ice, wind and vegetation change the land?

4-ESS2-1 Make observation and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind or vegetation.

Part 3: Patterns of Earth's Features

What patterns of Earth's features can be determined with the use of maps?

4-ESS2-2 Analyze and interpret data from maps to describe patterns of Earth's features.

Part 2: Reducing the Impact of Earth's Processes

How can we use technology to reduce the impact of hazards caused by natural processes?

4-ESS3-2 Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans

UNIT 4 Structures & Processes

Part 1: Structure/Function Relationships

How do internal and external structures support the survival, growth, behavior and reproduction of plants and animals?

4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support, growth, behavior, and reproduction.

Part 2: Information Processing

How do animals process and respond to information received through their senses?

4-LS1-2 Use a model to describe that animals receive different types of information through their senses, process information in their brain, and respond to the information in different ways.

4-PS4-2 Develop a model to describe that light reflecting from objects entering the eye allows objects to be seen.

5TH GRADE STORYLINE

UNIT 1

Matter: Its Interactions & Conservation

Part 1: The Structure & Properties of Matter

How can we classify matter based on its physical properties?

5-PS1-3 Make observations and measurements to identify materials based on their properties.

Part 2: Conservation

When matter changes does its weight change?

5-PS1-1 Develop a model to describe that matter is made of particles too small to be seen.

5-PS1-2 Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.

Part 3: Interactions

Can known substances be created by combining other substances?

5-PS1-4 Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

UNIT 2

Ecosystems: Energy & Interactions

Part 1: Obtaining Energy

Where does energy in food come from and what do animals use it for?

5-PS3-1 Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

Where do plants get the materials they need to grow?

5-LS1-1 Support an argument that plants get the materials they need for growth chiefly from air and water.

Part 2: Interactions

How does matter cycle through ecosystems?

5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

UNIT 3

Earth's Systems

Part 1: Interactions between Spheres

How do the geosphere, biosphere, hydrosphere and atmosphere interact?

5-ESS2-1 Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact

How much water can be found in different places on Earth?

5-ESS2-2 Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

Part 2: Resources

How does human activity effect Earth's resources?

5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

How does human activity effect Earth's resources?

5-ESS3-1 Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses effect the environment.

UNIT 4

Earth's Place in the Solar System

Part 1: Gravity

Why do objects fall "down"?

5-PS2-1 Support an argument that the gravitational force exerted by Earth on objects is directed down.

Part 2: Stars

Why does the sun appear so much brighter than other stars?

5-ESS1-1 Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from the Earth.

Part 3: Patterns

How do Earth's movements cause daily and seasonal changes in our solar system?

5-ESS1-2 Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky