

NEW FOR THE 2026-27 SCHOOL YEAR

Grade 5 Science Scope and Sequence

COMPLETE PHENOMENA-BASED
SCIENCE CURRICULUM MADE EASY

- ✓ PHENOMENA-BASED
- ✓ OPEN-AND-GO LESSONS
- ✓ HANDS-ON INVESTIGATIONS
- ✓ AVAILABLE IN 50+ LANGUAGES
- ✓ ASSESSMENTS & PROGRESS MONITORING



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inquisitive

Ready to
teach lesson
slides

The screenshot shows the Inquisitive lesson interface for the unit '3. Inheritance and Variation of Traits'. The main content area displays a grid of eight dog faces with the question 'How are dogs the same and different?' overlaid. Below this grid are three smaller preview cards for the lesson slides. To the right, the 'Lesson Overview' section describes the lesson's focus on dog traits. Below that is a 'Lesson Materials Calculator' with a table of materials and their quantities. Further down are sections for 'NGSS Performance Expectations' (3-LS3-1), 'Science and Engineering Practices (SEPs)' (Analyzing and Interpreting Data), 'Disciplinary Core Ideas (DCIs)' (Variation of Traits, Inheritance of Traits), 'Crosscutting Concepts (CCCs)' (Patterns), and 'Patterns'.

Lesson Overview

This lesson begins with a visit to the dog park—a virtual one. Students meet a variety of dogs, and note their common features and their distinct differences. They learn that these features are called traits, and that the differences between traits are called

[Read More](#)

Lesson Materials Calculator

How many students are in your class?

30 Save Class Size

Apple	30
Knife - sharp	1
Recording sheet	30
Ruler	10
Toothpick	30

NGSS Performance Expectations

3-LS3-1

Science and Engineering Practices (SEPs)

Analyzing and Interpreting Data

Disciplinary Core Ideas (DCIs)

Variation of Traits

Inheritance of Traits

Crosscutting Concepts (CCCs)

Patterns

Phenomena-based Learning

Each lesson is anchored in a compelling phenomenon that gives students a meaningful reason to investigate, ask questions, and make sense of the world around them.

Designed for three-dimensional learning, students integrate Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts as they gather evidence, collaborate, develop explanations, and design solutions.

The result is science learning that is rigorous, relevant, and engaging for every learner.

The screenshot shows a lesson interface. On the left, a large image of children silhouetted against a sunset sky is pulling on a rope. A white text box in the center of the image asks, "Can a game of tug-of-war end in a draw?". Below the image is a purple "Next" button. On the right, a sidebar contains several sections: "Lesson Overview" with a brief description and a "Read More" link; "Lesson Materials Calculator" with a form to input class size (currently 30) and a "Save Class Size" button, followed by a list of materials (Hair dryer: 8, Ping-pong ball: 8) and a feedback link; "Standards" with a link to view the full list and a list of selected standards including "NGSS", "Idaho", "NGSS Performance Expectations", "3-PS2-1", "Science and Engineering Practices (SEPs)", "Planning and Carrying Out Investigations", "Connections to Nature of Science (NOS)", "Scientific Investigations Use a Variety of Methods", "Disciplinary Core Ideas (DCIs)", "Types of Interactions", "Forces and Motion", "Crosscutting Concepts (CCCs)", and "Cause and Effect".

Digital slides with embedded stimuli & printables

Teacher guide

Materials calculator

Standards alignment

HQIM and Standards-aligned

Inquisitive provides coherent, standards-aligned instruction designed to build knowledge and skills. Comprehensive state-specific crosswalks provide lesson-by-lesson evidence of alignment, while embedded assessments, differentiation strategies, accessibility supports, and research-based instructional practices help every student access grade-level learning.

Every lesson includes ready-to-teach digital slides, embedded stimuli, printable resources, teacher guidance, modeled responses, background science, and a materials calculator. Everything teachers need to deliver high-quality science instruction, simply open and go.

The screenshot shows a digital interface for a science activity. On the left, a purple sidebar contains a '2 Assign' button and navigation arrows. The main content area is divided into sections. The top section has a purple box with text: 'All materials are made of something called **matter**. Matter is anything that takes up space.' To the right of this box, it says 'Milk is one kind of material.' and 'A glass pitcher is another kind of material.' with an image of a glass pitcher. Below this, a central box contains images of various materials: a bundle of spaghetti, a blue bucket of soil, a water bottle, a paperclip, and several colored pencils. To the left of this central box, text says 'Your teacher will give you some different materials to explore. Touch and feel each material. Then talk about the questions.' Below this text are two input boxes: 'How are the materials the same?' and 'How are they different?'. On the right side of the interface, a sidebar contains a 'Core Activity' section with a link 'Learn about Differentiation with Inquisitive', a 'Time' field set to '20 mins', 'Teaching Notes' with instructions to read the purple box and ask students to name materials, and sections for 'Answers', 'Se Pedagogical Model', and 'Activity Materials'. At the bottom right, there are buttons for 'Next' and 'Exit'.

Hands-On Science That Builds Sensemaking

Hands-on investigations combine easy-to-source materials with engaging digital interactives, helping teachers spend less time preparing and more time teaching.

Students ask questions, make observations, gather evidence, test ideas, and develop explanations as they make sense of real-world phenomena. They learn science by thinking and acting like scientists and engineers, not simply watching science happen. Optional grade-level kits and refill kits make implementation even easier. Each kit is designed to support a class of up to 30 students.

The screenshot displays the Inquisitive app interface. The main content area shows a lesson titled "6 Assigned" with a text box stating: "Toda la materia está compuesta de diminutos **partículas**. Son demasiado pequeños para ser vistos excepto con un microscopio muy potente. Incluso el grano de arena más diminuto está compuesto de partículas aún más diminutas." Below this, three panels illustrate the states of matter: "Sólido" (Solid), "Líquido" (Liquid), and "Gas". Each panel includes an illustration of particles and a descriptive text box. The "Sólido" panel shows particles packed closely together, vibrating but not moving. The "Líquido" panel shows particles less tightly packed, able to slide past each other. The "Gas" panel shows particles widely spaced, moving freely and rapidly. To the right, a "Translate" sidebar is open, showing a list of languages including English, Spanish, Arabic, Armenian, Bengali, and Chinese (Simplified). A black arrow points from the word "Translate" in the sidebar to the word "Translate" in the main text area.

6 Assigned

Toda la materia está compuesta de diminutos **partículas**. Son demasiado pequeños para ser vistos excepto con un microscopio muy potente. Incluso el grano de arena más diminuto está compuesto de partículas aún más diminutas.

Sólido Líquido Gas

En un sólido, las partículas están muy unidas. Viben, pero no pueden moverse de su lugar.

En un líquido, las partículas son no tan apretado como en un sólido. Pueden deslizarse uno al lado del otro.

En un gas, las partículas están mucho más separadas que en un sólido o un líquido. Pueden moverse con libertad y rapidez.

Translate

Language

Spanish

English

Spanish

Arabic

Armenian

Bengali

Chinese (Simplified)

Give us Feedback

Settings

Download

Exit

Available in 50+ Languages

Equity, Access, and Differentiation

Built-in scaffolds, differentiation strategies, and culturally responsive content help reduce barriers to rigorous science learning while keeping students engaged in shared phenomena, investigations, and evidence-based thinking.

Language and accessibility supports are embedded directly into lessons, including text-to-speech, assistive technology compatibility, WCAG compliance, and translation into 50+ languages. These integrated supports help more students access grade-level science while giving teachers practical tools to respond to diverse learning needs.

Assign activities as you teach

Materials in water and soil can change the traits of plants. Weather can also affect their traits.

Read about the examples below. Then draw and label a picture to answer each *What if?* question.

Strong wind has caused this tree to grow sideways.

Lack of rainfall has caused parts of these plants to become brown.

What if the wind was less strong? What would the tree look like?

What if enough rain did fall? What would the corn plants look like?

Responses

Responses

Core Activity ⓘ
[Learn about Differentiation with Inquisitive](#)

Time 10 mins

Teaching Notes

Answers

5e Pedagogical Model

Level of student attainment & observations of student performance

Recommendations for Support

Next

Real-time student responses

Student performance expectations and recommendations for support

Check for Understanding in Real-Time

Live student responses provide immediate insights into student thinking, enabling teachers to identify misconceptions, adjust instruction, and facilitate meaningful student discussions and collaborations.

For instructional leaders, this means formative data is captured in the moment, supporting evidence-based decisions at the classroom and grade level, not just at the end of a unit.

Assign digitally or print in 50+ languages.

The screenshot displays the Inquisitive assessment interface. The main area shows a question: "9. Which of these are light sources? Choose all correct answers." with options: Sun (checked), Lamp (checked), Eye (unchecked), and Water (unchecked). Below this is question 10: "A person shines a flashlight into a dark closet to find a pair of shoes. Describe the path of light that lets the person see the shoes. Use the word **reflect** in your answer." The right sidebar shows the "Unit Quiz 1" results, including a "Show Answers" button and a "Digital Grade Book" section. An arrow points from the "Assign" button to the text "Assign digitally or print in 50+ languages." Another arrow points from the "Digital Grade Book" section to the text "Auto-graded assessment data is displayed in a digital grade book."

1 Part 7 of 8 Assign

9. Which of these are light sources? Choose all correct answers.

Sun

Lamp

10. A person shines a flashlight into a dark closet to find a pair of shoes. Describe the path of light that lets the person see the shoes. Use the word **reflect** in your answer.

9. Which of these are light sources? Choose all correct answers.

Sun

Lamp

Eye

Water

Unit Quiz 1

Unit Quiz Activity

Answers

9. Which of these are light sources? Choose all correct answers.

2 points

Show Answers

10. A person shines a flashlight into a dark closet to find a pair of shoes. Describe the path of light that lets the person see the shoes. Use the word **reflect** in your answer.

Example Answer 4 points

Light from the flashlight travels to the shoes. The shoes reflect the light. Some of the reflected light travels to the person's eyes. Then the person sees the shoes.

Activities

Teaching Sequence

Students 0/20

Translate

Give us Feedback

Settings

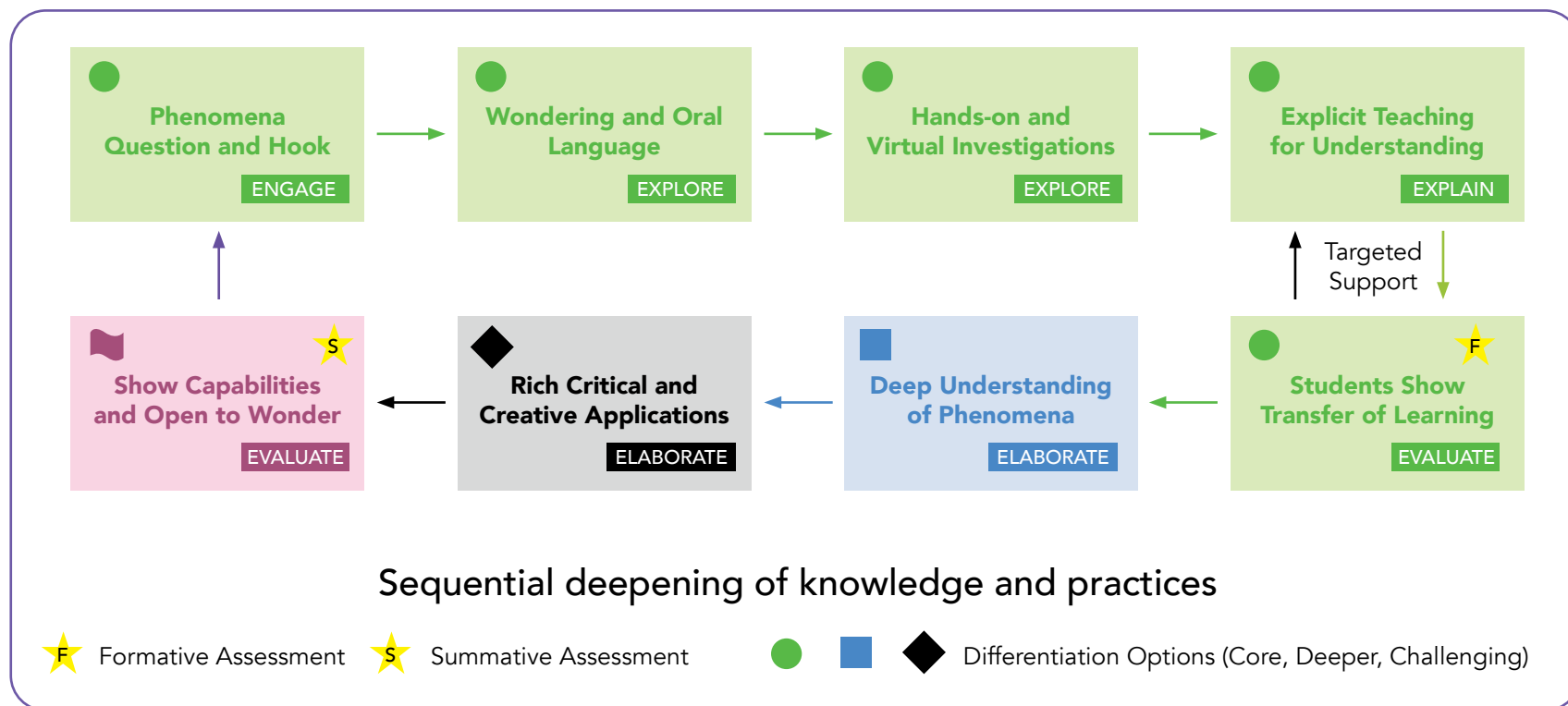
Auto-graded assessment data is displayed in a digital grade book.

Assessment and Standards Mastery

Formative and summative assessments include 3D performance tasks and auto-graded end-of-unit assessments.

Results are summarized in a digital grade book with recommendations for support, giving teachers clear next steps for instruction.

Assessment items are mapped to specific Performance Expectations, so districts can track standards mastery and support MTSS and RTI documentation needs.



Pedagogical Model of Lessons

Every lesson is built around the research-based 5E instructional model, guiding students through engagement, exploration, explanation, elaboration, and evaluation.

High-impact teaching strategies and visible thinking activities support student-centered sensemaking, conceptual understanding, and knowledge transfer while helping all learners access rigorous science learning.

PreK

K

1

2

3

4

5

PHYSICAL SCIENCE



Pushes and Pulls
Explore pushes and pulls



Forces and Interactions
Compare strength and direction



Waves: Light and Sound
Make sound and light travel



Structure of Matter
Describe and change materials



Forces and Interactions
Balanced and unbalanced forces



Energy
Motion, collisions, and transfer



Gravity
Apply force ideas to earth and space

LIFE SCIENCE



Living Things
What makes something alive



What Living Things Need
Needs of plants and animals



Structure and Function
Parts that help survival



Interdependent Relationships
Habitats and food



Inheritance and Variation
Life cycles and traits



Structure and Function
Food energy & cycling through ecosystems



Matter and Energy
Internal systems and senses

EARTH & SPACE SCIENCE



Weather
Observe local weather



Weather and Climate
Describe weather patterns



Space Systems
Patterns of the sun, moon, and stars



Processes That Shape Earth
Fast and slow land change



Weather and Climate
Predict patterns and climate



Earth's Changing Surface
Weathering, erosion, and mapping



Earth's Systems
Interacting Earth systems

ENGINEERING DESIGN

Engineering design is integrated across all grades as students ask questions, design and test solutions, and use evidence to improve their ideas.

Knowledge Builds Year After Year

Across every discipline, students revisit core science ideas with increasing depth. They move from observing familiar phenomena to investigating patterns, developing models, using evidence, and explaining complex systems.

Grade 5

LIFE SCIENCE



Matter and Energy in Organisms and Ecosystems

How does matter cycle through ecosystems? Where does the energy in food come from, and what is it used for?

5 lessons + assessment

PHYSICAL SCIENCE



Structures and Properties of Matter

When matter changes, does its weight change, and can new substances be created by combining other substances?

4 lessons + assessment

EARTH AND SPACE SCIENCE



Space Systems: Stars and the Solar System

What patterns are caused by the movements of Earth?

5 lessons + assessment

EARTH AND SPACE SCIENCE



Earth's Systems

How do the Earth's biospheres interact?

4 lessons + assessment

ENGINEERING DESIGN



Material Matters

Why are the properties of materials important when designing and producing?

3 lessons + assessment

Anchor Question: How does matter cycle through ecosystems?

[View Unit Online](#)

Lesson 1



Energy for Living Things

Lesson 2



Plant Matters

Lesson 3



Nature's Recyclers

Lesson 4



A Web of Life

Phenomena & Learning Targets

Why do animals need to eat?

- Understand that energy in animal's food was once energy from the sun.
- Use models to describe the food chain.
- Identify that energy from the sun that is captured by plants in the chemical process that forms plant matter.

Do plants need soil to grow?

- Understand that plants get the materials they need for growth chiefly from air and water.
- Support an argument with evidence.

Who are nature's recyclers?

- Identify that decomposition restores some materials back to the soil.
- Understand that some living things, such as fungi, are decomposers that break down dead organisms.
- Develop a model to describe a phenomenon.

How are living things in the Amazon connected?

- Recognize that the food of almost any kind of animal can be traced back to plants.
- Understand that matter cycles between the air and soil and among plants, animals, and microbes.
- Explain that a food web in a healthy environment is a system.

Performance Expectations

5-LS3-1 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.

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

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

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

Science & Engineering Practices

Developing and Using Models

Engaging in Argument from Evidence

Developing and Using Models

Developing and Using Models

Disciplinary Core Ideas

PS3.D: Energy in Chemical Processes and Everyday Life
LS1.C: Organization for Matter and Energy Flow in Organisms

LS1.C: Organization for Matter and Energy Flow in Organisms

LS2.A: Interdependent Relationships in Ecosystems
LS2.B: Cycles of Matter and Energy Transfer in Ecosystems

LS2.A: Interdependent Relationships in Ecosystems
LS2.B: Cycles of Matter and Energy Transfer in Ecosystems

Crosscutting Concepts

Energy and Matter

Energy and Matter

Systems and System Models

Systems and System Models

Anchor Question: What is matter and how does matter interact when mixed together?

Lesson 5

A Damaged Web

Lesson 1

Too Small To Be Seen!

Lesson 2

Material Properties

Lesson 3

Mixing Matter**Phenomena & Learning Targets****What happens when a food web is broken?**

- Develop and understand that newly introduced species can affect the balance of interactions in a system like a food web.
- Identify that changing an aspect of the ecosystem will affect other aspects of the ecosystem.

If you can't see something, how do you know it's there?

- State that all matter is made of particles too small to see.
- Describe differences among the particles in solids, liquids, and gases.
- Use the movement of particles to explain observations of matter.

How can we identify the properties of a material?

- Accurately describe the properties of common materials.
- Use the results of testing for particular properties to identify a material.

What can happen if we mix different substances together?

- Use experimental observations to determine whether mixing substances has produced a new substance.
- Identify variables that are changed or kept the same so that an experiment can be a fair test.

Performance Expectations

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

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

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

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

Science & Engineering Practices

Developing and Using Models

Developing and Using Models

Planning and Carrying Out Investigations

Planning and Carrying Out Investigations

Disciplinary Core Ideas

LS2.A: Interdependent Relationships in Ecosystems
LS2.B: Cycles of Matter and Energy Transfer in Ecosystems

PS1.A: Structure and Properties of Matter

PS1.A: Structure and Properties of Matter

PS1.B: Chemical Reactions

Crosscutting Concepts

Systems and System Models

Scale, Proportion, and Quantity

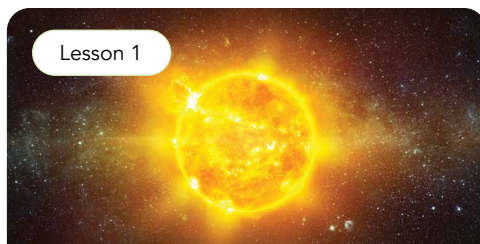
Scale, Proportion, and Quantity

Cause and Effect

Anchor Question: What patterns are caused by the movements of the Earth?

[View Unit Online](#)


Weighing Matter



Hello Sun!



Day and Night - It's a Fine Line



Casting Shadows Great and Small

Phenomena & Learning Targets

When matter changes, does its weight change?

- Understand that the weight of matter is always conserved, even when that matter undergoes change.
- Use their own observations and measurements as evidence to support a claim.

How can we describe the sun?

- State that the sun is a star.
- Explain why the sun appears to be the biggest and brightest object in the sky.

What is the terminator line, and why does it move?

- Use a model to explain why we experience day and night.
- Graph data of the number of daylight hours and use their graphs to describe patterns.

Why do shadows come in different shapes and sizes?

- Understand that the shape & size of a shadow depends on the position & direction of the light source.
- Generate measurement data, use it to create a graph and analyze it to describe a pattern.
- Explain why their shadow changes over the course of a day.

Performance Expectations

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.

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.

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.

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.

Science & Engineering Practices

Using Mathematics and Computational Thinking

Engaging in Argument from Evidence

Analyzing and Interpreting Data

Analyzing and Interpreting Data

Disciplinary Core Ideas

PS1.A: Structure and Properties of Matter
PS1.B: Chemical Reactions

ESS1.A: The Universe and Its Stars

ESS1.B: Earth and the Solar System

ESS1.B: Earth and the Solar System

Crosscutting Concepts

Scale, Proportion, and Quantity

Scale, Proportion, and Quantity

Patterns

Patterns

Lesson 4



Star Patterns

Lesson 5



Goin' Down!

Phenomena & Learning Targets

Do stars move through space?

- Explain that the apparent movement and changing position of the stars across the night sky is due to the rotation of the Earth.
- Explain that different stars are visible at different times of the year because the Earth revolves around the sun.

Why do objects near Earth fall down?

- Explain that objects near the Earth's surface fall downwards because the force of gravity.
- Carry out an investigation and record observations.
- Make a claim and use evidence and reasoning to support it.
- Evaluate the validity of a claim.

Performance Expectations

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.

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

Science & Engineering Practices

Analyzing and Interpreting Data

Engaging in Argument from Evidence

Disciplinary Core Ideas

ESS1.B: Earth and the Solar System

PS2.B: Types of Interactions

Crosscutting Concepts

Patterns

Cause and Effect

Anchor Question: How can we describe Earth's systems and processes, and what are the effects of human impact on Earth?

Lesson 1



Earth's Spheres

Lesson 2



Interacting Systems

Lesson 3



Water World

Lesson 4



Science To The Rescue

Phenomena & Learning Targets

How can we describe Earth?

- Identify that the Earth's major systems are the geosphere, biosphere, hydrosphere, and/or atmosphere
- Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, or atmosphere interact.

How is planet Earth like a jigsaw puzzle?

- Identify that the Earth is a system with components that interact.
- Recognize that the ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate.

Why is Earth called the blue planet?

- Identify that nearly all of Earth's available water is in the ocean. Most freshwater is in glaciers or underground.
- Describe and graph the amounts of saltwater and freshwater to provide evidence about the distribution.

What happens to all our plastic trash?

- Identify that human activities have had major effects on Earth's natural resources.
- Recognize that individuals and communities are doing things to help protect Earth's resources and environments.

Performance Expectations

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

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

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

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

Science & Engineering Practices

Developing and Using Models

Developing and Using Models

Using Mathematics and Computational Thinking

Obtaining, Evaluating, and Communicating Information

Disciplinary Core Ideas

ESS2.A: Earth Materials and Systems

ESS2.A: Earth Materials and Systems

ESS2.C: The Roles of Water in Earth's Surface Processes

ESS3.C: Human Impacts on Earth Systems

Crosscutting Concepts

Systems and System Models

Systems and System Models

Scale, Proportion, and Quantity

Systems and System Models

Anchor Question: Why are materials important when designing products?



Lesson 1

Plastic- Not So Fantastic!



Lesson 2

Fashionable Fabrics



Lesson 3

Keeping the Rain Off

Phenomena & Learning Targets

Why is it important to reduce our use of plastic?

- Identify the properties of a material that make it suitable for a particular purpose.
- Understand that some choices of materials are more sustainable than others.

Why are different clothes made from different materials?

- Identify the properties of a material that make it suitable for a particular purpose.
- Understand some choices of materials are more sustainable than others.
- Use experimental observations to explain why certain materials are chosen for certain products.

Can we mimic nature and make a material waterproof?

- Understand that some choices of materials are more sustainable than others.
- Understand that the properties of a material can be changed.
- Design, test and evaluate a sustainable product made from a material with suitable properties.

Performance Expectations

3-5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3-5-ETS1-2 Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design problem.

Science & Engineering Practices

Planning and Carrying Out Investigations

Asking Questions and Defining Problems

Constructing Explanations and Designing Solutions

Disciplinary Core Ideas

ETS1.B: Developing Possible Solutions
ETS1.C: Optimizing the Design Solution

ETS1.A: Defining and Delimiting Engineering Problems

ETS1.B: Developing Possible Solutions

Crosscutting Concepts

N/A

N/A

N/A



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inquisitive

Our commitment is simple: universal access for all students, with thoughtfully designed lessons that save teachers time.

Inquisitive is a complete, phenomena-based PreK–5 science curriculum, aligned to the NGSS and state standards.

It's designed to delight and engage students while supporting all learners with 50+ languages in digital, print, and text-to-speech formats.

Teachers save time with open-and-go lessons, built-in guidance, rich stimuli, hands-on and virtual investigations, and auto-graded assessments.

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