

NEW FOR THE 2026-27 SCHOOL YEAR

Grade 2 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. The right sidebar contains the 'Lesson Overview' (describing a virtual dog park visit), a 'Lesson Materials Calculator' (with a class size of 30 and a list of materials like Apple, Knife, Recording sheet, Ruler, and Toothpick), and a list of standards including NGSS Performance Expectations (3-LS3-1), Science and Engineering Practices (SEPs), Disciplinary Core Ideas (DCIs), Crosscutting Concepts (CCCs), and Patterns. The lesson title 'Variation of Traits' is highlighted in the sidebar.

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 displays a lesson interface. On the left, a large image shows silhouettes of children playing tug-of-war against a sunset background. 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 and a table showing materials (Hair dryer, Ping-pong ball) with a quantity of 8; and "Standards" with a list of curriculum standards including NGSS, Idaho, and various performance expectations and practices. Annotations with arrows point to these sections: "Digital slides with embedded stimuli & printables" points to the main image area; "Teacher guide" points to the Lesson Overview; "Materials calculator" points to the Lesson Materials Calculator; and "Standards alignment" points to the Standards section.

Digital slides with embedded stimuli & printables

Teacher guide

Materials calculator

Standards alignment

Can a game of tug-of-war end in a draw?

Next

Lesson Overview
This lesson introduces students to the phenomenon of the game of tug-of-war with an intriguing image and a fun, virtual tug-of-war interactive. The interactive challenges students to create a balanced forces situation in an informal and intuitive way before it
[Read More](#)

Lesson Materials Calculator
How many students are in your class?
- 30 + Save Class Size

Hair dryer 8
Ping-pong ball 8
[Help us improve! Share your feedback on our lesson materials calculator here](#)

Standards
Click on your curriculum to view the full list of standards covered by this Lesson.

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)
Cause and Effect

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 shows a glass pitcher filled with milk. Further right, it says 'A glass pitcher is another kind of material.' Below this, a central box contains images of various materials: a bundle of yellow sticks, a blue bucket filled with brown soil, a clear plastic bottle of water, a red paperclip, and several colored pencils. To the left of this central box, there are two text boxes with questions: 'How are the materials the same?' and 'How are they different?'. To the right of the central box, there are two more text boxes with questions: 'How are the materials the same?' and 'How are they different?'. On the far right, a sidebar contains a 'Core Activity' section with a link 'Learn about Differentiation with Inquisitive', a 'Time' field set to '20 mins', a 'Teaching Notes' section with instructions, an 'Answers' section, a 'Se Pedagogical Model' section, and an 'Activity Materials' section. At the bottom right of the sidebar are buttons for 'Next' and 'Exit'.

2 Assign

All materials are made of something called **matter**. Matter is anything that takes up space.

Milk is one kind of material.

A glass pitcher is another kind of material.

→ Your teacher will give you some different materials to explore. Touch and feel each material. Then talk about the questions.

←

How are the materials the same?

How are they different?

→

←

Core Activity ⓘ

[Learn about Differentiation with Inquisitive](#)

Time 20 mins

Teaching Notes

Read the information in the purple box, and then ask students to name anything they see around them that is matter. All answers are correct here. Acknowledge and elaborate on their responses to include a variety of solids and liquids around the classroom. Include their clothing and parts of their bodies (skin, hair, bones, blood, tears, etc.).

(You may like to narrow the focus of these questions by selecting just two or three things to compare. For example, "how are the paperclips different to the pencils? How are they the same?")

Answers

Se Pedagogical Model

Activity Materials

← Next

Give us Feedback

Settings

Download

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. On the left, a lesson titled "6 Assigned" explains that all matter is composed of tiny particles. It features three panels illustrating the states of matter: Solid (Sólido), Liquid (Líquido), and Gas (Gas). Each panel includes an illustration and a description in Spanish. Below the panels, a text box states: "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." The right sidebar shows a "Translate" menu with a list of languages including English, Spanish, Arabic, Armenian, Bengali, and Chinese (Simplified). A black arrow points to the "Translate" icon in the sidebar, with the word "Translate" written next to it.

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

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." Below the question are four options: Sun, Lamp, Eye, and Water. The Sun and Lamp options are marked with green checkmarks, indicating they are correct. The Eye and Water options are marked with red X's, indicating they are incorrect. Below the question is a text box for question 10: "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. It includes a "Teaching Sequence" button, a "Students" button (0/20), a "Translate" button, and a "Give us Feedback" button. The "Answers" section shows the question and the correct answers (Sun and Lamp). Below the answers is an "Example Answer" for question 10: "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."

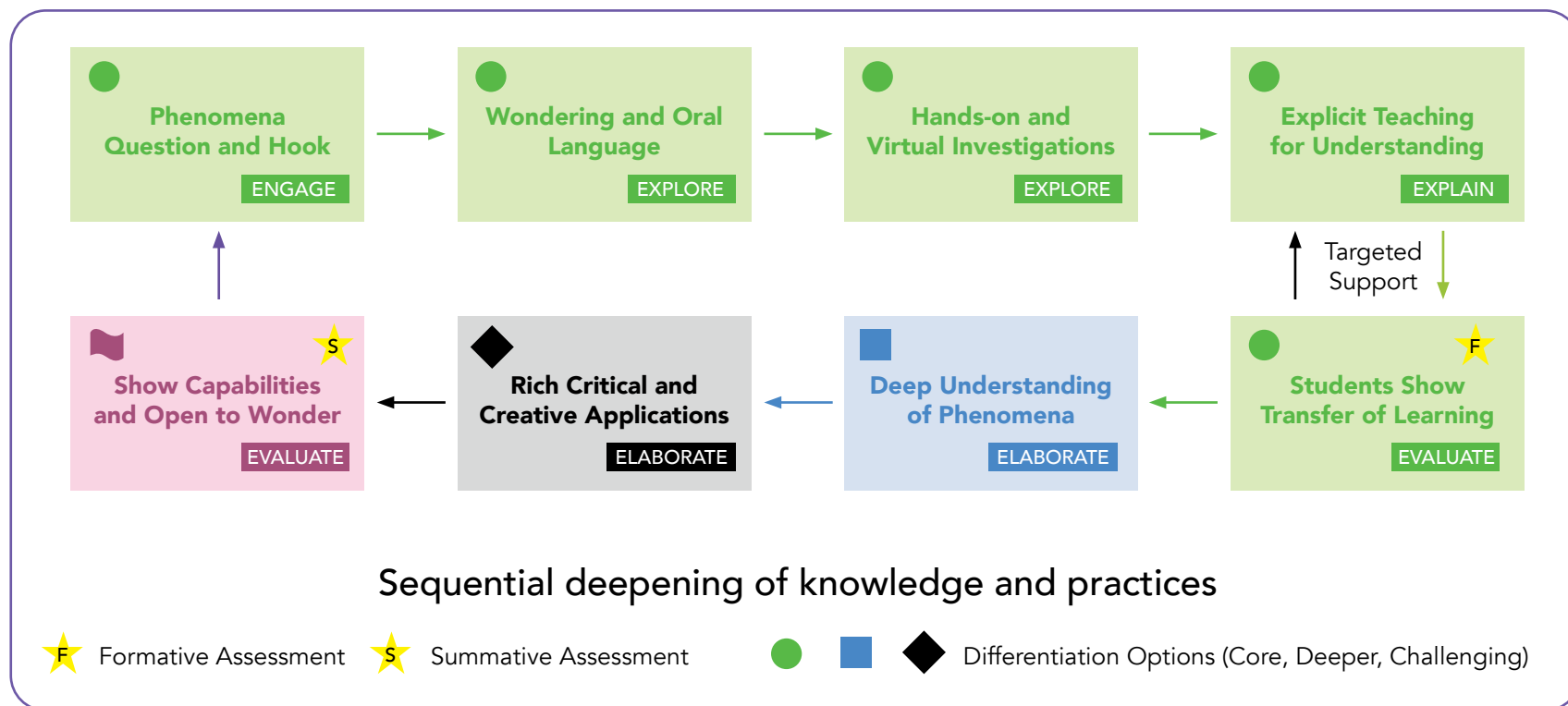
Auto-graded assessment data is displayed in a digital grade book.

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 2

LIFE SCIENCE



Interdependent Relationships in Ecosystems

Why do living things need a habitat?

4 lessons + assessment

PHYSICAL SCIENCE



Structure and Properties of Matter

How are materials similar and different from one another, and how do the properties of the materials relate to their use?

5 lessons + assessment

EARTH AND SPACE SCIENCE



Earth's Systems: Processes that Shape the Earth

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

5 lessons + assessment

ENGINEERING DESIGN



Test Kitchen

How can we keep our food safe to eat?

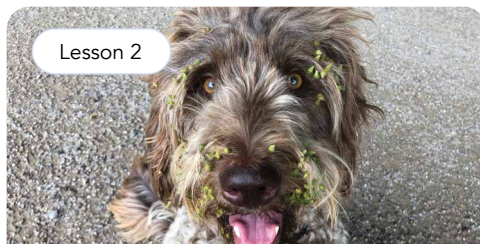
4 lessons + assessment

Anchor Question: How do living things help each other?



Lesson 1

Growing Plants



Lesson 2

Animal Helpers



Lesson 3

Unbelievable Bees!



Lesson 4

Whose Habitat is This?

Phenomena & Learning Targets

How big can a plant be?

- Plan and conduct an investigation.
- Collect and interpret data about plant growth.
- Understand that plants need water and sunlight to grow.

How do seeds move around?

- Understand that animals help to spread seeds from plants.
- Develop a simple model to demonstrate how animals help spread seeds.

How do bees help plants?

- Understand that animals help spread pollen from one plant to another.
- Use a simple model to demonstrate how bees help spread pollen.

Where do we find living things?

- Identify and describe different habitats.
- Describe living things in a certain habitat.
- Compare the different plants and animals that live in a certain habitat.

Performance Expectations

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

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

Science & Engineering Practices

Planning and Carrying Out Investigations

Developing and Using Models

Developing and Using Models

Planning and Carrying Out Investigations

Disciplinary Core Ideas

LS2.A: Interdependent Relationships in Ecosystems

ETS1.B: Developing Possible Solutions
LS2.A: Interdependent Relationships in Ecosystems

ETS1.B: Developing Possible Solutions
LS2.A: Interdependent Relationships in Ecosystems

LS4.D: Biodiversity and Humans

Crosscutting Concepts

Cause and Effect

Structure and Function

Structure and Function

N/A

Anchor Question: How are objects described and how do objects change?**What IS This Stuff?****Sorting Our Stuff****The Best Material for the Job****Building New Things from Parts****Phenomena & Learning Targets****What's the difference between a solid and a liquid?**

- Understand that matter is all of the substances we can see and feel.
- Investigate the differences between solids and liquids.
- Understand that solids keep their shape while liquids take the shape of their container.

How can we sort things?

- Explain that matter has properties.
- Classify matter by its properties.
- Observe that the properties of matter can change when heated or cooled.

Why is paper the best material for origami?

- Explain how different materials have properties that make them suited for different purposes.

Can you make a new object from old parts?

- Identify that objects are made from parts.
- Explain that an object can be disassembled into parts and these parts can be reassembled to make something new.

Performance Expectations

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

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

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

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.

Science & Engineering Practices

Planning and Carrying Out Investigations

Planning and Carrying Out Investigations

Analyzing and Interpreting Data

Constructing Explanations and Designing Solutions

Disciplinary Core Ideas

PS1.A: Structure and Properties of Matter

PS1.A: Structure and Properties of Matter

PS1.A: Structure and Properties of Matter

PS1.A: Structure and Properties of Matter

Crosscutting Concepts

Patterns

Patterns

Cause and Effect

Energy and Matter

Anchor Question: How does the Earth change over time?

[View Unit Online](#)



Changes from Heating and Cooling



Earth Changes S-l-o-w-l-y



Earth Changes Fast!



Water, Water Everywhere!

Phenomena & Learning Targets

How does heating and cooling change matter?

- Explain that heating and cooling can change matter.
- Compare and contrast changes that can be undone and cannot be undone.

How can a huge mountain become a small rock?

- Understand that elements and features on Earth (dirt, sand, rocks, hills, mountains, rivers, lakes, and seas) change over time.
- Recognize that weathering and erosion are slow changes that transform Earth's surface over a long period of time.

What happens when a volcano erupts?

- Understand that elements and features on Earth (soil, sand, rocks, hills, mountains, rivers, lakes, and seas) change over time.
- Recognize that volcanic eruptions, earthquakes, and floods are examples of changes that happen quickly and transform Earth's surface suddenly.

Where on Earth is all the water?

- Identify where water is found on Earth.
- Understand that water can be found in liquid or solid (ice) form.

Performance Expectations

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

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

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

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

Science & Engineering Practices

Engaging in Argument from Evidence

Constructing Explanations and Designing Solutions

Constructing Explanations and Designing Solutions

Obtaining, Evaluating, and Communicating Information

Disciplinary Core Ideas

PS1.B: Chemical Reactions

ESS1.C: The History of Planet Earth

ESS1.C: The History of Planet Earth

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

Crosscutting Concepts

Cause and Effect

Stability and Change

Stability and Change

Patterns

Lesson 4

**The Power of Wind and Water**

Lesson 5

**Map It!****Phenomena & Learning Targets****Can wind and water change the land?**

- Understand that sudden and slow changes caused by wind and water can change the shape of the land.
- Examine and discuss solutions that engineers and scientists have designed to prevent this damage from happening.
- Compare solutions designed to slow or prevent wind or water from changing the shape of the land.

Can we show land and water in different ways?

- Develop a model that identifies natural landforms and bodies of water.
- Understand that maps can be used to represent many types of areas.

Performance Expectations

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

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

Science & Engineering Practices

Constructing Explanations and Designing Solutions

Developing and Using Models

Disciplinary Core Ideas

ESS2.A: Earth Materials and Systems
ETS1.C: Optimizing the Design Solution

ESS2.B: Plate Tectonics and Large-Scale System Interactions

Crosscutting Concepts

Stability and Change

Patterns

Anchor Question: How can we keep food safe to eat?



Lesson 1

Kitchen Nightmares



Lesson 2

No Rotten Apples



Lesson 3

Useful or Not?



Lesson 4

Make it Last

Phenomena & Learning Targets

Why does some food need to be kept cold?

- Understand that food needs to be stored and handled correctly to keep it safe to eat.
- Follow the procedure for making a cooler and identify the engineering design involved.

Would you eat a rotten apple?

- Identify that there is a process for handling and storing food safely.
- Find out how to make a cut apple last longer.

Which kitchen gadgets are useful?

- Identify a problem that can be solved.
- Generate and develop a design for a new kitchen gadget.
- Compare the design of their kitchen gadget with other designs.

Which kitchen gadgets are useful?

- Understand that cotton and wool are natural fibers.
- Conduct an investigation to find out which sauce stain is the most difficult to remove.
- Understand that engineering design is used to develop stain resistant clothes.

Performance Expectations

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-ETS1-1 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.

Science & Engineering Practices

Developing and Using Models

Asking Questions and Defining Problems

Developing and Using Models

Analyzing and Interpreting Data

Disciplinary Core Ideas

ETS1.B: Developing Possible Solutions

ETS1.A: Defining and Delimiting Engineering Problems

ETS1.B: Developing Possible Solutions

ETS1.C: Optimizing the Design Solution

Crosscutting Concepts

Structure and Function

N/A

Structure and Function

N/A



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SCHOOL QUOTE**
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Questions?
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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.

Affordable and accessible, Inquisitive brings high-quality science learning to every school.

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