Mystery Science Alignment with the Alabama Course of Study: Science

Mystery Science is a hands-on curriculum that is aligned with the 2023 Alabama Course of Study: Science

Mystery Science's units of study contain:

- Hands-on, easy-prep activities with EVERY lesson
- Engaging, real-world investigative phenomena
- Thoughtful discussions to build background knowledge
- Lesson & unit assessments to evaluate comprehension
- Curated, cross-curricular extensions

Mystery Science also offers the Anchor Layer, which enriches the unit with an anchor phenomenon, incorporates anchor connections after each lesson, & concludes the unit with a performance task.

mystery science

Updated 06/14/2025

Alabama Science Standards Alignment

Table of Contents • All Grades

mystery science

All Kindergarten Units • Units may be taught in any order

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Unit Breakdown:

- 4 Lessons & Activities
- 4 Lesson Assessments
- 4 Extension Blocks

Anchor Layer Adds:
- 1 Anchor Phenomenon
- 4 Anchor Connections
- 1 Performance Task

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Unit Breakdown:

- 3 Lessons & Activities
- 2 Lesson Assessments
- 3 Extension Blocks

Anchor Layer Adds:
- 1 Anchor Phenomenon
- 3 Anchor Connections
- 1 Performance Task

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Unit Breakdown:

- 3 Lessons & Activities
- 3 Lesson Assessments
- 3 Extension Blocks

Anchor Layer Adds:
- 1 Anchor Phenomenon
- 3 Anchor Connections
- 1 Performance Task

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Unit Breakdown:

- 3 Lessons & Activities
- 3 Lesson Assessments
- 3 Extension Blocks

Anchor Layer Adds:
- 1 Anchor Phenomenon
- 3 Anchor Connections
- 1 Performance Task

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Unit Breakdown:

- 3 Lessons & Activities
- 3 Lesson Assessments
- 3 Extension Blocks

Anchor Layer Adds:
- 1 Anchor Phenomenon
- 3 Anchor Connections
- 1 Performance Task

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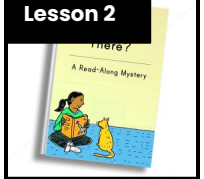
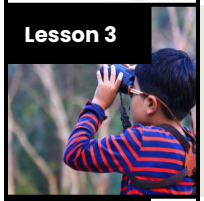
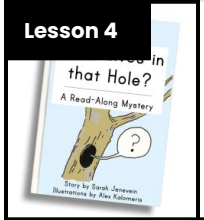
Unit Breakdown:

- 6 Lessons & Activities
- 6 Lesson Assessments
- 6 Extension Blocks

Anchor Layer Adds:
- 1 Anchor Phenomenon
- 6 Anchor Connections
- 1 Performance Task

Animal Needs (Animal Secrets)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Animal Needs: Food** Why do woodpeckers peck wood?	4. Use observations to determine patterns of what plants and animals (including humans) need to survive, including light, water, and nutrients.	Obtaining, Evaluating, and Communicating Information Engaging in Argument from Evidence	**LS1.C.** Organization for Matter and Energy Flow in Organisms	Patterns
Lesson 2 	📖 **Animal Needs: Shelter** Where do animals live?	4. Use observations to determine patterns of what plants and animals (including humans) need to survive, including light, water, and nutrients.	Obtaining, Evaluating, and Communicating Information	**ESS3.A.** Natural Resources	Patterns Systems and System Models
Lesson 3 	**Animal Needs: Safety** How can you find animals in the woods?	4. Use observations to determine patterns of what plants and animals (including humans) need to survive, including light, water, and nutrients.	Obtaining, Evaluating, and Communicating Information Engage in Argument from Evidence	**LS1.C.** Organization for Matter and Energy Flow in Organisms	Patterns
Lesson 4 	📖 **Animals & Changing the Environment** How do animals make their homes in the forest?	5. Gather information from observations and media to explain how plants and animals can provide for their needs by changing their environment.	Obtaining, Evaluating, and Communicating Information	**ESS2.E.** Biogeology	Systems and System Models

📖 Read-Along Lesson

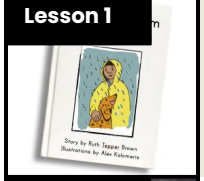
Plant Needs (Plant Secrets)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
 Lesson 1	**Living & Nonliving** Are plants alive?	3. Use data from observations to distinguish characteristics of living and nonliving things.	Analyzing and Interpreting Data	**LS1.C:** Organization for Matter and Energy Flow in Organisms	Patterns
 Lesson 2	**Plant Needs: Water & Light** How do plants and trees grow?	4. Use observations to determine patterns of what plants and animals (including humans) need to survive, including light, water, and nutrients.	Planning and Carrying Out Investigations Analyzing and Interpreting Data	**LS1.C:** Organization for Matter and Energy Flow in Organisms	Patterns Cause and Effect
 Lesson 3	📖 **Human Impacts on the Environment** Why would you want an old log in your backyard?	*Foundational for* 6. Use models of natural habitats to represent the interdependence among plants and animals native to their community	Obtaining, Evaluating, and Communicating Information	**ESS3.C:** Human Impacts on Earth Systems	Cause and Effect

Alabama Specific Standard: 11. Identify a problem and design possible solutions that lessen the human impact on the local environment

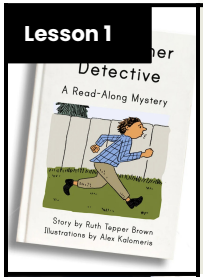
📖 Read-Along Lesson

Severe Weather (Wild Weather)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	📖 **Severe Weather & Preparation** How can you get ready for a big storm?	10. Obtain, evaluate, and communicate information about using weather forecasts to make plans and prepare for severe weather.	Obtaining, Evaluating, and Communicating Information	**ESS3.B:** Natural Hazards **ESS2.D:** Weather and Climate	Cause and Effect
Lesson 2 	**Wind & Storms** Have you ever watched a storm?	9. Observe, record, and communicate local weather patterns over a period of time. 10. Obtain, evaluate, and communicate information about using weather forecasts to make plans and prepare for severe weather.	Asking Questions and Defining Problems Obtaining, Evaluating, and Communicating Information	**ESS3.B:** Natural Hazards **ESS2.D:** Weather and Climate	Cause and Effect
Lesson 3 	**Weather Conditions** How many different kinds of weather are there?	9. Observe, record, and communicate local weather patterns over a period of time.	Analyzing and Interpreting Data	**ESS2.D:** Weather and Climate	Patterns

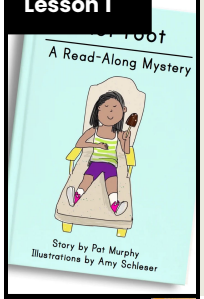
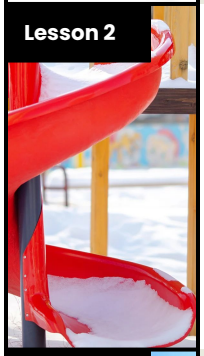
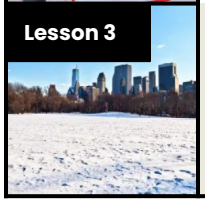
📖 Read-Along Lesson

Weather Patterns (Circle of Seasons)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	📖 **Daily Weather Patterns** How do you know what to wear for the weather?	9. Observe, record, and communicate local weather patterns over a period of time.	Analyzing and Interpreting Data Obtaining, Evaluating, and Communicating Information Asking Questions and Defining Problems	**ESS2.D:** Weather and Climate	Patterns
Lesson 2 	**Seasonal Weather Patterns** What will the weather be like on your birthday?	9. Observe, record, and communicate local weather patterns over a period of time.	Obtaining, Evaluating, and Communicating Information Engaging in Argument from Evidence	**ESS2.D:** Weather and Climate	Patterns Systems and System Models
Lesson 3 	**Animals Changing their Environment** Why do birds lay eggs in the spring?	5. Gather information from observations and media to explain how plants and animals can provide for their needs by changing their environment.	Developing and Using Models	**ESS2.D:** Weather and Climate **ESS2.E:** Biogeology	Structure and Function

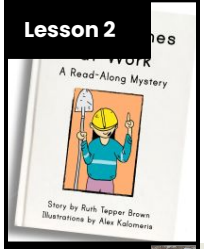
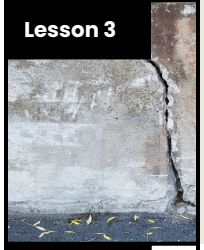
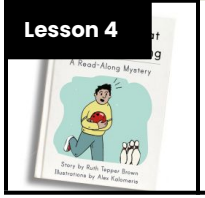
📖 Read-Along Lesson

Sunlight & Warmth (Sunny Skies)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	📖 **Sunlight, Heat, & Earth's Surface** How could you walk barefoot across hot pavement without burning your feet?	7. Make observations and describe the effects of sunlight on Earth's surface.	Asking Questions and Defining Problems Constructing Explanations and Designing Solutions	**PS3.B:** Conservation of Energy and Energy Transfer **ETS1.A:** Defining and Delimiting an Engineering Problem	Cause and Effect Structure and Function
Lesson 2 	**Sunlight, Warming, & Engineering** How could you warm up a frozen playground?	7. Make observations and describe the effects of sunlight on Earth's surface. 8. ⚙ Design, construct, and test a device to reduce the effects of sunlight.* *Students are focused on increasing the effects of sunlight in this activity.	Asking Questions and Defining Problems Planning and Carrying Out Investigations Constructing Explanations and Designing Solutions	**PS3.B:** Conservation of Energy and Energy Transfer **ETS1.A:** Defining and Delimiting an Engineering Problem **ETS1.C:** Optimizing the Design Solution	Cause and Effect
Lesson 3 	**Sunlight & Warmth** Why does it get cold in winter?	7. Make observations and describe the effects of sunlight on Earth's surface.	Planning and Carrying Out Investigations	**PS3.B:** Conservation of Energy and Energy Transfer	Cause and Effect

📖 Read-Along Lesson

Pushes & Pulls (Force Olympics) • Page 1 of 2

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Pushes & Pulls** What's the biggest excavator?	1. Plan and carry out investigations to determine the effects of forces of different strengths and directions on the motion of an object, including speed, direction, and distance traveled.	Constructing Explanations and Designing Solutions	**PS2.A:** Forces and Motion **PS2.B:** Types of Interactions **PS3.C:** Relationship Between Energy and Forces	Cause and Effect
Lesson 2 	📖 **Pushes, Pulls, & "Work Words"** Why do builders need so many big machines?	1. Plan and carry out investigations to determine the effects of forces of different strengths and directions on the motion of an object, including speed, direction, and distance traveled.	Obtaining, Evaluating, and Communicating Information	**PS2.A:** Forces and Motion **PS2.B:** Types of Interactions **PS3.C:** Relationship Between Energy and Forces	Cause and Effect
Lesson 3 	**Motion, Speed, & Strength** How can you knock down a wall made of concrete?	2. Analyze data from investigations to determine whether a design solution provides sufficient force to change the speed or direction of an object.	Planning and Carrying Out Investigations Developing and Using Models	**PS2.A:** Forces and Motion **PS2.B:** Types of Interactions **PS3.C:** Relationship Between Energy and Forces	Cause and Effect
Lesson 4 	📖 **Speed & Direction of Force** How can you knock down the most bowling pins?	2. Analyze data from investigations to determine whether a design solution provides sufficient force to change the speed or direction of an object.	Planning and Carrying Out Investigations	**PS2.A:** Forces and Motion	Cause and Effect

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📖 Read-Along Lesson

Pushes & Pulls (Force Olympics) • Page 2 of 2

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 5 	**Direction of Motion & Engineering** How can we protect a mountain town from falling rocks?	1. Plan and carry out investigations to determine the effects of forces of different strengths and directions on the motion of an object, including speed, direction, and distance traveled. 2. Analyze data from investigations to determine whether a design solution provides sufficient force to change the speed or direction of an object.	Developing and Using Models Planning and Carrying Out Investigations Constructing Explanations and Designing Solutions	**PS2.A:** Forces and Motion **ETS1.A:** Defining Engineering Problems **ETS1.B:** Developing Possible Solutions **ETS1.C:** Optimizing the Design Solution	Cause and Effect
Lesson 6 	📖 **Forces & Engineering** How could you invent a trap?	2. Analyze data from investigations to determine whether a design solution provides sufficient force to change the speed or direction of an object.	Constructing Explanations and Designing Solutions	**ETS1.B:** Developing Possible Solutions	Structure and Function

📖 Read-Along Lesson

Alabama Science Standards Alignment

1st Grade • All Units at a Glance

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All 1st Grade Units • Units may be taught in any order

✔ ⭐

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Unit Breakdown:

• 5 Lessons & Activities
• 5 Lesson Assessments
• 5 Extension Blocks

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 5 Anchor Connections
• 1 Performance Task

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Unit Breakdown:

• 3 Lessons & Activities
• 3 Lesson Assessments
• 3 Extension Blocks

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 3 Anchor Connections
• 1 Performance Task

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Unit Breakdown:

• 4 Lessons & Activities
• 4 Lesson Assessments
• 4 Extension Blocks

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 4 Anchor Connections
• 1 Performance Task

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Unit Breakdown:

• 3 Lessons & Activities
• 3 Lesson Assessments
• 3 Extension Blocks

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 3 Anchor Connections
• 1 Performance Task

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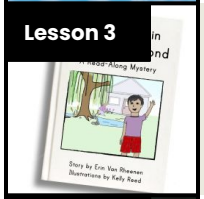
Unit Breakdown:

• 6 Lessons & Activities
• 6 Lesson Assessments
• 6 Extension Blocks

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 6 Anchor Connections
• 1 Performance Task

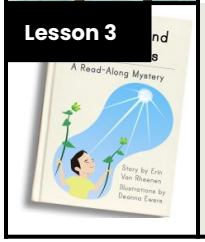
✔ Animal Traits & Survival (Animal Superpowers)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Parent & Offspring Traits** How can you help a lost baby animal find its parents?	7. Make observations to identify the similarities and differences between offspring and their parents.	Constructing Explanations and Designing Solutions	**LS3.A:** Inheritance of Traits **LS3.B:** Variation of Traits	Patterns
Lesson 2 	✨New!✨ **Offspring Trait Variation** Can you predict what an animal's babies will look like?	7. Make observations to identify the similarities and differences between offspring and their parents.	Constructing Explanations and Designing Solutions	**LS3.A:** Inheritance of Traits **LS3.B:** Variation of Traits	Patterns
Lesson 3 	📖 **Animal Behavior & Offspring Survival** Why do baby ducks follow their mother?	6. Obtain information from text and other media to provide evidence that parents and their offspring engage in patterns of behavior that help the offspring survive.	Obtaining, Evaluating, and Communicating Information	**LS1.B:** Growth and Development of Organisms	Patterns
Lesson 4 	**Animal Structures & Survival** Why do birds have beaks?	5. Use information from observations to explain how various external features help living things survive, grow, and meet their needs.	Developing and Using Models Planning and Carrying Out Investigations Analyzing and Interpreting Data	**LS1.A:** Structure and Function	Patterns Structure and function
Lesson 5 	**Camouflage & Animal Survival** Why are polar bears white?	5. Use information from observations to explain how various external features help living things survive, grow, and meet their needs.	Developing and Using Models Planning and Carrying Out Investigations	**LS1.B:** Growth and Development of Organisms	Patterns Structure and function

📖 Read-Along Lesson

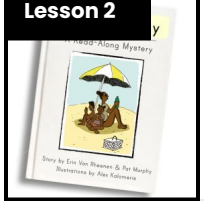
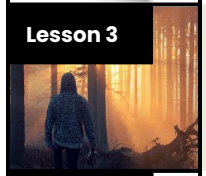
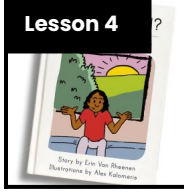
✨ New Lesson
✔ Unit Restructured for the 2025-2026 School Year

Plant Traits & Survival (Plant Superpowers)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Plant Traits & Offspring** What will a baby plant look like when it grows up?	7. Make observations to identify the similarities and differences between offspring and their parents.	Constructing Explanations and Designing Solutions	**LS3.A:** Inheritance of Traits **LS3.B:** Variation of Traits	Patterns
Lesson 2 	**Plant Survival & Engineering** Why don't trees blow down in the wind?	5. Use information from observations to explain how various external features help living things survive, grow, and meet their needs.	Developing and Using Models Planning and Carrying Out Investigations Constructing Explanations and Designing Solutions	**LS1.A:** Structure and Function **ETS1.A:** Defining and Delimiting Engineering Problems **ETS1.B:** Developing Possible Solutions **ETS1.C:** Optimizing the Design Solution	Structure and function
Lesson 3 	📖 **Plant Movement & Survival** What do sunflowers do when you're not looking?	5. Use information from observations to explain how various external features help living things survive, grow, and meet their needs.	Constructing Explanations and Designing Solutions	**LS1.A:** Structure and Function **LS1.D:** Information Processing	Structure and function

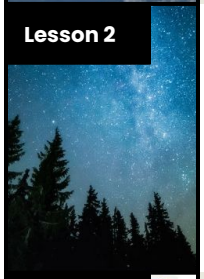
📖 Read-Along Lesson

Day Patterns (Sun & Shadows)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Sun, Shadows, & Daily Patterns** Could a statue's shadow move?	8. Observe, describe, and predict patterns of the sun, moon, and stars as they appear in the sky.	Planning and Carrying Out Investigations Analyzing and Interpreting Data	**ESS1.A:** The Universe and its Stars	Patterns
Lesson 2 	📖 **Sun, Shadows, & Daily Patterns** What does your shadow do when you're not looking?	8. Observe, describe, and predict patterns of the sun, moon, and stars as they appear in the sky.	Analyzing and Interpreting Data	**ESS1.A:** The Universe and its Stars	Patterns
Lesson 3 	**Sun & Daily Patterns** How can the Sun help you if you're lost?	8. Observe, describe, and predict patterns of the sun, moon, and stars as they appear in the sky.	Developing and Using Models Engaging in Argument from Evidence	**ESS1.A:** The Universe and its Stars	Patterns
Lesson 4 	📖 **Daylight & Seasonal Patterns** Why do you have to go to bed early in the summer?	9. Use observations of seasonal sunrise and sunset patterns to describe the relationship between the number of hours of daylight and the time of year.	Obtaining, Evaluating, and Communicating Information	**ESS1.B:** Earth and the Solar System	Patterns

📖 Read-Along Lesson

Night Patterns (Moon & Stars)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Moon Phases & Patterns** When can you see the full moon?	8. Observe, describe, and predict patterns of the sun, moon, and stars as they appear in the sky.	Analyzing and Interpreting Data	**ESS1.A:** The Universe and its Stars	Patterns
Lesson 2 	**Stars & Daily Patterns** Why do stars come out at night?	8. Observe, describe, and predict patterns of the sun, moon, and stars as they appear in the sky.	Developing and Using Models Planning and Carrying Out Investigations Constructing Explanations and Designing Solutions	**ESS1.A:** The Universe and its Stars	Patterns Cause and Effect
Lesson 3 	📖 **Stars & Seasonal Patterns** How can stars help you if you get lost?	8. Observe, describe, and predict patterns of the sun, moon, and stars as they appear in the sky.	Obtaining, Evaluating, and Communicating Information	**ESS1.A:** The Universe and its Stars	Patterns

📖 Read-Along Lesson

Light, Sound, & Communication (Lights & Sounds) • Page 1 of 2

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Sounds & Vibrations** How do they make silly sounds in cartoons?	1. Carry out investigations to provide evidence that the vibrations of matter can make sound and sound can make matter vibrate.	Constructing Explanations and Designing Solutions	**PS4.A:** Wave Properties	Cause and Effect
Lesson 2 	📖 **Sounds & Vibrations** Where do sounds come from?	1. Carry out investigations to provide evidence that the vibrations of matter can make sound and sound can make matter vibrate.	Constructing Explanations and Designing Solutions	**PS4.A:** Wave Properties	Cause and Effect
Lesson 3 	**Light, Materials, Transparent & Opaque** What if there were no windows?	3. Plan and carry out investigations to determine how light is affected when it interacts with various types of materials.	Planning and Carrying Out Investigations Engaging in Argument from Evidence	**PS4.B:** Electromagnetic Radiation	Cause and Effect
Lesson 4 	📖 **Light & Illumination** Can you see in the dark?	2. Use evidence from observations to explain that light is necessary in order for an object to be seen.	Planning and Carrying Out Investigations Constructing Explanations and Designing Solutions	**PS4.B:** Electromagnetic Radiation	Cause and Effect

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📖 Read-Along Lesson

Light, Sound, & Communication (Lights & Sounds) • Page 2 of 2

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 5 	**Light, Communication, & Engineering** How could you send a secret message to someone far away?	4. Design and construct a device that uses light or sound waves to send a communication signal over a distance.	Constructing Explanations and Designing Solutions	**PS4.C:** Information Technologies and Instrumentation **ETS1.B:** Developing Possible Solutions	Patterns
Lesson 6 	📖 **Lights, Sounds, & Communication** How do boats find their way in the fog?	4. Design and construct a device that uses light or sound waves to send a communication signal over a distance.	Obtaining, Evaluating, and Communicating Information	**PS4.C:** Information Technologies and Instrumentation	Patterns

📖 Read-Along Lesson

All 2nd Grade Units • Units may be taught in any order

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Unit Breakdown:

• 4 Lessons & Activities
• 4 Lesson Assessments
• 4 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 4 Anchor Connections
• 1 Performance Task

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Unit Breakdown:

• 4 Lessons & Activities
• 4 Lesson Assessments
• 4 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 4 Anchor Connections
• 1 Performance Task

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Unit Breakdown:

• 6 Lessons & Activities
• 6 Lesson Assessments
• 6 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 6 Anchor Connections
• 1 Performance Task

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Unit Breakdown:

• 4 Lessons & Activities
• 4 Lesson Assessments
• 4 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 4 Anchor Connections
• 1 Performance Task

⭐

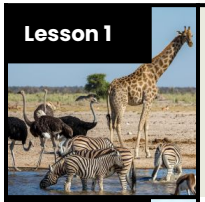
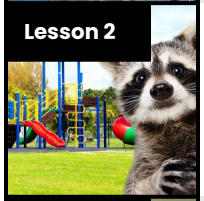
Page 24 • Web Link

Unit Breakdown:

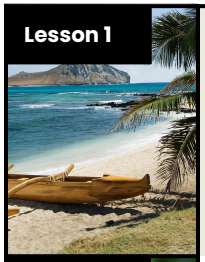
• 3 Lessons & Activities
• 3 Lesson Assessments
• 3 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 3 Anchor Connections
• 1 Performance Task

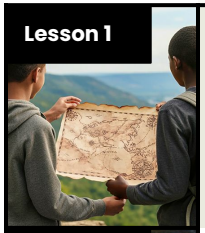
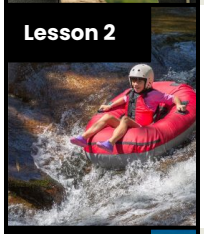
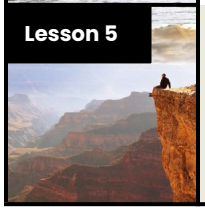
Animal Biodiversity & Habitats (Animal Adventures)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Biodiversity & Classification** How many different kinds of animals are there?	*Foundational for* 7. Obtain information to explain that there are many different kinds of living things that exist in habitats on land and in water.	Obtaining, Evaluating, and Communicating Information	**LS4.D:** Biodiversity and Humans	Patterns
Lesson 2 	**Habitat Diversity** Why would a wild animal visit a playground?	7. Obtain information to explain that there are many different kinds of living things that exist in habitats on land and in water.	Analyzing and Interpreting Data Planning and Carrying Out Investigations	**LS4.D:** Biodiversity and Humans	Patterns
Lesson 3 	**Biodiversity, Habitats, & Species** Why do frogs say “ribbit”?	7. Obtain information to explain that there are many different kinds of living things that exist in habitats on land and in water.	Analyzing and Interpreting Data Engaging in Argument from Evidence	**LS4.D:** Biodiversity and Humans	Patterns
Lesson 4 	**Biodiversity & Engineering** How could you get more birds to visit a bird feeder?	7. Obtain information to explain that there are many different kinds of living things that exist in habitats on land and in water.	Asking Questions and Defining Problems Constructing Explanations and Designing Solutions Developing and Using Models	**ETS1.A:** Defining and Delimiting Engineering Problems **ETS1.B:** Developing Possible Solutions	Cause and Effect

Plant Growth & Interactions (Plant Adventures)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
 **Lesson 1**	**Seed Dispersal** How did a tree travel halfway around the world?	6. ⚙️ Design and construct models to simulate how animals disperse seeds or pollinate plants.	Developing and Using Models Planning and Carrying Out Investigations	**LS2.A:** Interdependent Relationships in Ecosystems	Structure and Function
 **Lesson 2**	**Animal Seed Dispersal** Why do seeds have so many different shapes?	6. ⚙️ Design and construct models to simulate how animals disperse seeds or pollinate plants.	Developing and Using Models	**LS2.A:** Interdependent Relationships in Ecosystems	Structure and Function
 **Lesson 3**	**Water, Sunlight, & Plant Growth** Could a plant survive without light?	5. Plan and carry out an investigation, using one variable at a time, to determine how each variable affects plant growth.	Planning and Carrying Out Investigations Analyzing and Interpreting Data	**LS2.A:** Interdependent Relationships in Ecosystems	Cause and Effect
 **Lesson 4**	**Plant Needs & Habitats** How much water should you give a plant?	5. Plan and carry out an investigation, using one variable at a time, to determine how each variable affects plant growth.	Planning and Carrying Out Investigations	**LS2.A:** Interdependent Relationships in Ecosystems	Cause and Effect

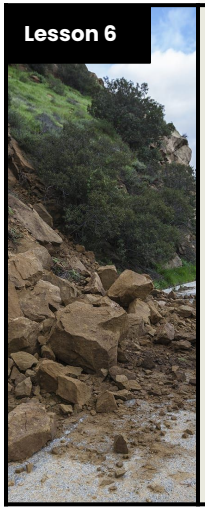
Erosion & Earth's Surface (Work of Water) • Page 1 of 2

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
 **Lesson 1**	✨New!✨ **Mapping Landforms & Bodies of Water** Where's the best place to hide a treasure?	8. Use models to distinguish between the shapes and kinds of land and water on Earth.	Developing and Using Models	**ESS2.B:** Plate Tectonics and Large-Scale System Interactions	Patterns
 **Lesson 2**	**Mapping: Mountains & Rivers** If you floated down a river, where would you end up?	8. Use models to distinguish between the shapes and kinds of land and water on Earth. 9. Obtain information to identify where water is found on Earth and determine whether it is a solid or a liquid.	Developing and Using Models Planning and Carrying Out Investigations	**ESS2.B:** Plate Tectonics and Large-Scale System Interactions **ESS2.C:** The Roles of Water in Erosion & Earth's Surface	Patterns
 **Lesson 3**	**Rocks, Sand, & Erosion** Why is there sand at the beach?	8. Use models to distinguish between the shapes and kinds of land and water on Earth.	Planning and Carrying Out Investigations Developing and Using Models	**ESS2.B:** Plate Tectonics and Large-Scale System Interactions	Cause and Effect Stability and Change
 **Lesson 4**	**Mapping & Severe Weather** Where do flash floods happen?	8. Use models to distinguish between the shapes and kinds of land and water on Earth. 10. Use a variety of sources to provide evidence that Earth's events can occur slowly or rapidly.	Developing and Using Models	**ESS2.B:** Plate Tectonics and Large-Scale System Interactions	Patterns
 **Lesson 5**	**Erosion, Earth's Surface, & Landforms** What's strong enough to make a canyon?	8. Use models to distinguish between the shapes and kinds of land and water on Earth. 10. Use a variety of sources to provide evidence that Earth's events can occur slowly or rapidly.	Planning and Carrying Out Investigations Constructing Explanations and Designing Solutions	**ESS1.C:** The History of Planet Earth **ESS2.A:** Earth Materials and Systems	Cause and Effect Stability and Change

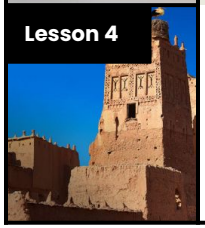
Continued on next page

✨ New Lesson

Erosion & Earth's Surface (Work of Water) • Page 2 of 2

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 6 	**Erosion & Engineering** How can you stop a landslide?	11. ⚙️ Evaluate multiple solutions designed to slow or prevent wind or water from changing the shape of Earth's surface.	Asking Questions and Defining Problems Constructing Explanations and Designing Solutions	**ESS1.C:** The History of Planet Earth **ESS2.A:** Earth Materials and Systems **ETS1.A:** Defining and Delimiting Engineering Problems **ETS1.B:** Developing Possible Solutions **ETS1.C:** Optimizing the Design Solution	Stability and Change Structure and Function

✔ **Material Properties** (Material Magic)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Material Properties & Engineering** Why do we wear clothes?	1. Plan and carry out investigations to compare, contrast, and classify various solid and liquid materials according to physical properties, including color and texture. 2. Conduct investigations to determine suitable uses of natural and manufactured materials based on their observable properties, including strength, flexibility, hardness, absorbency, and texture.	Asking Questions and Defining Problems Planning and Carrying Out Investigations Constructing Explanations and Designing Solutions	**PS1.A:** Structure and Properties of Matter **ETS1.A:** Defining and Delimiting Engineering Problems **ETS1.B:** Developing Possible Solutions	Patterns Cause and Effect
Lesson 2 	**Classify Materials: Insulators & Conductors** Can you really fry an egg on a hot sidewalk?	2. Conduct investigations to determine suitable uses of natural and manufactured materials based on their observable properties, including strength, flexibility, hardness, absorbency, and texture.	Planning and Carrying Out Investigations Analyzing and Interpreting Data	**PS1.A:** Structure and Properties of Matter	Patterns Cause and Effect
Lesson 3 	**Material Building Blocks & Engineering** Could you build a house out of paper?	3. Demonstrate and explain how structures made from a small set of pieces can be disassembled and then reassembled as new and different structures.	Constructing Explanations and Designing Solutions Developing and Using Models	**PS1.A:** Structure and Properties of Matter **ETS1.B:** Developing Possible Solutions **ETS1.C:** Optimizing the Design Solution	Energy and Matter Cause and Effect
Lesson 4 	**Soil Properties** How do you build a city out of mud?	1. Plan and carry out investigations to compare, contrast, and classify various solid and liquid materials according to physical properties, including color and texture. 2. Conduct investigations to determine suitable uses of natural and manufactured materials based on their observable properties, including strength, flexibility, hardness, absorbency, and texture.	Planning and Carrying Out Investigations Analyzing and Interpreting Data	**PS1.A:** Structure and Properties of Matter	Patterns

✔ Unit Restructured for the 2025-2026 School Year

⭐ States of Matter (States of Matter)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	✨New!✨ **Liquid Water & Solid Ice** Where do animals find the water they need?	9. Obtain information to identify where water is found on Earth and determine whether it is a solid or a liquid.	Obtaining, Evaluating, and Communicating Information	**ESS2.C:** The Roles of Water in Earth's Surface Processes	Patterns
Lesson 2 	✨New!✨ **Reversible & Irreversible Changes** How is an ice cube like a crayon?	4. Provide evidence that some changes in matter caused by heating or cooling can be reversed and some changes are irreversible.	Engaging in Argument from Evidence Planning and Carrying Out Investigations	**PS1.B:** Chemical Reactions	Cause and Effect
Lesson 3 	**Heating, Cooling, & States of Matter** Why are so many toys made out of plastic?	2. Conduct investigations to determine suitable uses of natural and manufactured materials based on their observable properties, including strength, flexibility, hardness, absorbency, and texture. 4. Provide evidence that some changes in matter caused by heating or cooling can be reversed and some changes are irreversible.	Planning and Carrying Out Investigations Analyzing and Interpreting Data	**PS1.A:** Structure and Properties of Matter **PS1.B:** Chemical Reactions	Cause and Effect Energy and Matter

✨ New Unit or Lesson

All 3rd Grade Units • Units may be taught in any order.

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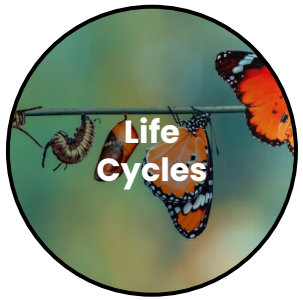
Unit Breakdown:

• 3 Lessons & Activities
• 3 Lesson Assessments
• 3 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 3 Anchor Connections
• 1 Performance Task



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Unit Breakdown:

• 5 Lessons & Activities
• 5 Lesson Assessments
• 5 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 5 Anchor Connections
• 1 Performance Task

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Unit Breakdown:

• 5 Lessons & Activities
• 5 Lesson Assessments
• 5 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 5 Anchor Connections
• 1 Performance Task

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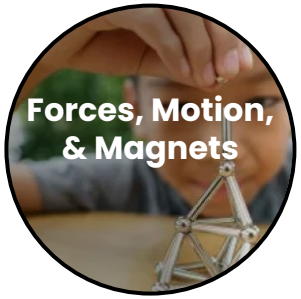
Unit Breakdown:

• 5 Lessons & Activities
• 5 Lesson Assessments
• 5 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 5 Anchor Connections
• 1 Performance Task



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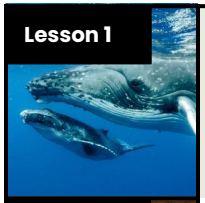
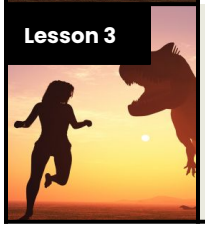
Unit Breakdown:

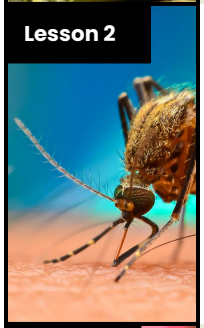
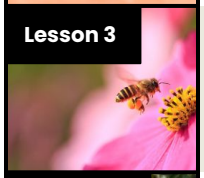
• 5 Lessons & Activities
• 5 Lesson Assessments
• 5 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds:
• 1 Anchor Phenomenon
• 5 Anchor Connections
• 1 Performance Task

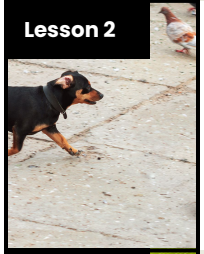
Fossils & Changing Environments (Animals Through Time)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Habitats, Fossils, & Environments Over Time** Where can you find whales in a desert?	8. Analyze and interpret data from fossils to provide evidence of the existence of organisms and information about the environments in which they lived.	Analyzing and Interpreting Data	**LS4.A:** Evidence of Common Ancestry and Diversity	Scale, Proportion, and Quantity
Lesson 2 	**Fossil Evidence & Dinosaurs** How do we know what dinosaurs looked like?	8. Analyze and interpret data from fossils to provide evidence of the existence of organisms and information about the environments in which they lived.	Analyzing and Interpreting Data Engaging in Argument from Evidence	**LS4.A:** Evidence of Common Ancestry and Diversity	Structure and Function Patterns
Lesson 3 	**Trace Fossil Evidence & Animal Movement** Can you outrun a dinosaur?	8. Analyze and interpret data from fossils to provide evidence of the existence of organisms and information about the environments in which they lived.	Using Mathematics and Computational Thinking Planning and Carrying Out Investigations	**LS4.A:** Evidence of Common Ancestry and Diversity	Patterns

Life Cycles (Circle of Life)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
 Lesson 1	**Animal Life Cycles** How is your life like an alligator's life?	5. Develop and use models to compare the diverse life cycles of organisms other than humans, including birth, growth, reproduction, and death.	Developing and Using Models	**LS1.B:** Growth and Development of Organisms	Patterns
 Lesson 2	**Environmental Change & Engineering** What's the best way to get rid of mosquitoes?	12. Obtain and communicate information regarding the impact of existing solutions on plant and animal populations when environmental changes occur.	Obtaining, Evaluating, and Communicating Information Constructing Explanations and Designing Solutions	**LS4.D** Biodiversity and Humans **LS2.C:** Ecosystem Dynamics, Functioning, & Resilience **ETS1.B:** Developing Possible Solutions	Cause and Effect Systems and System Models
 Lesson 3	**Pollination & Plant Reproduction** Why do plants grow flowers?	5. Develop and use models to compare the diverse life cycles of organisms other than humans, including birth, growth, reproduction, and death.	Developing and Using Models Analyzing and Interpreting Data	**LS1.B:** Growth and Development of Organisms	Patterns Structure and Function
 Lesson 4	**Fruit, Seeds, & Plant Reproduction** Why do plants give us fruit?	5. Develop and use models to compare the diverse life cycles of organisms other than humans, including birth, growth, reproduction, and death.	Analyzing and Interpreting Data	**LS1.B:** Growth and Development of Organisms	Patterns Structure and Function
 Lesson 5	**Plant Life Cycles** Why are there so many different kinds of flowers?	5. Develop and use models to compare the diverse life cycles of organisms other than humans, including birth, growth, reproduction, and death.	Developing and Using Models	**LS1.B:** Growth and Development of Organisms	Patterns

Heredity, Survival, & Selection (Fates of Traits) • Page 1 of 2

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Traits & Inheritance** How do you identify a mysterious fruit?	*Foundational for* 6. Use data to provide evidence that plants and animals have observable traits inherited from parents and that variations of these traits exist in groups of similar organisms.	Analyzing and Interpreting Data	**LS3.A:** Inheritance of Traits	Patterns
Lesson 2 	**Trait Variation, Inheritance, & Artificial Selection** What do dogs and pigeons have in common?	6. Use data to provide evidence that plants and animals have observable traits inherited from parents and that variations of these traits exist in groups of similar organisms.	Analyzing and Interpreting Data	**LS3.A:** Inheritance of Traits **LS3.B:** Variation of Traits	Patterns
Lesson 3 	**Trait Variation, Survival, & Natural Selection** How could a lizard's toes help it survive?	6. Use data to provide evidence that plants and animals have observable traits inherited from parents and that variations of these traits exist in groups of similar organisms. 9. Construct an explanation from evidence of how variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. 10. Make a claim from evidence that an organism's likelihood of survival depends upon access to sufficient resources in its habitat, including sunlight, air, water, food, and shelter.	Constructing Explanations and Designing Solutions Analyzing and Interpreting Data Using Mathematics and Computational Thinking	**LS3.A:** Inheritance of Traits **LS3.B:** Variation of Traits **LS4.B:** Natural Selection **LS4.C:** Adaptation	Cause and Effect Patterns Stability and Change

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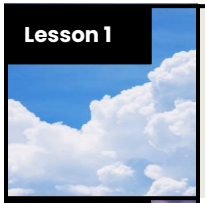
Heredity, Survival, & Selection (Fates of Traits) • Page 2 of 2

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 4 	**Animal Groups & Survival** Why do dogs wag their tails?	11. Construct explanations of how forming groups helps some organisms survive.	Obtaining, Evaluating, and Communicating Information Engaging in Argument from Evidence	**LS2.D:** Social Interactions and Group Behavior	Cause and Effect
Lesson 5 	**Traits & Environmental Variation** How long can people (and animals) survive in outer space?	7. Use evidence to support a claim that traits can be influenced by the environment.	Constructing Explanations and Designing Solutions	**LS3.A:** Inheritance of Traits **LS3.B:** Variation of Traits	Cause and Effect

Weather & Climate (Stormy Skies) • Page 1 of 2

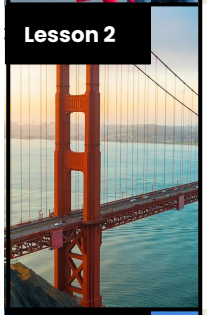
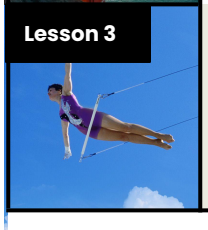
	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
 **Lesson 1**	**Water Cycle & States of Matter** Where do clouds come from?	*Foundational for* 13. Represent data in tables or graphical displays to reveal typical weather patterns during a particular season.	Planning and Carrying Out Investigations Developing and Using Models	**ESS2.D:** Weather and Climate	Structure and Function Stability and Change
 **Lesson 2**	**Local Weather Patterns & Weather Prediction** How can we predict when it's going to storm?	*Foundational for* 13. Represent data in tables or graphical displays to reveal typical weather patterns during a particular season.	Analyzing and Interpreting Data	**ESS2.D:** Weather and Climate	Patterns
 **Lesson 3**	**Seasonal Weather Patterns** Where's the best place to build a snow fort?	13. Represent data in tables or graphical displays to reveal typical weather patterns during a particular season.	Analyzing and Interpreting Data	**ESS2.D:** Weather and Climate	Patterns

Continued on next page

Weather & Climate (Stormy Skies) • Page 2 of 2

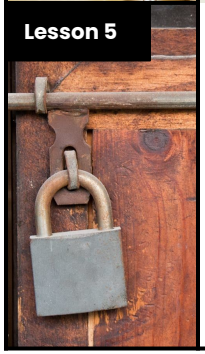
	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 4 	**Climate & Global Weather Patterns** Why are some places always hot?	13. Represent data in tables or graphical displays to reveal typical weather patterns during a particular season. 14. Use information from a variety of sources to describe climates in different regions of the world.	Obtaining, Evaluating, and Communicating Information Analyzing and Interpreting Data	**ESS2.D:** Weather and Climate	Patterns
Lesson 5 	**Natural Hazards & Engineering** How can you keep a house from blowing away in a windstorm?	15. Obtain and communicate information on the effectiveness of existing solutions designed to reduce the impact of weather-related hazards.	Asking Questions and Defining Problems Constructing Explanations and Designing Solutions Analyzing and Interpreting Data	**ESS3.B:** Natural Hazards **ETS1.A:** Defining and Delimiting Engineering Problems **ETS1.B:** Developing Possible Solutions **ETS1.C:** Optimizing the Design Solution	Cause and Effect

Forces, Motion, & Magnets (Invisible Forces) • Page 1 of 2

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
 Lesson 1	**Balanced & Unbalanced Forces** How could you win a tug-of-war against a bunch of adults?	*Foundational for* 1. Conduct investigations to explain the effects of balanced and unbalanced forces exerted on an object, varying the size, number, and direction of the forces.	Planning and Carrying Out Investigations Constructing Explanations and Designing Solutions	**PS2.A:** Forces and Motion **PS2.B:** Types of Interactions	Cause and Effect
 Lesson 2	**Balanced Forces & Engineering** What makes bridges so strong?	*Foundational for* 1. Conduct investigations to explain the effects of balanced and unbalanced forces exerted on an object, varying the size, number, and direction of the forces.	Asking Questions and Defining Problems Constructing Explanations and Designing Solutions	**ETS1.A:** Defining and Delimiting Engineering Problems **ETS1.B:** Developing Possible Solutions **ETS1.C:** Optimizing the Design Solution	Structure and Function
 Lesson 3	**Patterns of Motion, Gravity, & Friction** How high can you swing on a flying trapeze?	2. Observe and measure an object's motion to provide evidence that a pattern of motion can be used to predict future motion.	Developing and Using Models Planning and Carrying Out Investigations	**PS2.A:** Forces and Motion	Patterns Cause and Effect

Continued on next page

Forces, Motion, & Magnets (Invisible Forces) • Page 1 of 2

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
 Lesson 4	**Magnets & Forces** What can magnets do?	3. Conduct investigations to determine cause and effect relationships between objects not in contact with one another, including magnetic and electrostatic forces.	Asking Questions and Defining Problems	**PS2.B:** Types of Interactions	Cause and Effect
 Lesson 5	**Magnets & Engineering** How can you unlock a door using a magnet?	4. ⚙️ Apply scientific ideas about magnetic interactions to solve a problem using the engineering design process.	Asking Questions and Defining Problems Constructing Explanations and Designing Solutions	**PS2.B:** Types of Interactions **ETS1.A:** Defining and Delimiting Engineering Problems **ETS1.B:** Developing Possible Solutions **ETS1.C:** Optimizing the Design Solution	Cause and Effect

All 4th Grade Units • Units may be taught in any order

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Unit Breakdown:

- 4 Lessons & Activities
- 4 Lesson Assessments
- 4 Extension Blocks
- 1 Unit Assessment

Anchor Layer Adds:
- 1 Anchor Phenomenon
- 4 Anchor Connections
- 1 Performance Task

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Unit Breakdown:

- 3 Lessons & Activities
- 3 Lesson Assessments
- 3 Extension Blocks
- 1 Unit Assessment

Anchor Layer Adds:
- 1 Anchor Phenomenon
- 3 Anchor Connections
- 1 Performance Task

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Unit Breakdown:

- 5 Lessons & Activities
- 5 Lesson Assessments
- 5 Extension Blocks
- 1 Unit Assessment

Anchor Layer Adds:
- 1 Anchor Phenomenon
- 5 Anchor Connections
- 1 Performance Task

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Unit Breakdown:

- 4 Lessons & Activities
- 3 Lesson Assessments
- 3 Extension Blocks
- 1 Unit Assessment

Anchor Layer Adds:
- 1 Anchor Phenomenon
- 3 Anchor Connections
- 1 Performance Task

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Unit Breakdown:

- 5 Lessons & Activities
- 5 Lesson Assessments
- 5 Extension Blocks
- 1 Unit Assessment

Anchor Layer Adds:
- 1 Anchor Phenomenon
- 5 Anchor Connections
- 1 Performance Task

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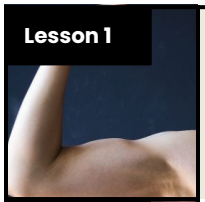
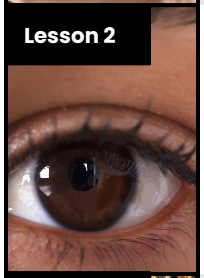
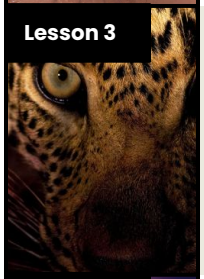
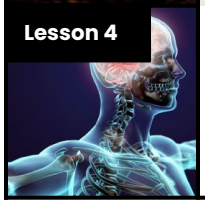
Unit Breakdown:

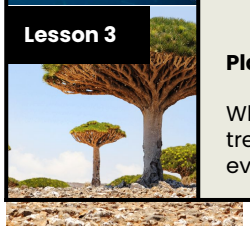
- 3 Lessons & Activities
- 3 Lesson Assessments
- 3 Extension Blocks
- 1 Unit Assessment

Anchor Layer Adds:
- 1 Anchor Phenomenon
- 3 Anchor Connections
- 1 Performance Task

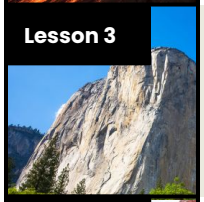
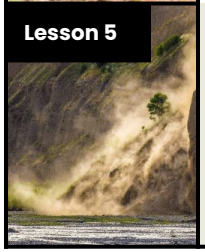
Human Body, Vision, & The Brain (Human Machine)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
 Lesson 1	**Muscles & Skeleton** Why do your biceps bulge?	8. Make a claim, using evidence, that the functions of both internal and external structures of plants and animals (including humans) support growth, survival, and behavior.	Developing and Using Models Constructing Explanations and Designing Solutions	**LS1.A:** Structure and Function	Systems and System Models Cause and Effect
 Lesson 2	**Light, Eyes, & Vision** What do people who are blind see?	7. Develop a model to demonstrate that light reflecting from objects and entering the eyes allow objects to be seen. 8. Make a claim, using evidence, that the functions of both internal and external structures of plants and animals (including humans) support growth, survival, and behavior.	Developing and Using Models Constructing Explanations and Designing Solutions	**LS1.A:** Structure and Function **PS4.B:** Electromagnetic Radiation	Systems and System Models Cause and Effect
 Lesson 3	**Structure & Function of Eyes** How can some animals see in the dark?	7. Develop a model to demonstrate that light reflecting from objects and entering the eyes allow objects to be seen. 8. Make a claim, using evidence, that the functions of both internal and external structures of plants and animals (including humans) support growth, survival, and behavior.	Planning and Carrying Out Investigations Developing and Using Models Constructing Explanations and Designing Solutions	**LS1.A:** Structure and Function **PS4.B:** Electromagnetic Radiation	Systems and System Models Cause and Effect
 Lesson 4	**Brain, Nerves, & Information Processing** How does your brain control your body?	9. Carry out investigations to support a claim that different animals receive information through their senses, process that information, and respond in various ways.	Planning and Carrying Out Investigations Analyzing and Interpreting Data	**LS1.D:** Information Processing	Systems and System Models

Animal & Plant Adaptations (Animal & Plant Adaptations)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Animal Adaptations** Why do some sea creatures look so strange?	8. Make a claim, using evidence, that the functions of both internal and external structures of plants and animals (including humans) support growth, survival, and behavior.	Engaging in Argument from Evidence	**LS1.A:** Structure and Function	Systems and System Models
Lesson 2 	**Learned Behavior & Instinct** Why would a sea turtle eat a plastic bag?	9. Carry out investigations to support a claim that different animals receive information through their senses, process that information, and respond in various ways.	Developing and Using Models Constructing Explanations and Designing Solutions	**LS1.D:** Information Processing	Systems and System Models
Lesson 3 	**Plant Adaptations** Why don't the same trees grow everywhere?	8. Make a claim, using evidence, that the functions of both internal and external structures of plants and animals (including humans) support growth, survival, and behavior.	Engaging in Argument from Evidence Developing and Using Models	**LS1.A:** Structure and Function	Systems and System Models

Earth's Features & Processes (Birth of Rocks)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
 **Lesson 1**	**Volcanoes & Patterns of Earth's Features** Could a volcano pop up where you live?	13. Analyze and interpret data from maps to describe patterns of Earth's features on land and in the ocean.	Analyzing and Interpreting Data Engaging in Argument from Evidence	**ESS2.B:** Plate Tectonics and Large-Scale System Interactions	Patterns
 **Lesson 2**	**Volcanoes & Rock Cycle** Why do some volcanoes explode?	11. Construct explanations of Earth's changes over time through slow and rapid processes, citing evidence found in rock formations and fossils in rock layers.	Constructing Explanations and Designing Solutions	**ESS1.C:** The History of Planet Earth	Cause and Effect
 **Lesson 3**	**Weathering & Erosion** Will a mountain last forever?	12. Plan and carry out investigations to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, and vegetation, investigating a single form of weathering or erosion at a time.	Planning and Carrying Out Investigations Analyzing and Interpreting Data	**ESS2.A:** Earth Materials and Systems **ESS2.E:** Biogeology	Cause and Effect
 **Lesson 4**	**Sedimentary Rock & Fossils** What did your town look like 100 million years ago?	11. Construct explanations of Earth's changes over time through slow and rapid processes, citing evidence found in rock formations and fossils in rock layers.	Constructing Explanations and Designing Solutions Developing and Using Models	**ESS1.C:** The History of Planet Earth	Patterns
 **Lesson 5**	**Erosion, Natural Hazards, & Engineering** How could you survive a landslide?	15. ⚙ Design, test, and evaluate a solution that will protect humans from the effects of natural Earth processes.	Constructing Explanations and Designing Solutions	**ESS3.B:** Natural Hazards **ETS1.B:** Designing Solutions to Engineering Problems	Cause and Effect

Alabama Specific Standard: 10. Develop and use a model to describe how water moves through Earth's systems by the processes of evaporation, condensation, and precipitation. *Mystery Science addresses this concept in 5th grade

Sound, Waves, & Communication (Waves of Sound)

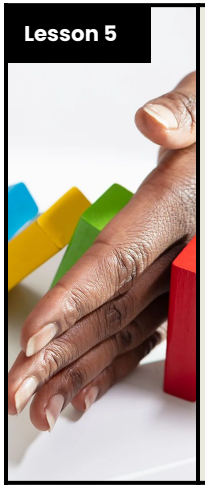
	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
 Lesson 1	**Pattern Transfer & Technology** How do you send a secret code?	6. Construct an explanation of how light, sound, and digitized information are transferred by waves.	Constructing Explanations and Designing Solutions	**PS4.C:** Information Technologies and Instrumentation **ETS1.C:** Optimizing the Design Solution	Patterns
 Lesson 2	**Sound, Vibration, & Engineering** How far can a whisper travel?	*Foundational for* 5. Develop and use models to describe amplitude and wavelength patterns and how waves can cause objects to move.	Developing and Using Models Planning and Carrying Out Investigations	**PS4.A:** Wave Properties **ETS1.B:** Developing Possible Solutions	Patterns
 Lesson 3	**Sound & Vibrations** What would happen if you screamed in outer space?	*Foundational for* 5. Develop and use models to describe amplitude and wavelength patterns and how waves can cause objects to move.	Developing and Using Models	**PS4.A:** Wave Properties	Patterns
 Lesson 4	**Sound Waves & Wavelength** Why are some sounds high and some sounds low?	5. Develop and use models to describe amplitude and wavelength patterns and how waves can cause objects to move.	Developing and Using Models	**PS4.A:** Wave Properties	Patterns

Energy & Energy Transfer (Energizing Everything) • Page 1 of 2

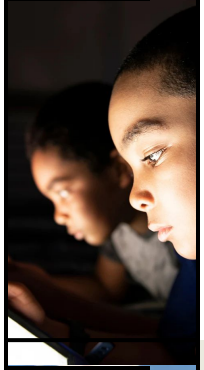
	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Speed & Energy** How is your body similar to a car?	1. Use evidence to explain the relationship between the speed of an object and its energy.	Analyzing and Interpreting Data Constructing Explanations and Designing Solutions	**PS3.A:** Definitions of Energy	Energy and Matter Systems and System Models
Lesson 2 	**Gravitational Energy, Speed, & Collisions** What makes roller coasters go so fast?	1. Use evidence to explain the relationship between the speed of an object and its energy. 2. Plan and carry out investigations to answer questions regarding changes in energy when objects collide, and predict reasonable outcomes based on observed patterns.	Developing and Using Models Analyzing and Interpreting Data	**PS3.A:** Definitions of Energy **PS3.B:** Conservation of Energy and Energy Transfer	Energy and Matter Systems and System Models
Lesson 3 	**Collisions & Energy Transfer** How can marbles save the world?	2. Plan and carry out investigations to answer questions regarding changes in energy when objects collide, and predict reasonable outcomes based on observed patterns.	Asking Questions and Defining Problems	**PS3.A:** Definitions of Energy **PS3.B:** Conservation of Energy and Energy Transfer **PS3.C:** Relationship Between Energy and Forces	Energy and Matter
Lesson 4 	**Energy Transfer & Engineering** Could you knock down a building using only dominoes?	4. ⚙️Design, construct, and test a device that changes energy from one form to another.	Developing and Using Models	**PS3.B:** Conservation of Energy and Energy Transfer **PS3.C:** Relationship Between Energy and Forces **ETS1.A:** Defining and Delimiting Engineering Problems	Energy and Matter

Continued on next page

Energy & Energy Transfer (Energizing Everything) • Page 1 of 2

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 5 	**Energy Transfer & Engineering** Can you build a chain reaction machine?	4. ⚙️Design, construct, and test a device that changes energy from one form to another.	Developing and Using Models	**PS3.A:** Definitions of Energy **PS3.C:** Relationship Between Energy and Forces **ETS1.A:** Defining and Delimiting Engineering Problems **ETS1.B:** Developing Possible Solutions **ETS1.C:** Optimizing the Design Solution	Energy and Matter

Electricity, Light, & Heat (Electricity, Light & Heat)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Renewable Energy & Natural Resources** What's the best way to light up a city?	14. Gather information to describe how the use of energy derived from renewable and nonrenewable resources affects the environment.	Obtaining, Evaluating, and Communicating Information Using Mathematics and Computational Thinking	**ESS3.A:** Natural Resources	Energy and Matter Cause and Effect
Lesson 2 	**Electrical Energy** What if there were no electricity?	3. Plan and carry out investigations to provide evidence that energy is transferred by sound, light, heat, and electric currents. 4. ⚙️Design, construct, and test a device that changes energy from one form to another.	Constructing Explanations and Designing Solutions Developing and Using Models	**PS3.D:** Energy in Chemical Processes and Everyday Life **ETS1.A:** Defining and Delimiting Engineering Problems **ETS1.B:** Developing Possible Solutions **ETS1.C:** Optimizing the Design Solution	Energy and Matter
Lesson 3 	**Heat Energy & Energy Transfer** How long did it take to travel across the country before cars and planes?	3. Plan and carry out investigations to provide evidence that energy is transferred by sound, light, heat, and electric currents.	Planning and Carrying Out Investigations	**PS3.B:** Conservation of Energy and Energy Transfer **PS3.D:** Energy in Chemical Processes and Everyday Life	Energy and Matter

All 5th Grade Units • Units may be taught in any order

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Unit Breakdown:

• 7 Lessons & Activities
• 7 Lesson Assessments
• 7 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds:
• 1 Anchor Phenomena
• 7 Anchor Connections
• 1 Performance Task

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Unit Breakdown:

• 5 Lessons & Activities
• 5 Lesson Assessments
• 5 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds:
• 1 Anchor Phenomena
• 5 Anchor Connections
• 1 Performance Task

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Unit Breakdown:

• 5 Lessons & Activities
• 5 Lesson Assessments
• 5 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds:
• 1 Anchor Phenomena
• 5 Anchor Connections
• 1 Performance Task

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Unit Breakdown:

• 3 Lessons & Activities
• 3 Lesson Assessments
• 3 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds::
• 1 Anchor Phenomenon
• 3 Anchor Connections
• 1 Performance Task

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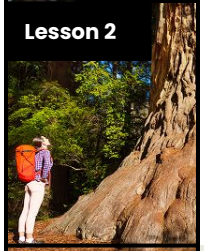
Unit Breakdown:

• 5 Lessons & Activities
• 5 Lesson Assessments
• 5 Extension Blocks
• 1 Unit Assessment

Anchor Layer Adds:
• 1 Anchor Phenomena
• 5 Anchor Connections
• 1 Performance Task

Ecosystems & The Food Web Unit (Web of Life) • Page 1 of 2

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	✨New!✨ **Food Chains & Matter Flow** What if all the ants disappeared?	9. Create and use a model to explain the transfer of matter and energy between the environment and organisms within it.	Developing and Using Models	**LS2.A:** Interdependent Relationships in Ecosystems **LS2.B:** Cycles of Matter and Energy Transfer in Ecosystems	Energy and Matter Systems and System Models
Lesson 2 	✨New!✨ **Plant Growth & Matter** How does a tiny seed become one of the heaviest trees on Earth?	7. Support an argument from evidence that plants primarily use air and water to process matter needed for growth. 9. Create and use a model to explain the transfer of matter and energy between the environment and organisms within it.	Engaging in Argument from Evidence Constructing Explanations and Designing Solutions	**LS1.C.** Organization for Matter and Energy Flow in Organisms **LS2.B:** Cycles of Matter and Energy Transfer in Ecosystems	Cause and Effect Energy and Matter
Lesson 3 	✨New!✨ **Decomposers & Matter Flow** Where do fallen leaves go?	9. Create and use a model to explain the transfer of matter and energy between the environment and organisms within it.	Developing and Using Models Analyzing and Interpreting Data Constructing Explanations and Designing Solutions	**LS2.A:** Interdependent Relationships in Ecosystems **LS2.B:** Cycles of Matter and Energy Transfer in Ecosystems	Cause and Effect Energy and Matter
Lesson 4 	**Decomposers & Soil Nutrients** Do worms really eat dirt?	9. Create and use a model to explain the transfer of matter and energy between the environment and organisms within it.	Planning and Carrying Out Investigations	**LS2.A:** Interdependent Relationships in Ecosystems **LS2.B:** Cycles of Matter and Energy Transfer in Ecosystems	Energy and Matter

Continued on next page

✨ New Lesson

Ecosystems & The Food Web Unit (Web of Life) • Page 2 of 2

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
 **Lesson 5**	**Ecosystems & Matter Cycle** Why do you have to clean a fish tank but not a pond?	9. Create and use a model to explain the transfer of matter and energy between the environment and organisms within it.	Developing and Using Models	**LS2.A:** Interdependent Relationships in Ecosystems **LS2.B:** Cycles of Matter and Energy Transfer in Ecosystems	Systems and System Models Energy and Matter
 **Lesson 6**	**Protecting Environments** How can we protect Earth's environments?	14. Obtain and evaluate information to communicate how science-based solutions are being used to protect Earth's natural resources and its environment. 15. ⚙️ Design, test, and revise solutions to clean a polluted environment.	Obtaining, Evaluating, and Communicating Information	**ESS3.C:** Human Impacts on Earth Systems	Systems and System Models
 **Lesson 7**	**Food Webs & Flow of Energy** Why did the dinosaurs go extinct?	8. Use evidence to explain that energy from the sun is present in animals' food and is used for body repair, growth, motion, and maintenance of body warmth.	Developing and Using Models Constructing Explanations and Designing Solutions	**PS3.D:** Energy in Chemical Processes and Everyday Life **LS1.C.** Organization for Matter and Energy Flow in Organisms	Energy and Matter Systems and System Models

Water Cycle & Earth's Systems (Watery Planet)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
	**Hydrosphere & Water Distribution** How much water is in the world?	13. Construct a model to represent the distribution of freshwater and saltwater on Earth.	Analyzing and Interpreting Data Using Mathematics and Computational Thinking	**ESS2.C:** The Roles of Water in Earth's Surface Processes	Scale, Proportion, and Quantity
	**Mixtures & Solutions** How much salt is in the ocean?	3. Conduct investigations to provide evidence that the total weight of matter is conserved during phase changes when substances are heated, cooled, or mixed.	Developing and Using Models Using Mathematics and Computational Thinking	**PS1.A**: Structure and Properties of Matter	Scale, Proportion, and Quantity
	**Groundwater as a Natural Resource** When you turn on the faucet, where does the water come from?	13. Construct a model to represent the distribution of freshwater and saltwater on Earth.	Obtaining, Evaluating, and Communicating Information Engaging in Argument from Evidence	**ESS2.C:** The Roles of Water in Earth's Surface Processes	Patterns
	**Water Cycle** Can we make it rain?	12. Use a model to represent how any two of Earth's systems (atmosphere, biosphere, geosphere, and hydrosphere) interact and support life.	Developing and Using Models Planning and Carrying Out Investigations	**ESS2.A:** Earth Materials and Systems	Systems and System Models
	**Natural Disasters & Engineering** How can you save a town from a hurricane?	14. Obtain and evaluate information to communicate how science-based solutions are being used to protect Earth's natural resources and its environment.	Asking Questions and Defining Problems Obtaining, Evaluating, and Communicating Information Using Mathematics and Computational Thinking	**ETS1.A:** Defining and Delimiting Engineering Problems **ETS1.B:** Developing Possible Solutions **ETS1.C:** Optimizing the Design Solution	Systems and System Models

Earth & Space Patterns (Spaceship Earth)

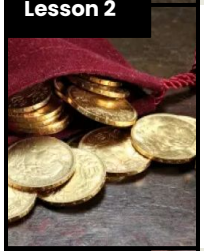
	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
 Lesson 1	**Day, Night, & Earth's Rotation** How fast does the Earth spin?	*Foundational for* 11. Analyze data that reveal patterns of daily changes in length and direction of shadows, day and night, phases of the moon, and seasonal appearance of some stars in the night sky.	Developing and Using Models Using Mathematics and Computational Thinking	**ESS1.B:** Earth and the Solar System	Patterns Cause and Effect
 Lesson 2	**Earth's Rotation & Daily Shadow Patterns** Who set the first clock?	11. Analyze data that reveal patterns of daily changes in length and direction of shadows, day and night, phases of the moon, and seasonal appearance of some stars in the night sky.	Planning and Carrying Out Investigations Analyzing and Interpreting Data	**ESS1.B:** Earth and the Solar System	Patterns Cause and Effect
 Lesson 3	**Seasonal Changes & Shadow Length** How can the Sun tell you the season?	11. Analyze data that reveal patterns of daily changes in length and direction of shadows, day and night, phases of the moon, and seasonal appearance of some stars in the night sky.	Analyzing and Interpreting Data Engaging in Argument from Evidence	**ESS1.B:** Earth and the Solar System	Patterns Cause and Effect
 Lesson 4	**Seasonal Patterns & Earth's Orbit** Why do the stars change with the seasons?	11. Analyze data that reveal patterns of daily changes in length and direction of shadows, day and night, phases of the moon, and seasonal appearance of some stars in the night sky.	Developing and Using Models Constructing Explanations and Designing Solutions	**ESS1.B:** Earth and the Solar System	Patterns Cause and Effect
 Lesson 5	**Moon Phases, Lunar Cycle** Why does the Moon change shape?	11. Analyze data that reveal patterns of daily changes in length and direction of shadows, day and night, phases of the moon, and seasonal appearance of some stars in the night sky.	Developing and Using Models Planning and Carrying Out Investigations	**ESS1.B:** Earth and the Solar System	Patterns Cause and Effect

Stars & Planets (Stars & Planets)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Solar System & Sun Brightness** How can the Sun help us explore other planets?	10. Obtain and communicate information to explain why the sun appears to be larger and brighter than other stars.	Developing and Using Models Engaging in Argument from Evidence	**ESS1.A:** The Universe and its Stars	Scale, Proportion, and Quantity Systems and System Models
Lesson 2 	**Gravity** Why is gravity different on other planets?	5. Make a claim, supported by evidence, that the gravitational force exerted by Earth pulls objects towards the center of Earth.	Using Mathematics and Computational Thinking Analyzing and Interpreting Data	**PS2.B:** Types of Interactions	Patterns Cause and Effect
Lesson 3 	**Star Brightness & Habitable Planets** Could there be life on other planets?	10. Obtain and communicate information to explain why the sun appears to be larger and brighter than other stars.	Obtaining, Evaluating, and Communicating Information Engaging in Argument from Evidence	**ESS1.A:** The Universe and its Stars	Scale, Proportion, and Quantity

Alabama Specific Standard: 6. Design and conduct a test to modify the speed of an object falling due to gravity. *Example: constructing a parachute to slow the speed of a falling object.*

Chemical Reactions & Properties of Matter (Chemical Magic)

	Topic & Guiding Question	2023 Alabama Course of Study: Science Content Standards	Science & Eng. Practices (SEPs)	Disciplinary Core Ideas (DCIs)	Crosscutting Concepts (CCCs)
Lesson 1 	**Conservation of Matter** Are magic potions real?	1. Plan and carry out investigations to provide evidence that matter is made of particles too small to be seen. 3. Conduct investigations to provide evidence that the total weight of matter is conserved during phase changes when substances are heated, cooled, or mixed.	Planning and Carrying Out Investigations Constructing Explanations and Designing Solutions	**PS1.A**: Structure and Properties of Matter **PS1.B:** Chemical Reactions	Cause and Effect Scale, Proportion, and Quantity
Lesson 2 	**Dissolving & Particulate Nature of Matter** Could you transform something worthless into gold?	1. Plan and carry out investigations to provide evidence that matter is made of particles too small to be seen. 3. Conduct investigations to provide evidence that the total weight of matter is conserved during phase changes when substances are heated, cooled, or mixed.	Planning and Carrying Out Investigations Using Mathematics and Computational Thinking	**PS1.A**: Structure and Properties of Matter **PS1.B:** Chemical Reactions	Energy and Matter Scale, Proportion, and Quantity
Lesson 3 	**Properties of Matter: Acids** What would happen if you drank a glass of acid?	2. Analyze data collected through observations and measurements to identify materials based on their properties, including color, hardness, and reflectivity.	Planning and Carrying Out Investigations Analyzing and Interpreting Data	**PS1.A**: Structure and Properties of Matter	Cause and Effect
Lesson 4 	**Chemical Reactions** What do fireworks, rubber, and Silly Putty have in common?	4. Analyze data from tests to determine whether a new substance is formed after two or more substances are combined.	Planning and Carrying Out Investigations Constructing Explanations and Designing Solutions	**PS1.B:** Chemical Reactions	Cause and Effect
Lesson 5 	**Gases & Particle Models** Why do some things explode?	1. Plan and carry out investigations to provide evidence that matter is made of particles too small to be seen.	Planning and Carrying Out Investigations Developing and Using Models	**PS1.A**: Structure and Properties of Matter	Scale, Proportion, and Quantity