

First Grade NGSS/Benchmark Alignment

Life Science



1-Life Science1 (1-LS1) From Molecules to Organisms: Structures and Processes
1-Life Science4 (1-LS3) Heredity: Inheritance and Variation of Traits



Benchmark Unit 3 Life Science: Plants and Animals Grow and Change

NGSS Standard

Benchmark

1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

Benchmark Essential Question: Why do we measure and describe the world?

The information below cites correlations to FOSS CA to address what is missing from the standard(s) listed in Benchmark. The complete first grade NGSS standards can be found at: <https://tinyurl.com/1stGradeCANGSS>

FOSS CA: *Plants and Animals*: Investigation 3

| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts |
|--|--|--|
| Constructing Explanations and Designing Solutions Use materials to design a device that solves a specific problem or a solution to a specific problem. (1-LS1-1) | Structure and Function All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (1-LS1-1) | Structure and Function The shape and stability of structures of natural and designed objects are related to their function(s). (1-LS1-1) |
| Investigation 3 Part 1 Focus Question (After Step 17) What do plants need to live and grow in a terrarium? | Investigation 3 Part 3 Focus Question (After Step 10) What parts of a plant or animal help it live in its habitat? | Investigation 3 Part 2 Focus Question (Step 9) <ul style="list-style-type: none"> What are the animals eating for food? What are they using as shelter and nesting? What do plants need to make food? What is the habitat providing for the plants and animals to grow? Which animals prefer the dry areas? The wet ones? |

First Grade Life Science (cont'd)

| 1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive. | | | Benchmark Essential Question Why do living things change? | | |
|---|---|--|--|--|-----------------------|
| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts | Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts |
| Communicating Information Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. (1-LS1-2) | Growth and Development of Organisms Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (1-LS1-2) | Patterns Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2) | NOT ADDRESSED | Whole group text: <ul style="list-style-type: none"> Welcome Ducklings p.12 (My Shared Reading) Small group text: <ul style="list-style-type: none"> A Seed Needs Help Penguins in Antarctica | NOT ADDRESSED |

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FOSS CA: *Plants and Animals*: Investigation 3

| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts |
|--|--|--|
| Communicating Information | Growth and Development of Organisms | Patterns |
| Investigation 3 Parts 2 and 3 Science Resource Book (Step 11): "Plants and Animals Around the World" Video (Step 7): <i>How Plants Live in Different Places</i> | Investigation 3 Part 2 Student Resource Book Step 12 Focus question: How can plants use animals to help them survive? | Investigation 3 Part 2 Structures Chart (Step 13) Focus Question What do all plants and animals need to live in their habitat? |

First Grade Life Science (cont'd)

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

Benchmark Essential Question
Why do living things change?

| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts | Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts |
|---|---|--|-----------------------------------|--|-----------------------|
| Constructing Explanations and Designing Solutions Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. (1-LS3-1) | Inheritance of Traits Young animals are very much, but not exactly, like their parents. Plants also are very much, but not exactly, like their parents. (1-LS3-1) | Patterns Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS3-1) | NOT ADDRESSED | Whole group text: <ul style="list-style-type: none"> The Amazing Butterfly p.2 (My Shared Reading) The Amazing Life Cycle of a Frog pp.20-23 (Mentor Read-Aloud) An Oak Tree Has a Life Cycle (Content Connections) Small group text: <ul style="list-style-type: none"> Ducklings Grow Up Every Tree Has a Lifecycle Watch a Frog Grow How Does a Cactus Grow? Watch a Butterfly Grow Unit Opener Video: Why Do Living Things Change? Content Across Disciplines Inquiry Projects (ADDITIONAL RESOURCES tab): Make an Animal Family Portrait, Make Clay Models | NOT ADDRESSED |

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FOSS CA: *Plants and Animals*: Investigations 1

| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts |
|--|--|--|
| Constructing Explanations and Designing Solutions Investigation 2 Part 1 Focus Question (After Step 12): How can we make a new plants from an old one? | Inheritance of Traits Investigation 2 Part 1 Science Notebook Sheet, No. 6 "Stem Cuttings" (Step 11) | Patterns Investigation 1 Part 2 Focus Question (Step 15)): How are the potato leaves the same as other plants you have grown? What are they? |



First Grade NGSS/Benchmark Alignment

Earth and Space Sciences



1-Earth and Space Sciences1 (5-ESS1) Earth's Place in the Universe
 1-Earth Science2 (5-ESS2) Earth's Systems
 1-Earth Science3 (5-ESS3) Earth and Human Activity



Benchmark Unit 8 Earth and Space Sciences: Observing the Sky

NGSS Standard

Benchmark

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

Benchmark Essential Question: Why do the sun and the moon capture our imagination?

Science and Engineering Practices

Disciplinary Core Ideas

Crosscutting Concepts

Analyzing and Interpreting Data
 Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (1-ESS1-1)

The Universe and its Stars
 Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted. (1-ESS1-1)

Patterns
 Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-ESS1-1)

Science and Engineering Practices

Disciplinary Core Ideas

Crosscutting Concepts

NOT ADDRESSED

Whole group text:

- Night and Day (Content Connections)
- The Sun pp. 24-25 (My Shared Reading)

Unit Opener Video: Observing the Sky
Content Across Disciplines Inquiry Projects (ADDITIONAL RESOURCES tab): Write a Sky Poem, Graph Sunlight

NOT ADDRESSED

First Grade Earth Science (cont'd)

The information below cites correlations to FOSS CA to address what is missing from the standard(s) listed in Benchmark. The complete first grade NGSS standards can be found at: <https://tinyurl.com/1stGradeCANGSS>

FOSS CA: Air and Weather: Investigation 3

| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts |
|--|----------------------------|--|
| Analyzing and Interpreting Data | The Universe and its Stars | Patterns |
| Investigation 3 Part 4 Focus Question Step 5: What else can show us the direction of the wind? | Not available at this time | Investigation 3 Part 1 Focus Question (After Step 8): What can bubbles tell you about the air? |

| NGSS Standard | | | Benchmark | | |
|--|---|--|--|--|-----------------------------|
| 1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year. | | | Benchmark Essential Question: Why do the sun and the moon capture our imagination? | | |
| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts | Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts |
| Planning and Carrying Out an Investigation Make observations (firsthand or from media) to collect data that can be used to make comparisons. (1-ESS1-2) | Earth and the Solar System Seasonal patterns of sunrise and sunset can be observed, described, and predicted. (1-ESS1-2) | Patterns Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-ESS1-2) | <u>NOT ADDRESSED</u> | Whole group text: • Night and Day (Content Connections) Small group text: • The Sun and the Seasons Content Across Disciplines Inquiry Projects (ADDITIONAL RESOURCES tab): Graph Sunlight | <u>NOT ADDRESSED</u> |

First Grade Earth Science (cont'd)

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FOSS CA: *Air and Weather*: Investigation 4

| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts |
|---|---|---|
| Planning and Carrying Out an Investigation | Earth and Its Solar System | Patterns |
| <u>Investigation 4 Part 2</u> Step 6: Compare the graphs at the end of the season | <u>Investigation 4 Part 2</u> Science Resource Book (Step 9): "Seasons" | <u>Investigation 4 Part 2</u> Focus Question (Step 5) What types of weather and temperature occur most or least often? |

First Grade NGSS/Benchmark Alignment

Physical Science



2-Physical Science4 (2-PS4) Waves and their Applications in Technologies for Information Transfer



Benchmark Unit 10 Physical Science: Exploring Sound and Light

NGSS Standard

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

Benchmark

Benchmark Essential Question: How would our lives be different without sound or light?

| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts | Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts |
|--|--|--|-----------------------------------|---|-----------------------|
| Planning and Carrying Out an Investigation Plan and conduct investigations collaboratively to produce data to serve as the basis for evidence to answer a question. (1-PS4-1) | Wave Properties Sound can make matter vibrate, and vibrating matter can make sound. (1-PS4-1) | Cause and Effect Simple tests can be designed to gather evidence to support or refute student ideas about causes. (1-PS4-1) | NOT ADDRESSED | Small Group Text: <ul style="list-style-type: none"> Sounds Around the World with Music Content Across Disciplines Inquiry Projects (ADDITIONAL RESOURCES tab): Make a Megaphone | NOT ADDRESSED |

First Grade Physical Science (cont'd)

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FOSS CA: *Solids and Liquids*: Investigations 2 and 4

| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts |
|---|----------------------------|--|
| Planning and Carrying Out an Investigation | Wave Properties | Cause and Effect |
| Investigation 4 Part 1 Focus Question (After Step 16): What can happen when you mix a solid with water? | Not available at this time | Investigation 2 Part 3 Science Notebook Sheet , No. 6 "Liquids in a Container" Step 5 |

| NGSS Standard | Benchmark Unit 10 Physical Science: Exploring Sound and Light |
|--|---|
| 1-PS4-2. Make observations to construct an evidence-based account that objects can be seen only when illuminated. | <u>NOT ADDRESSED</u> |

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FOSS CA: *Solids and Liquids*: Investigation 3

| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts |
|--|---|---|
| Constructing Explanations and Designing Solutions Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena (1-PS4-2) | Electromagnetic Radiation Objects can be seen if light is available to illuminate them or if they give off their own light. (1-PS4-2) | Cause and Effect Simple tests can be designed to gather evidence to support or refute student ideas about causes. (1-PS4-2) |
| Investigation 3 Part 3 Focus Question (Step 9): How are liquids in bottles different from solids in bottles? | Not available at this time | Investigation 3 Part 4 Focus Question (Step 4): How can we tell which screens to use to separate a mixture? |

| First Grade Physical Science (cont'd) | | | | | |
|---|---|---|---|--|-----------------------|
| 1-PS4-3. Plan and conduct an investigation to determine the effect of placing objects make with different materials in the path of a beam of light. | | | Benchmark Unit 10 Physical Science Exploring Sound and Light | | |
| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts | Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts |
| Planning and Carrying Out an Investigation Plan and conduct investigations collaboratively to produce data to serve as the basis for evidence to answer a question. (1-PS4-3) | Electromagnetic Radiation Some materials allow light to pass through them, others allow only some light through and others block all the light and create a dark shadow on any surface beyond them, where the light cannot reach. Mirrors can be used to redirect a light beam. (1-PS4-3) | Cause and Effect Simple tests can be designed to gather evidence to support or refute student ideas about causes. (1-PS4-3) | NOT ADDRESSED | Whole Group Text: <ul style="list-style-type: none"> Shadow Puppets pp.46-47; (Mentor Read-Aloud The Light Around Us (Content Connections)Aloud Handbook) Small Group Text: <ul style="list-style-type: none"> Light Content Across Disciplines Inquiry Projects (ADDITIONAL RESOURCES tab): Acting Without Light or Sound, Let's Change Light. | NOT ADDRESSED |
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| FOSS CA: Solids and Liquids: Investigation 4 | | | | | |
| Science and Engineering Practices | Disciplinary Core Ideas | | Crosscutting Concepts | | |
| Planning and Carrying Out an Investigation | Electromagnetic Radiation | | Cause and Effect | | |
| Investigation 4 Part 3 Focus Question (Step 9): What could you do to find out if this is a mixture of solid and liquid? | Not available at this time | | Investigation 4 Part 3 Focus Question (After Step 8): What is toothpaste, a solid or a liquid? | | |

| First Grade Physical Science (cont'd) | | | | | |
|---|---|--|---|---|-----------------------------|
| 1-PS4-4. Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance. | | | Benchmark Unit 10 Physical Science Exploring Sound and Light | | |
| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts | Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts |
| Constructing Explanations and Designing Solutions Use tools and materials provided to design a device that solves a specific problem. (1-PS4-4) | Information Technologies and Instrumentation People also use a variety of devices to communicate (send and receive information) over long distances. (1-PS4-4) | Influence of Science, Engineering, Technology on Society and the Natural World People depend on various technologies in their lives; human life would be very different without technology. (1-PS4-4) | <u>NOT ADDRESSED</u> | Whole Group Text: <ul style="list-style-type: none"> My Homemade Band p.20 (My Shared Reading) Unit Opener Video: Exploring Sound and Light Content Across Disciplines Inquiry Projects (ADDITIONAL RESOURCES tab): Make a Megaphone | <u>NOT ADDRESSED</u> |
| The information below cites correlations to FOSS CA to address what is missing from the standard(s) listed in Benchmark. The complete First grade NGSS standards can be found at: https://tinyurl.com/1stGradeCANGSS | | | | | |
| FOSS CA: Solids and Liquids: Investigation 1 | | | | | |
| Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts | | | |
| Constructing Explanations and Designing Solutions | Information Technologies and Instrumentation | Influence of Science, Engineering, Technology on Society and the Natural World | | | |
| Investigation 1 Part 3 Step 13. Set the Tower Challenge | Not available at this time | Not available at this time | | | |