

Kindergarten

# Forces and Interactions: Pushes and Pulls

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.K.1

Students who demonstrate understanding can:

**Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.**

### FOSS Materials and Motion

IG: pp. 43, 45, 49, 265, 268, 270, 273, 277-280, 296-299, 313, 316

EA: Performance Assessment, IG pp. 275-276 (Step 7), IG p. 278 (Step 8), IG p. 280 (Step 15), IG p. 285 (Step 8), IG p. 286-287 (Step 5), IG p. 290 (Step 15), IG p. 295 (Step 11), IG p. 298 (Step 7)

### Notebook Entry

IG: p. 280 (Step 15) IG p. 290 (Step 15), p. 299 (Step 11) IG p. 305 (Steps 11-12)

SRB: pp. 47-57, 58, 60-68

## Science and Engineering Practices

### Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.

- With guidance, plan and conduct an investigation in collaboration with peers.

### FOSS Materials and Motion

IG: pp. 265, 266, 271, 278, 286, 287, 289, 297, 304, 317

SRB: p. 58

TR: pp. C14-C16, C32-C33

## Disciplinary Core Ideas

### PS2.A: Forces and Motion

- Pushes and pulls can have different strengths and directions.
- Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it.

### FOSS Materials and Motion

IG: pp. 43, 265, 268, 270, 273, 277-280, 296-299, 313, 316

SRB: pp. 47-57

### PS2.B: Types of Interactions

- When objects touch or collide, they push on one another and can change motion. (K-PS2-1)

### FOSS Materials and Motion

IG: pp. 43, 265, 268, 270, 273, 286-290, 304-305, 313, 316

SRB: pp. 60-68

### PS3.C: Relationship Between Energy and Forces

- A bigger push or pull makes things speed up or slow down more quickly. (Secondary to K-PS2-1)

### FOSS Materials and Motion

IG: pp. 43, 265, 268, 270, 273, 277-280, 298 (Step 7), 299 (Step 10), 313, 316

SRB: p. 58

## Crosscutting Concepts

### Cause and Effect

- Simple tests can be designed to gather evidence to support or refute student ideas about causes.

### FOSS Trees and Weather

IG: pp. 265, 272, 278, 282, 286, 287, 288, 297, 204, 304, 313, 317

TR: pp. D9-D11, D24-D27

## Connections to the Nature of Science

### Scientific Investigations Use a Variety of Methods

- Scientists use different ways to study the world. (K-PS2-1)

### FOSS Materials and Motion

IG: pp. 272 and 296 (Steps 1 and 3)

IG: Investigations Guide • TR: Teacher Resources • SRB: Student Science Resources Book • DOR: Digital-Only Resources  
EA: Embedded Assessment • BM: Benchmark Assessment • IA: Interim Assessment

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# Forces and Interactions: Pushes and Pulls

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.K.2

Students who demonstrate understanding can:

**Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull. \***

### FOSS Materials and Motion

**IG:** pp. 45, 48-49, 270, 273, 276, 295, 297 (Step 6), 299 (Step 10), 302, 316

**EA:** *Performance Assessment*, IG p. 285 (Step 8), IG p. 289 (Step 12), IG p. 290 (Step 15), IG p. 299 (Step 10), IG p. 295 (Step 11), IG p. 298 (Step 7), IG p. 302 (Step 5), IG p. 304 (Step 5), IG p. 305 (Steps 11-12)

**SRB:** pp. 9-12, 47-59, 66-67

### Science and Engineering Practices

#### Analyzing and Interpreting Data

Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.

- Analyze data from tests of an object or tool to determine if it works as intended.

#### FOSS Materials and Motion

**IG:** pp. 271, 278, 285, 295, 297-298, 304, 317

**TR:** pp. C17-C19, C34-C37

### Disciplinary Core Ideas

#### PS2.A: Forces and Motion

- Pushes and pulls can have different strengths and directions.
- Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it.

#### FOSS Materials and Motion

**IG:** pp. 48-49, 270, 273, 276, 295, 297 (Step 6), 299 (Step 10), 302, 316

**SRB:** pp. 47-59

**DOR:** “Roller Coaster Builder”

#### ETS1.A: Defining Engineering Problems

- A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have many acceptable solutions. (Secondary to K-PS2-2)

#### FOSS Materials and Motion

**IG:** pp. 48-49, 270, 285, 289-290 (Steps 12-13), 316

**SRB:** pp. 9-12, 66-67

### Crosscutting Concepts

#### Cause and Effect

- Simple tests can be designed to gather evidence to support or refute student ideas about causes.

#### FOSS Materials and Motion

**IG:** pp. 272, 278, 297, 304, 317

**TR:** pp. D9-D11, D24-D27

**IG:** Investigations Guide • **TR:** Teacher Resources • **SRB:** Student *Science Resources* Book • **DOR:** Digital-Only Resources  
**EA:** Embedded Assessment • **BM:** Benchmark Assessment • **IA:** Interim Assessment

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# Interdependent Relationships in Ecosystems: Animals, Plants, and Their Environment

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.K.3

Students who demonstrate understanding can:

**Use observations to describe patterns of what plants and animals (including humans) need to survive.**

### FOSS *Animals Two by Two*

**IG:** pp. 37, 75, 88 (Step 1), 87, 90, 106 (Step 11), 151, 165, 167, 183, 189, 199, 201, 226, 240

**EA:** *Performance Assessment*, IG p. 87 (Step 6), IG p. 90 (Step 11), IG p. 189 (Step 14)

**SRB:** pp. 5, 22, 38, 65-66, 68

### FOSS *Trees and Weather*

**IG:** pp. 41, 77, 79, 133, 159 (Step 6), 162, 213, 215, 220 (Step 6), 228 (Step 6), 242 (Step 7), 255, 257 (Step 10)

**EA:** *Performance Assessment*, IG p. 116 (Step 11), IG p. 121 (Step 9)

**SRB:** pp. 14-19, 50, 53

## Science and Engineering Practices

### Analyzing and Interpreting Data

Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.

• Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions.

### FOSS *Animals Two by Two*

**IG:** pp. 75, 94, 106 (Step 11), 109, 139 (Step 1), 165, 240

**SRB:** pp. 9, 36, 47-54, 56

**DOR:** *Seashore Surprise*

### FOSS *Trees and Weather*

**IG:** pp. 77, 102 (Step 4), 104 (Step 6), 108, 134, 149 (Step 7), 150, 214, 227 (Step 4), 255, 266

**SRB:** pp. 58-59

**TR:** pp. C17-C19, C34-C37

## Disciplinary Core Ideas

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

• All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow.

### FOSS *Animals Two by Two*

**IG:** pp. 37, 75, 88 (Step 1), 87, 90, 106 (Step 11), 151, 165, 167, 183, 189, 199, 201, 226, 240

**SRB:** pp. 5, 22, 38, 65-66, 68

### FOSS *Trees and Weather*

**IG:** pp. 41, 77, 79, 133, 159 (Step 6), 162, 213, 215, 220 (Step 6), 228 (Step 6), 242 (Step 7), 255, 257 (Step 10)

**SRB:** pp. 14-19, 50, 53

**DOR:** “Who Lives Here?”

*Summer*

## Crosscutting Concepts

### Patterns

• Patterns in the natural and human designed world can be observed and used as evidence.

### FOSS *Animals Two by Two*

**IG:** pp. 76, 97, 98, 102, 111, 113, 150, 166, 183 (Step 5), 184 (Step 3), 187, 200, 203, 221, 240

**SRB:** pp. 10-19, 20-26, 37-47, 55-63

### FOSS *Trees and Weather*

**IG:** pp. 78, 98 (Step 4), 100, 109, 116 (Step 11), 123, 134, 144 (Step 8), 146, 150, 214, 231, 243, 255, 257, 266

**SRB:** p. 59

**TR:** pp. D5-D8, D24-D25

## Connections to the Nature of Science

### Scientific Knowledge is Based on Empirical Evidence

• Scientists look for patterns and order when making observations about the world.

### FOSS *Animals Two by Two*

**IG:** pp. 200 and 213

### FOSS *Trees and Weather*

**IG:** p.139 (Step 1), 140 (Step 9), 145-147, 162 (Step 8)

**DOR:** *Once There Was a Tree*

**IG:** Investigations Guide • **TR:** Teacher Resources • **SRB:** Student *Science Resources* Book • **DOR:** Digital-Only Resources  
**EA:** Embedded Assessment • **BM:** Benchmark Assessment • **IA:** Interim Assessment

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# Interdependent Relationships in Ecosystems: Animals, Plants, and Their Environment

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.K.4

Students who demonstrate understanding can:

**Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.**

### FOSS Animals Two by Two

IG: pp. 37, 38-40, 41-42, 75, 87, 126, 144 (Step 12), 151, 165, 167, 176 (Step 7), 189, 228, 240

EA: Performance Assessment, IG p. 87 (Step 6), IG p. 144 (Step 12), IG p. 151 (Steps 22-23), IG p. 183 (Step 5), IG p. 189 (Step 14)

### FOSS Trees and Weather

IG: pp. 41, 42-43, 69, 77, 89 (Step 8), 127, 133, 159, 162 (Step 8), 266

EA: Performance Assessment, IG p. 85 (Step 14), IG p. 91 (Step 16)

## Science and Engineering Practices

### Engaging in Argument from Evidence

Engaging in argument from evidence in K–2 builds on prior experiences and progresses to comparing ideas and representations about the natural and designed world(S).

- Construct an argument with evidence to support a claim.

### FOSS Animals Two by Two

IG: pp. 127, 151, 165, 181 (Step 19), 183 (Step 5), 189, 240

### FOSS Trees and Weather

IG: pp. 78, 85 (Step 14), 91, 134, 144, 266

TR: pp. C25-C27, C40-C41

## Disciplinary Core Ideas

### ESS2.E: Biogeology

- Plants and animals can change their environment.

### FOSS Animals Two by Two

IG: pp. 37, 38-40, 41-42, 75, 87, 126, 144 (Step 12), 151, 165, 167, 176 (Step 7), 189, 228, 240

### FOSS Trees and Weather

IG: pp. 41, 42-43, 69, 77, 89 (Step 8), 127, 133, 159, 162 (Step 8), 266

DOR: *Once There Was a Tree*

### ESS3.C: Human Impacts on Earth Systems

- Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things.

### FOSS Materials and Motion

IG: pp. 137, 140 (Step 13), 141 (Step 14), 190 (Step 8), 191 (Step 1), 195, 247 (Step 2), 249 (Step 10)

SRB: pp. 41-46

DOR: *What is Agriculture?*

“Recycling Center”

## Crosscutting Concepts

### Systems and System Models

- Systems in the natural and designed world have parts that work together.

### FOSS Animals Two by Two

IG: pp. 76, 85, 128, 166, 176 (Step 7), 228, 230, 266

### FOSS Trees and Weather

IG: pp. 78, 85 (Step 14), 94, 98 (Step 4)

TR: pp. D14-D15, D28-D29

IG: Investigations Guide • TR: Teacher Resources • SRB: Student *Science Resources* Book • DOR: Digital-Only Resources  
EA: Embedded Assessment • BM: Benchmark Assessment • IA: Interim Assessment

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# Interdependent Relationships in Ecosystems: Animals, Plants, and Their Environment

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.K.5

Students who demonstrate understanding can:

**Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.**

### FOSS Animals Two by Two

IG: pp. 37, 38-39, 40-41, 74, 77, 126, 129, 151, 164, 167, 176 (Step 7), 178, 183 (Step 5), 227, 240

EA: Performance Assessment, IG p. 92 (Step 4), IG p. 95 (Step 8), IG p. 97 (Step 5), IG p. 103 (Step 14), IG p. 176 (Step 7), IG p. 180 (Step 18)

SRB: pp. 19, 38, 65

### FOSS Trees and Weather

IG: pp. 41, 43, 45, 77, 79, 107 (Step 8), 116 (Step 11), 123, 213, 240, 255, 266

EA: Performance Assessment, IG p. 107 (Step 8), IG p. 116 (Step 11), IG p. 121 (Step 9), IG p. 240 (Step 5), IG p. 243 (Step 8)

SRB: pp. 4-12, 14-19

## Science and Engineering Practices

### Developing and Using Models

Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, storyboard) that represent concrete events or design solutions.

- Use a model to represent relationships in the natural world.

### FOSS Animals Two by Two

IG: pp. 75, 92 (Step 4), 165, 176 (Step 7), 181 (Step 19), 240, 266

### FOSS Trees and Weather

IG: pp. 78, 94, 98 (Step 4)

TR: pp. C11-C13, C30-C31

## Disciplinary Core Ideas

### ESS3.A: Natural Resources

- Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do.

### FOSS Animals Two by Two

IG: pp. 37, 38-39, 40-41, 74, 77, 126, 129, 151, 164, 167, 176 (Step 7), 178, 183 (Step 5), 227, 240

SRB: pp. 19, 38, 65

### FOSS Trees and Weather

IG: pp. 77, 79, 107 (Step 8), 116 (Step 11), 123, 213, 240, 255, 266

SRB: pp. 4-12, 14-19

## Crosscutting Concepts

### Systems and System Models

- Systems in the natural and designed world have parts that work together.

### FOSS Animals Two by Two

IG: pp. 75, 92 (Step 4), 106 (Step 11), 109, 128, 166, 172, 179, 240

### FOSS Trees and Weather

IG: pp. 78, 100, 103, 266

TR: pp. D14-D15, D28-D29

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# Interdependent Relationships in Ecosystems: Animals, Plants, and Their Environment

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.K.6

Students who demonstrate understanding can:

**Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment. \***

### FOSS Materials and Motion

**IG:** pp. 31, 45, 49, 85, 93, 97, 137, 141 (Step 14), 143, 161, 167, 190, 195, 239, 246, 247-248, 249-250 (Step 10), 316

**EA:** Performance Assessment, IG p. 93 (Step 17), IG p. 103 (Step 23), IG p. 137 (Step 7) IG p. 141 (Steps 15-16), IG p. 171 (Step 13), IG p. 190 (Step 8), IG p. 195 (Step 11), IG p. 250 (Step 14)

**SRB:** pp. 41 and 45

### Science and Engineering Practices

#### Obtaining, Evaluating, and Communicating Information

Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.

- Communicate solutions with others in oral and/or written forms using models and/or drawings that provide detail about scientific ideas.

#### FOSS Materials and Motion

**IG:** pp. 86, 162, 212-213, 218, 248-249, 317

**SRB:** pp. 41-46

**TR:** pp. C28-C29, C40-C41

### Disciplinary Core Ideas

#### ESS3.C: Human Impacts on Earth Systems

- Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things.

#### FOSS Materials and Motion

**IG:** pp. 93, 97, 137, 141 (Step 14), 167, 190, 239, 246, 247-248, 249-250 (Step 10), 316

**SRB:** pp. 41 and 45

**DOR:** What is Agriculture?

Environmental Health

#### ETS1.B: Developing Possible Solutions

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

#### FOSS Materials and Motion

**IG:** pp. 31, 46-47, 48-49, 85, 143, 161, 195, 198, 249 (Step 10), 250 (Step 14), 316

**DOR:** "Recycling Center"

### Crosscutting Concepts

#### Cause and Effect

- Events have causes that generate observable patterns.

#### FOSS Materials and Motion

**IG:** pp. 86, 137, 162, 201, 218, 317

**SRB:** p. 46

**TR:** pp. D9-D11, D24-D27

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# Weather and Climate

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.K.7

Students who demonstrate understanding can:

**Use and share observations of local weather conditions to describe patterns over time.**

### FOSS Trees and Weather

**IG:** pp. 41, 43, , 44-45, 167, 173, 175, 178 (Step 9), 202 (Steps 20-21), 205, 213, 226, 234, 253, 255, 266

**EA:** Performance Assessment, IG p. 178 (Step 9), IG pp. 180-181 (Steps 8-9), IG p. 202 (Steps 20-21), IG p. 222 (Step 8)

**SRB:** pp. 38-40, 42-44, 59

### Science and Engineering Practices

#### Analyzing and Interpreting Data

Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.

- Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions.

### FOSS Trees and Weather

**IG:** pp. 174, 181, 185 (Step 7), 187, 195, 201, 202, 214, 227, 241, 254, 266

**SRB:** pp. 32-37

**TR:** pp. C17-C19, C34-C37

### Disciplinary Core Ideas

#### ESS2.D: Weather and Climate

- Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time.

### FOSS Trees and Weather

**IG:** pp. 39, 44-45, 167, 173, 175, 178 (Step 9), 202 (Steps 20-21), 205, 213, 226, 234, 253, 255, 266

**SRB:** pp. 38-40, 42-44, 59

### Crosscutting Concepts

#### Patterns

- Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.

### FOSS Trees and Weather

**IG:** pp. 174, 188, 214, 215, 240, 243, 257, 266

**SRB:** pp. 29 and 59

**TR:** pp. D5-D8, D24-D25

## Connections to the Nature of Science

### Scientific Knowledge is Based on Empirical Evidence

- Scientists look for patterns and order when making observations about the world. (K-ESS2-1)

### FOSS Trees and Weather

**IG:** pp. 180 (Step 6) and 256 (Step 9)

**SRB:** p. 29



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# Weather and Climate

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.K.8

Students who demonstrate understanding can:

**Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather. \***

### FOSS Trees and Weather

IG: pp. 41, 44-45, 167, 173, 200 (Steps 13-14), 202 (Step 20), 266

EA: Performance Assessment, IG p. 198 (Step 10), IG p. 200 (Step 14), IG p. 202 (Steps 20-21)

SRB: pp. 42-44

### Science and Engineering Practices

#### Asking Questions and Defining Problems

Asking questions and defining problems in grades K–2 builds on prior experiences and progresses to simple descriptive questions that can be tested.

- Ask questions based on observations to find more information about the designed world.

#### FOSS Trees and Weather

IG: pp. 179, 199 (Step 12), 266

SRB: pp. 33-37

TR: pp. C7-C10, C30-C31

#### Obtaining, Evaluating, and Communicating Information

Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.

- Read grade-appropriate texts and/or use media to obtain scientific information to describe patterns in the natural world. (K-ESS3-2)

#### FOSS Trees and Weather

IG: pp. 174, 182, 198

SRB: pp. 44-45

TR: pp. C28-C29, C40-C41

### Disciplinary Core Ideas

#### ESS3.B: Natural Hazards

- Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events.

#### FOSS Trees and Weather

IG: pp. 44-45, 167, 173, 200 (Steps 13-14), 202 (Step 20), 266

SRB: pp. 42-44

DOR: Come a Tide

#### ETS1.A: Defining and Delimiting an Engineering Problem

- Asking questions, making observations, and gathering information are helpful in thinking about problems. (Secondary to K-ESS3-2)

#### FOSS Trees and Weather

IG: pp. 44-45, 173, 200 (Steps 13-14)

### Crosscutting Concepts

#### Cause and Effect

- Events have causes that generate observable patterns.

#### FOSS Trees and Weather

IG: pp. 188, 195, 266

SRB: pp. 39-40

TR: pp. D9-D11, D24-D27

IG: Investigations Guide • TR: Teacher Resources • SRB: Student Science Resources Book • DOR: Digital-Only Resources  
EA: Embedded Assessment • BM: Benchmark Assessment • IA: Interim Assessment



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# Weather and Climate

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.K.9

Students who demonstrate understanding can:

**Make observations to determine the effect of sunlight on Earth's surface.**

### FOSS Materials and Motion

IG: pp. 43, 48-49, 209, 217, 219, 254-256, 259 (Step 24), 316

EA: Performance Assessment, IG p. 256 (Steps 10-12)

### FOSS Trees and Weather

IG: pp. 39, 44-45, 167, 173, 185 (Step 7), 188, 266

EA: Performance Assessment, IG p. 185 (Step 7), IG p. 188 (Steps 9-11)

SRB: pp. 20-21, 30-31

## Science and Engineering Practices

### Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.

- Make observations (firsthand or from media) to collect data that can be used to make comparisons.

### FOSS Materials and Motion

IG: pp. 217, 255, 256, 258, 317

### FOSS Trees and Weather

IG: pp. 174, 178 (Step 9), 179, 266

TR: pp. C14-C16, C32-C33

## Disciplinary Core Ideas

### PS3.B: Conservation of Energy and Energy Transfer

- Sunlight warms Earth's surface.

### FOSS Materials and Motion

IG: pp. 43, 48-49, 209, 217, 219, 254-256, 259 (Step 24), 316

### FOSS Trees and Weather

IG: pp. 39, 44-45, 167, 173, 185 (Step 7), 188, 266

SRB: pp. 20-21, 30-31

## Crosscutting Concepts

### Cause and Effect

- Events have causes that generate observable patterns.

### FOSS Materials and Motion

IG: pp. 218, 255, 317

SRB: pp. 60-67

### FOSS Trees and Weather

IG: pp. 174, 187, 266

SRB: pp. 28-31

TR: pp. D9-D11, D24-D27

## Connections to the Nature of Science

### Scientific Investigations Use a Variety of Methods

- Scientists use different ways to study the world. (K-PS3-1)

### FOSS Materials and Motion

IG: pp. 218, 254 (Steps 2-3), 256 (Step 10)

### FOSS Trees and Weather

IG: pp. 175, 179, 189 (Step 11)

SRB: pp. 38-40

IG: Investigations Guide • TR: Teacher Resources • SRB: Student Science Resources Book • DOR: Digital-Only Resources  
EA: Embedded Assessment • BM: Benchmark Assessment • IA: Interim Assessment

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# Weather and Climate

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.K.10

Students who demonstrate understanding can:

**Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.\***

### FOSS Materials and Motion

IG: pp. 43, 48-49, 209, 212-213, 217, 219, 316

EA: Performance Assessment, IG: p. 253 (Step 9), IG: p. 257 (Steps 17-18), IG: p. 260 (Step 26)

### Science and Engineering Practices

#### Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.

- Use tools and materials provided to design and build a device that solves a specific problem or a solution to a specific problem.

### FOSS Materials and Motion

IG: pp. 217, 253, 257, 317

SRB: pp. 9-12

TR: pp. C22-C24, C38-C39

### Disciplinary Core Ideas

#### PS3.B: Conservation of Energy and Energy Transfer

- Sunlight warms Earth's surface.

### FOSS Materials and Motion

IG: pp. 43, 48-49, 209, 212-213, 217, 219, 316

### Crosscutting Concepts

#### Cause and Effect

Events have causes that generate observable patterns. Simple tests can be designed to gather evidence to support or refute student ideas about causes.

### FOSS Materials and Motion

IG: pp. 218, 255, 256 (Steps 9-10), 259

TR: pp. D9-D11, D24-D27

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# Engineering Design

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.K.11

Students who demonstrate understanding can:

**Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.**

### FOSS Materials and Motion

IG: pp. 45, 47, 49, 85, 161, 175, 217, 219, 250 (Step 14), 253 (Step 9), 257, 270, 285, 289 (Step 11), 316

EA: Performance Assessment, IG p. 143 (Step 6), IG p. 147 (Step 12), IG p. 175 (Step 6), IG p. 176 (Steps 1 and 5)

SRB: pp. 9-12, 41-42

### Science and Engineering Practices

#### Asking Questions and Defining Problems

Asking questions and defining problems in K–2 builds on prior experiences and progresses to simple descriptive questions.

- Ask questions based on observations to find more information about the natural and/or designed world(s)
- Define a simple problem that can be solved through the development of a new or improved object or tool.

#### FOSS Materials and Motion

IG: pp. 85, 162, 175, 177, 191, 217, 247 (Step 2), 259 (Step 24), 271, 317

SRB: p. 9

TR: pp. C7-C10, C30-C31

### Disciplinary Core Ideas

#### ETS1.A: Defining and Delimiting Engineering Problems

- A situation that people want to change or create can be approached as a problem to be solved through engineering.
- Asking questions, making observations, and gathering information are helpful in thinking about problems.
- Before beginning to design a solution, it is important to clearly understand the problem.

#### FOSS Materials and Motion

IG: pp. 85, 161, 175, 217, 219, 250 (Step 14), 253 (Step 9), 257, 270, 285, 289 (Step 11), 316

SRB: pp. 9-12, 41-42

### Crosscutting Concepts

#### •Cause and Effect

Events have causes that generate observable patterns. Simple tests can be designed to gather evidence to support or refute student ideas about causes.

#### FOSS Materials and Motion

IG: pp. 127, 192-193, 236-237, 253, 255, 257, 259

TR: D10

#### FOSS Trees and Weather

IG: pp. 185

#### •Structure and Function

The shape and the stability of structures of natural and designed objects are related to their function(s).

#### FOSS Materials and Motion

IG: pp. 86, 145, 162, 175, 176-177, 253, 257, 259

SRB: pp. 13-18

DOR: “Roller Coaster Builder”

IG: Investigations Guide • TR: Teacher Resources • SRB: Student Science Resources Book • DOR: Digital-Only Resources  
EA: Embedded Assessment • BM: Benchmark Assessment • IA: Interim Assessment

Kindergarten

# Engineering Design

The following FOSS program elements address standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.K.12

Students who demonstrate understanding can:

**Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.**

### FOSS Materials and Motion

IG: pp. 45, 46-47, 48-49, 85, 114 (Step 7), 119, 130, 147 (Step 12), 161, 198, 217, 253 (Step 9), 270, 285, 316

EA: Performance Assessment, IG p. 198 (Step 8), IG p. 200 (Steps 5-6), IG p. 201 (Step 11), IG p. 202 (Step 14), IG p. 253 (Step 9), IG p. 257 (Step 13)

### FOSS Trees and Weather

IG: pp. 41, 43, 45, 173, 193 (Step 13), 197, 266

EA: Performance Assessment, IG p. 193 (Step 13), IG p. 197 (Step 8)

SRB: p. 40

## Science and Engineering Practices

### Developing and Using Models

Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.

- Develop a simple model based on evidence to represent a proposed object or tool.

### FOSS Materials and Motion

IG: pp. 85, 144, 162, 190, 194, 202 (Step 13), 217, 228, 230, 260 (Step 26), 290 (Step 15), 317

### FOSS Trees and Weather

IG: pp. 197 and 266

TR: pp. C11-C13, C30-C31

## Disciplinary Core Ideas

### ETS1.B: Developing Possible Solutions

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

### FOSS Materials and Motion

IG: pp. 46-47, 48-49, 85, 114 (Step 7), 119, 130, 147 (Step 12), 161, 198, 217, 253 (Step 9), 270, 285, 316

### FOSS Trees and Weather

IG: pp. 173, 193 (Step 13), 197, 266

SRB: p. 40

## Crosscutting Concepts

### •Cause and Effect

Events have causes that generate observable patterns. Simple tests can be designed to gather evidence to support or refute student ideas about causes.

### FOSS Materials and Motion

IG: pp. 86, 137, 174

### FOSS Trees and Weather

IG: p. 195

### •Energy and Matter

Objects may break apart into smaller pieces, be put together in larger pieces, or change shape.

### FOSS Materials and Motion

IG: pp. 86, 126, 145, 146

SRB: 3-8

### •Structure and Function

The shape and stability of structures of natural and designed objects are related to their function(S).

### FOSS Materials and Motion

IG: pp. 86, 139, 141 (Step 13, 14), 145, 162, 167 (Step 10), 201, 218, 231, 239 (Step 6), 241, 317

SRB: pp. 19-31, 32-40

### FOSS Trees and Weather

IG: pp. 197 and 266

SRB: p. 40

TR: pp. D18-D19, D30-D31

### FOSS Animals Two by Two

IG: pp. 76, 85, 97, 207 (Step 13)

IG: Investigations Guide • TR: Teacher Resources • SRB: Student Science Resources Book • DOR: Digital-Only Resources  
EA: Embedded Assessment • BM: Benchmark Assessment • IA: Interim Assessment

Kindergarten

# Engineering Design

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.K.13

Students who demonstrate understanding can:

**Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.**

### FOSS Materials and Motion

IG: pp. 45, 49, 217, 253 (Step 9), 316

EA: Performance Assessment, IG p. 253 (Step 9), IG p. 259 (Steps 23-24), IG p. 260 (Step 26)

SRB: pp. 10-11

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.</p> <ul style="list-style-type: none"> <li>Analyze data from tests of an object or tool to determine if it works as intended.</li> </ul> <p><b>FOSS Materials and Motion</b> IG: pp. 217, 222 (Step 8), 240 (Step 5), 256, 317</p> <p><b>FOSS Trees and Weather</b> IG: pp. 197 and 266 TR: pp. C17-C19, C34-C37</p>	<p><b>ETS1.C: Optimizing the Design Solution</b></p> <ul style="list-style-type: none"> <li>Because there is always more than one possible solution to a problem, it is useful to compare and test designs.</li> </ul> <p><b>FOSS Materials and Motion</b> IG: pp. 217, 253 (Step 9), 316 SRB: pp. 10-11</p>	<p><b>•Patterns</b> Patterns in the natural world and human-designed world can be observed, used to describe phenomena, and used as evidence.</p> <p><b>FOSS Animals Two by Two</b> IG: pp. 183, 184 SRB: pp. 47</p> <p><b>FOSS Materials and Motion</b> IG: pp. 86, 108, 162, 218, 272, 288, 297, 298</p> <p><b>•Cause and Effect</b> Events have causes that generate observable patterns. Simple tests can be designed to gather evidence to support or refute student ideas about causes.</p> <p><b>FOSS Materials and Motion</b> 116, 119, 124, 184-185, 192-193, 257-259, 286-288, 297-298</p> <p><b>•Structure and Function</b> The shape and stability of structures of natural and designed objects are related to their function(s).</p> <p><b>FOSS Animals Two by Two</b> IG: pp. 76, 85, 88-89, 98, 187, 217 (Step 10), 219 SRB: pp. 37-38, 43-44 TR: D7, D9</p> <p><b>FOSS Materials and Motion</b> IG: pp. 86, 162, 175, 177, 218, 257, 259 SRB: pp. 3-8, 9-12, 15-18</p>

IG: Investigations Guide • TR: Teacher Resources • SRB: Student Science Resources Book • DOR: Digital-Only Resources  
EA: Embedded Assessment • BM: Benchmark Assessment • IA: Interim Assessment

First

# Waves: Light and Sound

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.1.1

Students who demonstrate understanding can:

**Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.**

### FOSS Sound and Light

**IG:** pp. 47, 49, 80, 92 (Step 6), 93, 97, 106 (Step 11), 109 (Step 21), 128, 131, 154 (Step 9), 155 (Step 11)

**EA:** Notebook Entry, IG p. 97 (Step 18), IG p. 111 (Step 25), IG p. 156 (Step 14,) IG p. 164 (Step 15)

**EA:** Performance Assessment, IG p. 106 (Step 10), IG p. 137 (Step 10), IG p. 164 (Step 11)

**BM:** pp. 2-3 (Items 1-2), pp. 4-5 (Item 3), pp. 6-7 (Item 4), pp. 8-9 (Item 1), pp. 10-11 (Item 3)

**SRB:** pp. 6, 9, 25

### Science and Engineering Practices

#### Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.

- Plan and conduct investigations collaboratively to produce data to serve as the basis for evidence to answer a question.

#### FOSS Sound and Light

**IG:** pp. 81, 91, 95, 105, 106, 115, 129, 136, 153

**SRB:** pp. 7, 32

**TR:** pp. C14-C17, C36-C39

### Disciplinary Core Ideas

#### PS4.A: Wave Properties

- Sound can make matter vibrate, and vibrating matter can make sound.

#### FOSS Sound and Light

**IG:** pp.80, 92 (Step 6), 93, 97, 106 (Step 11), 109 (Step 21), 128, 131, 154 (Step 9), 155 (Step 11)

**SRB:** pp. 6, 9, 25

**DOR:** All about Sound

### Crosscutting Concepts

#### Cause and Effect

- Simple tests can be designed to gather evidence to support or refute student ideas about causes.

#### FOSS Sound and Light

**IG:** pp. 82, 92, 95, 106, 109, 130, 137

**TR:** pp. D6-D9, D10-D12

## Connections to Nature of Science

### Scientific Investigations Use a Variety of Methods

- Science investigations begin with a question. (1-PS4-1)
- Scientists use different ways to study the world. (1-PS4-1)

### FOSS Sound and Light

**IG:** pp. 82, 90, 92, 93, 110, 147, 152-153, 163

**SRB:** pp. 8-14

First

# Waves: Light and Sound

The following FOSS program elements address the performance expectations, science and engineering practices, disciplinary core ideas, and crosscutting concepts indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.1.2

Students who demonstrate understanding can:

**Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated.**

### FOSS Sound and Light

**IG:** pp. 47, 50, 50-51, 213, 215, 236-237 (Step 10), 234, 240 (Step 16), 246, 248, 254 (Step 2)

**EA:** Notebook Entry, IG p. 240 (Step 17)

**EA:** Performance Assessment, IG p. 236 (Step 10), IG p. 240 (Step 18)

**BM:** pp. 22-23 (Item 4), pp. 26-27 (Item 2), pp. 28-29 (Item 5)

**SRB:** p. 57

### Science and Engineering Practices

#### Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.

- Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena.

#### FOSS Sound and Light

**IG:** pp. 213, 236, 239-240

**SRB:** p. 60

**TR:** pp. C23-C26, C44-C45

### Disciplinary Core Ideas

#### PS4.B: Electromagnetic Radiation

- Objects can be seen if light is available to illuminate them or if they give off their own light.

#### FOSS Sound and Light

**IG:** pp. 50, 50-51, 213, 215, 236-237 (Step 10), 234, 240 (Step 16), 246, 248, 254 (Step 2)

**SRB:** p. 57

**DOR:** Light and Darkness

### Crosscutting Concepts

#### Cause and Effect

- Simple tests can be designed to gather evidence to support or refute student ideas about causes.

#### FOSS Sound and Light

**IG:** pp. 214, 236, 244

**TR:** pp. D6-D9, D10-D12



First

# Waves: Light and Sound

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.1.3

Students who demonstrate understanding can:

**Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.**

### FOSS Sound and Light

**IG:** pp. 30, 46-47, 50-51, 175, 177, 182 (Step 13), 189 (Step 13), 191 (Steps 17-18), 192 (Step 18), 199 (Steps 11 and 13), 208

**EA:** Notebook Entry, IG p. 182 (Step 14), IG p. 183 (Step 15), IG p. 200 (Step 14)

**EA:** Performance Assessment, IG p. 188 (Step 8)

**BM:** pp. 16-17 (Item 1), pp. 18-19 (Item 2), pp. 20-21 (Item 3), pp. 24-25 (Item 1), pp. 28-29 (Item 5)

**SRB:** p. 43

### Science and Engineering Practices

#### Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.

- Plan and conduct investigations collaboratively to produce data to serve as the basis for evidence to answer a question.

#### FOSS Sound and Light

**IG:** pp. 175, 181, 186, 188, 198, 213, 220, 222, 227

**SRB:** pp. 44-45

**TR:** pp. C14-C17, C36-C39

### Disciplinary Core Ideas

#### PS4.B: 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.

#### FOSS Sound and Light

**IG:** pp. 30, 46-47, 50-51, 175, 177, 182 (Step 13), 189 (Step 13), 191 (Steps 17-18), 192 (Step 18), 199 (Steps 11 and 13), 208

**SRB:** p. 43

**DOR:** Light and Shadows

All about Light My Shadow

### Crosscutting Concepts

#### Cause and Effect

- Simple tests can be designed to gather evidence to support or refute student ideas about causes.

#### FOSS Sound and Light

**IG:** pp. 176, 181, 188, 196, 214, 220, 221, 222, 230,

**SRB:** pp. 41, 42

**TR:** pp. D6-D9, D10-D12

First

# Waves: Light and Sound

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.1.4

Students who demonstrate understanding can:

**Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.\***

### FOSS Sound and Light

**IG:** pp. 47, 49, 51, 128,163, 212, 248 (Step 20), 249, 247 (Step 13)

**EA:** Notebook Entry, IG p. 164 (Step 15), IG p. 247 (Step 19)

**EA:** Performance Assessment, IG p. 164 (Step 11), IG p. 246 (Step 8)

**BM:** pp. 28-29 (Item 5); pp. 30-31 (Item 6)

**SRB:** pp. 69-75

### Science and Engineering Practices

#### Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.

- Use tools and materials provided to design a device that solves a specific problem.

#### FOSS Sound and Light

**IG:** pp. 129, 161, 162, 163, 164, 213, 247

**TR:** pp. C23-C26, C44-C45

### Disciplinary Core Ideas

#### PS4.C: Information Technologies and Instrumentation

- People also use a variety of devices to communicate (send and receive information) over long distances.

#### FOSS Sound and Light

**IG:** pp. 128,163, 212, 248 (Step 20), 249, 247 (Step 13),

**SRB:** pp. 69-75

### Crosscutting Concepts

#### Connections to Engineering, Technology, and Applications of Science

Influence of Engineering, Technology, and Science on Society and the Natural World

- People depend on various technologies in their lives; human life would be very different without technology.

#### FOSS Sound and Light

**IG:** pp. 249 (Step 22)

**SRB:** p. 76

**IG:** Investigations Guide • **TR:** Teacher Resources • **SRB:** Student Science Resources Book • **DOR:** Digital-Only Resources  
**EA:** Embedded Assessment • **BM:** Benchmark Assessment • **IA:** Interim Assessment

First

# Structure, Function, and Information Processing

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.1.5

Students who demonstrate understanding can:

**Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.**

### FOSS Plants and Animals

**IG:** pp. 45, 49, 213 (Step 12), 214, 228, 231, 255 (Step 21), 256

**EA:** Notebook Entry, IG p. 255 (Step 19)

**EA:** Performance Assessment, IG p. 254 (Step 16)

**BM:** pp. 21-22 (Item 4)

### Science and Engineering Practices

#### Obtaining, Evaluating, and Communicating Information

Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.

- Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world.

### FOSS Plants and Animals

**IG:** pp. 229, 254 (Step 16), 255

**SRB:** pp. 71-84

**DOR:** *Animal Offspring and Caring for Animals*

**TR:** pp. C32-C33, C46-C47

### Disciplinary Core Ideas

#### LS1.B: 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.

### FOSS Plants and Animals

**IG:** pp. 213 (Step 12), 214, 228, 231, 255 (Step 21), 256

**DOR:** “Find the Parent”

*Animal Offspring and Caring for Animals*

### Crosscutting Concepts

#### Patterns

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

### FOSS Plants and Animals

**IG:** pp. 230, 253 (Step 14), 255 (Steps 20 and 21)

**TR:** pp. D6-D9, D26-D27

## Connections to Nature of Science

### Scientific Knowledge is Based on Empirical Evidence

- Scientists look for patterns and order when making observations about the world. (1-LS1-2)

### FOSS Plants and Animals

**IG:** pp. 230, 247, 253

First

# Structure, Function, and Information Processing

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.1.6

Students who demonstrate understanding can:

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

### FOSS Plants and Animals

**IG:** pp. 45, 47, 49, 76, 122, 123, 124, 125 (Step 17), 229, 252 (Step 8), 253 (Step 14)

**EA:** Notebook Entry, IG p. 124 (Step 16)

**EA:** Performance Assessment, IG p. 122 (Step 10), IG p. 125 (Step 17), IG p. 245 (Steps 17-18)

**BM:** pp. 4-5 (Items 3-4), pp. 8-9 (Item 2), pp. 10-11 (Item 3), pp. 14-15 (Item 3), pp. 20-21 (Item 3)

**SRB:** pp. 20, 21, 22, 26

### Science and Engineering Practices

#### Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.

- Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena.

#### FOSS Plants and Animals

**IG:** pp. 122 (Step 10), 124 (Step 15), 245, 253, 255 (Step 21)

**SRB:** pp. 23-25

**DOR:** Find the Parent

**TR:** pp. C23-C26, C44-C45

### Disciplinary Core Ideas

#### LS3.A: 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.

#### FOSS Plants and Animals

**IG:** pp. 228, 245 (Step 18), 247, 255, (Step 20)

**DOR:** Animal Offspring and Caring for Animals

#### LS3.B: Variation of Traits

- Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (1-LS3-1)

#### FOSS Plants and Animals

**IG:** pp. 76, 122, 123, 124, 125 (Step 17), 229, 252 (Step 8), 253 (Step 14)

**SRB:** pp. 20, 21, 22, 26

**DOR:** Animal Growth

### Crosscutting Concepts

#### Patterns

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

#### FOSS Plants and Animals

**IG:** pp. 78, 122, 230, 252 (Step 8), 253 (Step 14)

**TR:** pp. D6-D9, D26-D27

First

# Structure, Function, and Information Processing

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.1.7

Students who demonstrate understanding can:

**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\***

### FOSS Plants and Animals

**IG:** pp. 45, 47, 49, 98 (Step 2), 111 (Step 14), 116 (Step 25), 134, 142 (Step 6), 172, 206 (Step 13), 216 (Step 18), 244, 245, 246 (Step 20)

**EA:** Performance Assessment, IG p. 215 (Step 17), IG p. 217 (Step 19)

**BM:** pp. 6-7 (Item 5), pp. 16-17 (Item 4), pp. 18-19 (Item 2)

**SRB:** pp. 57-70

### Science and Engineering Practices

#### Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.

- Use materials to design a device that solves a specific problem or a solution to a specific problem.

#### FOSS Plants and Animals

**IG:** pp. 217 (Step 19), 165, 166, 173, 175, 180, 181, 182

**TR:** pp. C23-C26, C44-C45

### Disciplinary Core Ideas

#### LS1.A: 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.

#### FOSS Plants and Animals

**IG:** pp. 98 (Step 2), 111 (Step 14), 116 (Step 25), 134, 142 (Step 6), 172, 206 (Step 13), 216 (Step 18), 244, 245, 246 (Step 20)

**SRB:** pp. 57-70

**DOR:** “Animal Structure Sort”

“Watch it Grow”

#### LS1.D: Information Processing

- Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. (1-LS1-1)

#### FOSS Plants and Animals

**IG:** pp. 172, 175, 206 (Step 13), 216 (Step 18)

**DOR:** Animal Growth  
“Animal Structure Sort”

#### FOSS Sound and Light

**SRB:** pp. 15-23, 60-68

### Crosscutting Concepts

#### Structure and Function

- The shape and stability of structures of natural and designed objects are related to their function(s).

#### FOSS Plants and Animals

**IG:** pp. 98, 102, 110, 136, 145, 174, 206, 216

**TR:** pp. D19-D21, D30-D31

First

# Space Systems: Patterns and Cycles

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.1.8

Students who demonstrate understanding can:

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

**FOSS Air and Weather**

**IG:** pp. 49, 51, 53, 135, 142, 145, 161 (Step 17), 179 (Step 3), 180, 181, 182 (Step 13), 184, 185 (Step 19), 245, 251, 257

**EA:** Notebook Entry, IG p. 183 (Step 16), IG p. 185 (Step 20), IG p. 251 (Step 11)

**EA:** Performance Assessment, IG p. 183 (Step 14), IG p. 250 (Steps 10 and 12)

**BM:** pp. 11-12 (Item 2), pp. 13-14 (Item 3), pp. 24-25 (Item 2), pp. 26-27 (Item 3)

**SRB:** pp. 26-28, 33-36

### Science and Engineering Practices

#### Analyzing and Interpreting Data

Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.

- Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions.

**FOSS Air and Weather**

**IG:** pp. 143, 183, 243, 249, 250

**SRB:** p. 37

**TR:** pp. C18-C20, C40-C43

### Disciplinary Core Ideas

#### ESS1.A: The Universe and its Stars

- Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted.

**FOSS Air and Weather**

**IG:** pp. 135, 142, 145, 161 (Step 17), 179 (Step 3), 180, 181, 182 (Step 13), 184, 185 (Step 19), 245, 251, 257

**SRB:** pp. 26-28, 33-36

### Crosscutting Concepts

#### Patterns

- Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.

**FOSS Air and Weather**

**IG:** pp. 144, 161 (Step 17), 183, 184 (Step 17), 185, 244, 249, 251

**SRB:** pp. 30, 37

**TR:** pp. D6-D9, D26-D27

## Connections to Nature of Science

### Scientific Knowledge Assumes an Order and Consistency in Natural Systems

- Science assumes natural events happen today as they happened in the past. (1-ESS1-1)
- Many events are repeated. (1-ESS1-1)

**FOSS Air and Weather**

**IG:** pp. 37, 144, 161 (Step 19),

184 (Step 17), 256 (Step 7) 263, 264, 265

**SRB:** pp. 28, 29, 33-36

First

# Space Systems: Patterns and Cycles

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.1.9

Students who demonstrate understanding can:

**Make observations at different times of year to relate the amount of daylight to the time of year.**

### FOSS Air and Weather

**IG:** pp. 49, 51, 53, 242, 245, 255, 257, 264 (Step 10), 265, 266

**EA:** Notebook Entry, IG p. 256 (Step 10)

**EA:** Performance Assessment, IG p. 256 (Step 6), IG p. 266 (Step 13)

**BM:** pp. 26-27 (Item 4)

**SRB:** pp. 55-58

### Science and Engineering Practices

#### Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.

- Make observations (firsthand or from media) to collect data that can be used to make comparisons.

#### FOSS Air and Weather

**IG:** pp. 243, 255 (Step 5), 256 (Steps 7 and 8)

**TR:** pp. C14-C17, C36-C39

### Disciplinary Core Ideas

#### ESS1.B: Earth and the Solar System

- Seasonal patterns of sunrise and sunset can be observed, described, and predicted.

#### FOSS Air and Weather

**IG:** pp. 242, 245, 255, 257, 264 (Step 10), 265, 266

**SRB:** pp. 55-58

### Crosscutting Concepts

#### Patterns

- Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.

#### FOSS Air and Weather

**IG:** pp. 244, 255, 263, 264 (Step 10), 265, 266 (Step 13)

**TR:** pp. D6-D9, D26-D27

**IG:** Investigations Guide • **TR:** Teacher Resources • **SRB:** Student Science Resources Book • **DOR:** Digital-Only Resources  
**EA:** Embedded Assessment • **BM:** Benchmark Assessment • **IA:** Interim Assessment



First

# Engineering Design

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.1.10

*Students who demonstrate understanding can:*

**Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.**

### **FOSS Sound and Light**

IG: pp. 49, 51, 160 (Step 4), 163 (Steps 8-9), 164 (Steps 11-13), 165, 243 (Step 5), 245 (Step 5), 246 (Step 1), 249 (Step 22)

EA: *Notebook Entry*, IG p. 164 (Step 15), IG p. 247 (Step 19)

EA: *Performance Assessment*, IG p. 164 (Step 11), IG p. 246 (Step 8)

### **FOSS Air and Weather**

IG: p. 51, 84, 100, (Step 3), 101 (Step 5), 104, 109

EA: *Notebook Entry*, IG p. 109 (Step 27)

EA: *Performance Assessment*, IG p. 108 (Step 23), IG p. 109 (Step 25)

BM: pp. 8-9 (Item 6)

## Science and Engineering Practices

### **Asking Questions and Defining Problems**

Asking questions and defining problems in K–2 builds on prior experiences and progresses to simple descriptive questions.

- Ask questions based on observations to find more information about the natural and/or designed world(s).

### **FOSS Sound and Light**

IG: pp. 129, 161, 164, 213, 246, 247 (Step 13)

SRB: pp. 70-73

### **FOSS Air and Weather**

IG: pp. 84, 100, 101, 109

SRB: p. 6

TR: pp. C7-C10, C34-C35

## Disciplinary Core Ideas

### **ETS1.A: Defining and Delimiting Engineering Problems**

- A situation that people want to change or create can be approached as a problem to be solved through engineering.
- Asking questions, making observations, and gathering information are helpful in thinking about problems.
- Before beginning to design a solution, it is important to clearly understand the problem.

### **FOSS Sound and Light**

IG: pp. 160 (Step 4), 163 (Steps 8-9), 164 (Steps 11-13), 165, 243 (Step 5), 245 (Step 5), 246 (Step 1), 249 (Step 22)

SRB: p. 76

### **FOSS Air and Weather**

IG: pp. 84, 100, (Step 3), 101 (Step 5), 104, 109

DOR: Friction and Air Resistance

## Crosscutting Concepts

### **Cause and Effect**

Events have causes that generate observable patterns. Simple tests can be designed to gather evidence to support or refute students' ideas about causes.

### **FOSS Sound and Light**

IG: pp. 137 (Steps 12 and 13), 214, 220, 222

### **Patterns**

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

### **FOSS Sound and Light**

IG: pp. 145, 214

SRB: pp. 28-29

### **Structure and Function**

The shape and stability of structures of natural and designed objects are related to their functions.

### **FOSS Air and Weather**

IG: p. 85, 108-109

### **FOSS Sound and Light**

IG: pp. 123, 164

IG: Investigations Guide • TR: Teacher Resources • SRB: Student *Science Resources* Book • DOR: Digital-Only Resources  
EA: Embedded Assessment • BM: Benchmark Assessment • IA: Interim Assessment

First

# Engineering Design

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.1.11

Students who demonstrate understanding can:

Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

### FOSS Sound and Light

IG: pp. 49, 51, 161 (Step 1), 162 (Step 5), 164 (Step 12), 243, 247 (Steps 15 and 19)

EA: *Notebook Entry*, IG p. 164 (Step 12) IG p. 247 (Step 15)

EA: *Performance Assessment*, IG p. 164 (Step 11), IG p. 246 (Step 8)

### FOSS Air and Weather

IG: p. 50-51, 109

EA: *Notebook Entry*, IG p. 109 (Step 26)

EA: *Performance Assessment*, IG p. 109 (Steps 24-25)

BM: pp. 8-9 (Item 6)

### FOSS Plants and Animals

IG: p. 49, 172, 180 (Step 9), 181, 217

EA: *Notebook Entry*, IG p. 217 (Step 19)

EA: *Performance Assessment*, IG p. 181 (Step 12)

BM: pp. 278-279 (Item 1), pp. 282-283 (Item 4)

## Science and Engineering Practices

### Developing and Using Models

Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.

- Develop a simple model based on evidence to represent a proposed object or tool. (K–2-ETS1-2)

### FOSS Sound and Light

IG: pp. 93 (Step 9), 110 (Step 22), 139 (Step 18), 161

(Step 2), 162, 163, 245, 246, 247 (Step 15)

SRB: pp. 6, 9

### FOSS Air and Weather

IG: pp. 84, 105 (Step 17), 109

### FOSS Plants and Animals

IG: pp. 173, 181, 217 (Step 19)

TR: pp. C11-C13, C34-C37

## Disciplinary Core Ideas

### ETS1.B: Developing Possible Solutions

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

### FOSS Sound and Light

IG: pp. 161 (Step 1), 162 (Step 5), 164 (Step 12),

243, 247 (Steps 15 and 19)

### FOSS Air and Weather

IG: pp. 50-51, 109

SRB: p. 6

### FOSS Plants and Animals

IG: pp. 172, 180 (Step 9), 181, 217

## Crosscutting Concepts

### Structure and Function

The shape and stability of structures of natural and designed objects are related to their function(s). (K–2-ETS1-2)

### FOSS Sound and Light

IG: pp. 140 (Step 19)

### FOSS Air and Weather

IG: pp. 85, 109

### FOSS Plants and Animals

IG: pp. 174, 181, 192-193, 196, 217

### Systems and System Models

Objects and organisms can be described in terms of their parts. Systems in the natural and human designed world have parts that work together.

### FOSS Plants and Animals

IG: pp. 174, 181, 192

### FOSS Sound and Light

IG: pp. 146, 164, 244, 246

IG: Investigations Guide • TR: Teacher Resources • SRB: Student *Science Resources* Book • DOR: Digital-Only Resources  
EA: Embedded Assessment • BM: Benchmark Assessment • IA: Interim Assessment

First

# Engineering Design

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.1.12

Students who demonstrate understanding can:

**Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.**

### FOSS Sound and Light

IG: pp. 49, 51, 164 (Step 13), 247 (Step 16)

EA: *Notebook Entry*, IG p. 164 (Step 15), IG p. 247 (Step 16)

EA: *Performance Assessment*, IG p. 164 (Step 13), IG p. 246 (Step 8)

BM: pp. 30-31 (Item 6)

### FOSS Air and Weather

IG: p. 51, 83, 101, 102, 108,109

EA: *Notebook Entry*, IG p. 109 (Step 27)

EA: *Performance Assessment*, IG p. 109 (Step 25)

BM: pp. 8-9 (Item 6)

## Science and Engineering Practices

### Analyzing and Interpreting Data

Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.

- Analyze data from tests of an object or tool to determine if it works as intended. (K–2-ETS1-3)

### FOSS Sound and Light

IG: pp. 164 (Step 13), 246, 247 (Step 16), 248

### FOSS Air and Weather

IG: pp. 84, 105 (Step 16), 109

TR: pp. C18-C20, C40-C43

## Disciplinary Core Ideas

### ETS1.C: Optimizing the Design Solution

- Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (K–2-ETS1-3)

### FOSS Sound and Light

IG: pp. 164 (Step 13), 247 (Step 16)

### FOSS Air and Weather

IG: pp. 83, 101, 102, 108,109

## Crosscutting Concepts

### Cause and Effect

Events have causes that generate observable patterns. Simple tests can be designed to gather evidence to support or refute students' ideas about causes.

### FOSS Sound and Light

IG: pp. 146, 244 (Steps 1-2)

### FOSS Air and Weather

IG: pp. 85, 94, 96, 102-103 (Step 8), 130

### Patterns

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

### FOSS Sound and Light

IG: pp. 144 (Step 5), 145 (Steps 12-13), 146, 190-191, 239

SRB: pp. 33-37, 40-43, 62-68

TR: D8

### Systems and Models

Objects and organisms can be described in terms of their parts. Systems in the natural and designed world have parts that work together.

### FOSS Sound and Light

IG: pp. 146, 164 (Step 11), 246 (Step 8)

IG: Investigations Guide • TR: Teacher Resources • SRB: Student *Science Resources* Book • DOR: Digital-Only Resources  
EA: Embedded Assessment • BM: Benchmark Assessment • IA: Interim Assessment

Second

# Structure and Properties of Matter

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Performance Expectation 2-PS1-1

Students who demonstrate understanding can:

**Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.**

### FOSS Solids and Liquids

**IG:** pp. 43, 45, 47, 94, 101 (Step 11), 108, 109, 123, 128, 147, 155, 156, 183, 193

**EA:** *Notebook Entry*, IG p. 90 (Step 14), IG p. 101 (Step 13), IG p. 157 (Step 18), IG p. 194 (Step 16), IG p. 245 (Step 23), IG p. 252 (Step 13)

**EA:** *Performance Assessment*, IG p. 107 (Step 7), IG p. 148 (Step 7), IG p. 205 (Step 7)

**BM:** p. 2-3 (Item 1), pp. 6-7 (Item 5), pp. 8-9 (Item 1), pp. 10-11 (Item 3), pp. 14-15 (Items 1-2), pp. 16-17 (Item 3), pp. 18-19 (Item 1)

**SRB:** pp. 10, 14-19, 31-32, 40-42, 46-47, 49, 50

## Science and Engineering Practices

### Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.

- Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question.

### FOSS Solids and Liquids

**IG:** pp. 77, 86, 100, 107, 122, 139, 147, 148, 162, 170, 183, 191, 199, 217, 233, 240, 242

**TR:** pp. C14-C16, C34-C37

## Disciplinary Core Ideas

### PS1.A: Structure and Properties of Matter

- Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties.

### FOSS Solids and Liquids

**IG:** pp. 94, 101 (Step 11), 108, 109, 123, 128, 147, 155, 156, 183, 193

**SRB:** pp. 10, 14-19, 31-32, 40-42, 46-47, 49, 50

**DOR:** *All About the Properties of Matter*

*Properties of Materials*

*Clothing and Building Materials*

## Crosscutting Concepts

### Patterns

- Patterns in the natural and human designed world can be observed.

### FOSS Solids and Liquids

**IG:** pp. 78, 107, 140, 148, 184, 205, 211

**SRB:** pp. 44-46, 52-53

**TR:** pp. D6-D8, D26-D27

Second

# Structure and Properties of Matter

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.2.2

Students who demonstrate understanding can:

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

### FOSS Solids and Liquids

**IG:** pp. 43, 45, 47, 77, 102 (Step 15), 113 (Step 1), 117 (Step 15), 118, 119 (Step 24), 277 (Step 10)

**EA:** *Notebook Entry*, IG p. 211 (Step 7)

**EA:** *Performance Assessment*, IG: p. 115 (Step 8), IG p. 199 (Step 8)

**BM:** pp. 4-5 (Item 3), pp. 6-7 (Item 4)

**SRB:** pp. 18, 19, 22-25, 26-30

### Science and Engineering Practices

#### Analyzing and Interpreting Data

Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.

- Analyze data from tests of an object or tool to determine if it works as intended.

#### FOSS Solids and Liquids

**IG:** pp. 78, 114 (Step 6), 116 (Step 13), 119 (Step 23)

**TR:** pp. C17-C19, C38-C41

### Disciplinary Core Ideas

#### PS1.A: Structure and Properties of Matter

- Different properties are suited to different purposes.

#### FOSS Solids and Liquids

**IG:** pp. 77, 102 (Step 15), 113 (Step 1), 117 (Step 15), 118, 119 (Step 24), 277 (Step 10)

**SRB:** pp. 18, 19, 22-25, 26-30

**DOR:** *Properties of Materials  
Clothing and Building Materials*

### Crosscutting Concepts

#### Cause and Effect

- Simple tests can be designed to gather evidence to support or refute student ideas about causes.

#### FOSS Solids and Liquids

**IG:** pp. 114 (Step 7), 116, 117 (Step 15)

**TR:** pp. D9-D11, D26-D27

## Connections to Engineering, Technology, and Applications of Science

### Influence of Engineering, Technology, and Science on Society and the Natural World

- Every human-made product is designed by applying some knowledge of the natural world and is built by using natural materials. (2-PS1-2)

#### FOSS Solids and Liquids

**IG:** pp. 78, 113, 116 (Step 13), 117 (Step 16), 124, 125

**SRB:** pp. 14-17

Second

# Structure and Properties of Matter

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.2.3

Students who demonstrate understanding can:

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

### FOSS Solids and Liquids

**IG:** pp. 43, 45, 47, 77, 113, 115, 116, 118, 119, 217

**EA:** Performance Assessment, IG p. 115 (Step 8), IG p. 118 (Step 21)

**BM:** pp. 6-7 (Item 4)

**SRB:** pp. 12, 13, 17, 20

### Science and Engineering Practices

#### Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.

- Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena.

### FOSS Solids and Liquids

**IG:** pp. 78, 115, 117

**TR:** pp. C22-C24, C42-C45

### Disciplinary Core Ideas

#### PS1.A: Structure and Properties of Matter

- Different properties are suited to different purposes.
- A great variety of objects can be built up from a small set of pieces.

### FOSS Solids and Liquids

**IG:** pp. 77, 113, 115, 116, 118, 119, 217

**SRB:** pp. 12, 13, 17, 20

### Crosscutting Concepts

#### Energy and Matter

- Objects may break into smaller pieces and be put together into larger pieces or change shapes.

### FOSS Solids and Liquids

**IG:** pp. 102, 103, 114 (Step 7), 234, 266

**TR:** pp. D16-D17, D28-D29

Second

# Structure and Properties of Matter

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.2.4

Students who demonstrate understanding can:

**Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.**

### FOSS Solids and Liquids

**IG:** pp. 43, 47, 227, 233, 235, 242 (Step 12), 243 (Step 15), 266 (Step 8), 267, 268, 269, 270, 271, 272

**EA:** *Notebook Entry*, IG p. 245 (Step 23), IG p. 252 (Step 13), IG p. 269 (Step 19)

**EA:** *Performance Assessment*, IG p. 259 (Step 11)

**BM:** pp. 20-21 (Item 2), pp. 22-23 (Item 3), pp. 24-25 (Item 4)

**SRB:** pp. 62-67, 68-76

### Science and Engineering Practices

#### Engaging in Argument from Evidence

Engaging in argument from evidence in K–2 builds on prior experiences and progresses to comparing ideas and representations about the natural and designed world(s)

- Construct an argument with evidence to support a claim.

#### FOSS Solids and Liquids

**IG:** pp. 233, 242-243 (Step 14), 259, 268, 272 (Step 26)

**TR:** pp. C25-C29, C44-C45

### Disciplinary Core Ideas

#### PS1.B: Chemical Reactions

- Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not.

#### FOSS Solids and Liquids

**IG:** 227, 233, 235, 242 (Step 12), 243 (Step 15), 266 (Step 8), 267, 268, 269, 270, 271, 272

**SRB:** pp. 62-67, 68-76

**DOR:** *Solids and Liquids*

*Change It!*

### Crosscutting Concepts

#### Cause and Effect

- Events have causes that generate observable patterns.

#### FOSS Solids and Liquids

**IG:** pp. 234, 244, 245, 258, 259, 265, 266, 267, 268, 270

**TR:** pp. D9-D11, D26-D27

## Connections to Nature of Science

### Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena

- Science searches for cause and effect relationships to explain natural events.

#### FOSS Solids and Liquids

**IG:** pp. 234, 246, 266, 267, 269, 272

**SRB:** p. 64



Second

# Interdependent Relationships in Ecosystems

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.2.5

Students who demonstrate understanding can:

**Plan and conduct an investigation to determine if plants need sunlight and water to grow.**

### FOSS *Insects and Plants*

**IG:** pp. 45 and 47

**EA:** *Notebook Entry*, IG p. 146 (Steps 10-11)

**EA:** *Performance Assessment*, IG p. 153 (Step 6)

**BM:** pp. 6-7 (Items 2-3), pp. 12-13 (Item 6), pp. 16-17 (Items 4-6), pp. 26-27 (Item 5)

### Science and Engineering Practices

#### Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.

- Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question.

### FOSS *Insects and Plants*

**IG:** pp. 127, 128, 135, 144, 146-147, 152-153, 157, 174

**TR:** pp. C14-C16, C34-C37

### Disciplinary Core Ideas

#### LS2.A: Interdependent Relationships in Ecosystems

- Plants depend on water and light to grow.

### FOSS *Insects and Plants*

**IG:** pp. 100-101 (Step 21), 145, 146 (Step 14), 147 (Step 15), 155-156 (Step 12), 157 (Steps 16 and 17), 173 (Step 2)

**SRB:** pp. 6-8

**DOR:** *How Plants Grow*

### Crosscutting Concepts

#### Cause and Effect

- Events have causes that generate observable patterns.

### FOSS *Insects and Plants*

**IG:** pp. 136, 148, 156, 157, 159

**TR:** pp. D9-D11, D26-D27

**IG:** Investigations Guide • **TR:** Teacher Resources • **SRB:** Student *Science Resources* Book • **DOR:** Digital-Only Resources  
**EA:** Embedded Assessment • **BM:** Benchmark Assessment • **IA:** Interim Assessment

Second

# Interdependent Relationships in Ecosystems

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.2.6

Students who demonstrate understanding can:

Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.\*

**FOSS Insects and Plants**

**IG:** pp. 45, 47, 49, 157, 158 (Steps 19-22), 165, 177, 178 (Step 21)

**EA:** Performance Assessment, IG p. 315 (Step 8), IG p. 315 (Step 14, 15)

**BM:** pp. 10-11 (Item 5), pp. 24-25 (Item 4)

**SRB:** pp. 27-34, 39

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.</p> <ul style="list-style-type: none"> <li>Develop a simple model based on evidence to represent a proposed object or tool.</li> </ul> <p><b>FOSS Insects and Plants</b> <b>IG:</b> pp. 135, 178, 287, 315, 317 <b>TR:</b> pp. C11-C13, C32-C33</p>	<p><b>LS2.A: Interdependent Relationships in Ecosystems</b></p> <ul style="list-style-type: none"> <li>Plants depend on animals for pollination or to move their seeds around.</li> </ul> <p><b>FOSS Insects and Plants</b> <b>IG:</b> pp. 157, 158 (Steps 19-22), 165, 177, 178 (Step 21) <b>SRB:</b> pp. 27-34, 39 <b>DOR:</b> <i>How Seeds get Here ... and There</i> <i>What Is Pollination?</i></p> <p><b>ETS1.B: Developing Possible Solutions</b></p> <ul style="list-style-type: none"> <li>Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem’s solutions to other people. (secondary to 2-LS2-2)</li> </ul> <p><b>FOSS Insects and Plants</b> <b>IG:</b> pp. 178, 287, 315, 317, 318</p>	<p><b>Structure and Function</b></p> <ul style="list-style-type: none"> <li>The shape and stability of structures of natural and designed objects are related to their function(s).</li> </ul> <p><b>FOSS Insects and Plants</b> <b>IG:</b> pp. 84, 85, 158, 162, 163, 165, 168, 175, 177, 178, 190, 288 <b>TR:</b> pp. D18-D20, D30-D31</p>

**IG:** Investigations Guide • **TR:** Teacher Resources • **SRB:** Student Science Resources Book • **DOR:** Digital-Only Resources  
**EA:** Embedded Assessment • **BM:** Benchmark Assessment • **IA:** Interim Assessment

Second

# Interdependent Relationships in Ecosystems

The following FOSS program elements address standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.2.7

Students who demonstrate understanding can:

**Make observations of plants and animals to compare the diversity of life in different habitats**

### FOSS Insects and Plants

**IG:** pp. 45, 47, 49, 107, 112-115, 176, 205, 218, 255, 256, 264, 270, 300, 318

**EA:** Notebook Entry, IG p. 120 (Step 9), IG p. 121 (Step 12) IG p. 306 (Step 11)

**EA:** Performance Assessment, IG p. 107 (Step 5)

**BM:** pp. 2-3 (Item 2), pp. 4-5 (Items 3-5), pp. 14-15 (Items 1 and 3), pp. 18-19 (Item 1), pp. 20-21 (Item 3), pp. 22-23 (Items 1-2), pp. 24-25 (Item 3)

**SRB:** pp. 18-26, 35-40, 41-45

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <ul style="list-style-type: none"> <li>Make observations (firsthand or from media) to collect data, which can be used to make comparisons.</li> </ul> <p><b>FOSS Insects and Plants</b> <b>IG:</b> pp. 107, 176, 189, 201, 219, 237, 245, 251, 271, 315 <b>TR:</b> pp. C14-C16, C34-C37</p>	<p><b>LS4.D: Biodiversity and Humans</b></p> <ul style="list-style-type: none"> <li>There are many different kinds of living things in any area, and they exist in different places on land and in water.</li> </ul> <p><b>FOSS Insects and Plants</b> <b>IG:</b> pp. 107, 112-115, 176, 205, 218, 255, 256, 264, 270, 300, 318 <b>SRB:</b> pp. 18-26, 35-40, 41-45 <b>DOR:</b> All About Water Ecosystems <i>Bugs</i> <i>Habitat Gallery</i> <i>Habitat Havoc</i> <i>House and Backyard Insects</i> <i>Where Does It Live?</i></p>	<p><b>Patterns</b> Patterns in the natural and designed world can be observed, used to describe phenomena, and used as evidence.</p> <p><b>FOSS Insects and Plants</b> <b>IG:</b> pp. 120-121, 153, 176 (Steps 14-17), 211, 254, 272, 293, 307, 309</p> <p><b>Structure and Function</b> The shape and stability of structures of natural and designed objects are related to their functions.</p> <p><b>FOSS Insects and Plants</b> <b>IG:</b> pp. 94, 107, 115, 163, 168, 210, 221, 254, 295, 307, 315 (Step 8), 317</p>

## Connections to the Nature of Science

### Scientific Knowledge is Based on Empirical Evidence

- Scientists look for patterns and order when making observations about the world. (2-LS4-1)

### FOSS Insects and Plants

**IG:** pp. 93, 100, 113, 121, 190, 218, 220, 224

**IG:** Investigations Guide • **TR:** Teacher Resources • **SRB:** Student Science Resources Book • **DOR:** Digital-Only Resources  
**EA:** Embedded Assessment • **BM:** Benchmark Assessment • **IA:** Interim Assessment

Second

# Earth's Systems: Processes that Shape the Earth

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.2.8

Students who demonstrate understanding can:

**Use information from several sources to provide evidence that Earth events can occur quickly or slowly.**

### **FOSS Pebbles, Sand, and Silt**

**IG:** pp. 45, 47, 49, 88 (Step 8), 89 (Step 9), 90, 97, 110, 144-145, 167 (Step 30), 236

**EA:** *Notebook Entry*, IG p. 90 (Step 13)

**EA:** *Performance Assessment*, IG pp. 97-98 (Step 14)

**BM:** pp. 4-5 (Item 4), pp. 12-13 (Items 4ab)

**SRB:** pp. 7 and 78

### Science and Engineering Practices

#### **Constructing Explanations and Designing Solutions**

Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.

- Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena.

### **FOSS Pebbles, Sand, and Silt**

**IG:** pp. 79, 89, 96, 129, 146, 162, 168, 228, 235, 245, 250, 256

**TR:** pp. C22-C24, C42-C45

### Disciplinary Core Ideas

#### **ESS1.C: The History of Planet Earth**

- Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe.

### **FOSS Pebbles, Sand, and Silt**

**IG:** pp. 88 (Step 8), 89 (Step 9), 90, 97, 110, 144-145, 167 (Step 30), 236

**SRB:** pp. 7 and 78

**DOR:** *All About Volcanoes*

*All About Land Formations*

### Crosscutting Concepts

#### **Stability and Change**

- Things may change slowly or rapidly.

### **FOSS Pebbles, Sand, and Silt**

**IG:** pp. 80, 89, 95, 97, 130, 145, 165, 228, 236

**TR:** pp. D21-D23, D30-D31

Second

# Earth's Systems: Processes that Shape the Earth

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Performance Expectation 2-ESS2-1

Students who demonstrate understanding can:

**Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.\***

### FOSS Pebbles, Sand, and Silt

IG: pp. 45, 47, 49, 95, 110, 144, 145, 163, 166, 165, 168, 256, 259, 260

EA: Notebook Entry, IG p. 259 (Step 7)

BM: pp. 12-13 (Items 4ab), pp. 22-23 (Item 4)

SRB: pp. 3-10, 14-21, 22-23, 24-30, 68-78

## Science and Engineering Practices

### Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.

- Compare multiple solutions to a problem.

### FOSS Pebbles, Sand, and Silt

IG: pp. 79, 129, 219, 220, 228, 256, 259

TR: pp. C22-C24, C42-C45

## Disciplinary Core Ideas

### ESS2.A: Earth Materials and Systems

- Wind and water can change the shape of the land.

### FOSS Pebbles, Sand, and Silt

IG: pp. 95, 110, 144, 145, 163, 166, 165, 168, 256, 259, 260

SRB: pp. 3-10, 14-21, 22-23, 24-30, 68-78

DOR: All About Land Formations

### ETS1.C: Optimizing the Design Solution

- Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (secondary to 2-ESS2-1)

### FOSS Pebbles, Sand, and Silt

IG: pp. 49, 142, 219, 220, 221, 227, 256

SRB: pp. 68-78

## Crosscutting Concepts

### Stability and Change

- Things may change slowly or rapidly.

### FOSS Pebbles, Sand, and Silt

IG: pp. 2, 3, 45, 49, 80, 81, 89, 95, 97, 97, 110, 123, 125, 130, 131, 144, 145, 163, 165, 166, 168, 220, 221, 227, 228, 229, 240, 256, 259, 260

TR: pp. D21-D23, D30-D31

## Connections to the Nature of Science

### Scientific Addresses Questions About the Natural and Material World

- Scientists study the natural and material world. (2-ESS2-1)

### FOSS Pebbles, Sand, and Silt

IG: pp. 80, 88, 100, 107, 114, 130, 134, 221, 227, 240, 250, 256

SRB: pp. 50-60, 68-78

Second

# Earth’s Systems: Processes that Shape the Earth

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.2.10

Students who demonstrate understanding can:

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

**FOSS Pebbles, Sand, and Silt**

**IG:** pp. 45, 47, 49, 227, 229, 250-251, 258, 259

**EA:** Notebook Entry, IG p. 259 (Step 7)

**BM:** pp. 24-25 (Item 6)

**SRB:** pp. 81-91

### Science and Engineering Practices

**Developing and Using Models**

Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.

- Develop a model to represent patterns in the natural world.

**FOSS Pebbles, Sand, and Silt**

**IG:** pp. 129, 165, 168, 227, 250, 258

**TR:** pp. C11-C13, C32-C33

### Disciplinary Core Ideas

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

- Maps show where things are located. One can map the shapes and kinds of land and water in any area.

**FOSS Pebbles, Sand, and Silt**

**IG:** pp. 47, 49, 227, 229, 250-251, 258, 259

**SRB:** pp. 81-91

### Crosscutting Concepts

**Patterns**

- Patterns in the natural world can be observed.

**FOSS Pebbles, Sand, and Silt**

**IG:** pp. 252 (Step 8), 253 (Step 10), 257 (Step 3)

**TR:** pp. D6-D8, D26-D27

Second

# Earth's Systems: Processes that Shape the Earth

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.2.11

Students who demonstrate understanding can:

**Obtain information to identify where water is found on Earth and that it can be solid or liquid.**

### *FOSS Pebbles, Sand, and Silt*

**IG:** pp. 45, 47, 49, 227, 250, 251, 252, 253

**EA:** *Notebook Entry*, IG p. 253 (Step 12)

**BM:** pp. 20-21 (Item 3), pp. 22-23 (Item 5)

**SRB:** pp. 50-60, 61-67

### Science and Engineering Practices

#### Obtaining, Evaluating, and Communicating Information

Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.

- Obtain information using various texts, text features (e.g., headings, tables of contents, glossaries, electronic menus, icons), and other media that will be useful in answering a scientific question.

### *FOSS Pebbles, Sand, and Silt*

**IG:** pp. 228, 251, 252, 256, 258

**TR:** pp. D30-D31, D44-D47

### Disciplinary Core Ideas

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

- Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form.

### *FOSS Pebbles, Sand, and Silt*

**IG:** pp. 227, 250, 251, 252, 253

**SRB:** pp. 50-60, 61-67

### Crosscutting Concepts

#### Patterns

- Patterns in the natural world can be observed.

### *FOSS Pebbles, Sand, and Silt*

**IG:** pp. 251 (Step 4), 251 (Step 6), 252 (Step 9)

**TR:** pp. D6-D8, D26-D27



Second

# Engineering Design

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.2.12

Students who demonstrate understanding can:

**Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.**

### FOSS Insects and Plants

IG: p. 49, 221, 250, 299, 304

EA: *Notebook Entry*, IG p. 204 (Step 18), IG p. 222 (Steps 17-20)

EA: *Performance Assessment*, IG p. 250 (Step 4)

### FOSS Pebbles, Sand, and Silt

IG: p. 49, 180, 186-188, 189, 190, 194, 195, 200, 201, 206, 207, 211, 212

EA: *Notebook Entry*, IG p. 190 (Step 14), IG p. 195 (Step 15), IG p. 257 (Step 4)

### FOSS Solids and Liquids

IG: p. 45, 113, 114, 117

EA: *Notebook Entry*, IG p. 116 (Step 13), IG p. 119 (Step 23)

EA: *Performance Assessment*, IG p. 115 (Step 8)

BM: pp. 6-7 (Item 4)

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in K–2 builds on prior experiences and progresses to simple descriptive questions.</p> <ul style="list-style-type: none"> <li>Ask questions based on observations to find more information about the natural and/or designed world(s). (K–2-ETS1-1)</li> <li>Define a simple problem that can be solved through the development of a new or improved object or tool. (K–2-ETS1-1)</li> </ul> <p><b>FOSS Insects and Plants</b> IG: pp. 189, 201 (Step 4), 203, 221 (Step 13), 299 (Step 1), 304 (Step 3)</p> <p><b>FOSS Pebbles, Sand, and Silt</b> IG: pp. 181, 195, 211, 212, 214, 227, 229, 233, 243</p> <p><b>FOSS Solids and Liquids</b> IG: pp. 114 (Step 5), 117 (Step 16) TR: pp. C7-C10, C32-C33</p>	<p><b>ETS1.A: Defining and Delimiting Engineering Problems</b></p> <ul style="list-style-type: none"> <li>A situation that people want to change or create can be approached as a problem to be solved through engineering.</li> <li>Asking questions, making observations, and gathering information are helpful in thinking about problems.</li> <li>Before beginning to design a solution, it is important to clearly understand the problem.</li> </ul> <p><b>FOSS Insects and Plants</b> IG: pp. 221, 250, 299, 304</p> <p><b>FOSS Pebbles, Sand, and Silt</b> IG: pp. 180, 186-188, 189, 190, 194, 195, 200, 201, 206, 207, 211, 212 SRB: p. 71</p> <p><b>FOSS Solids and Liquids</b> IG: pp. 113, 114, 117 SRB: pp. 21 and 30</p>	<p><b>Cause and Effect</b> Events have causes that generate observable patterns; simple tests can be designed to gather evidence to support or refute student ideas about causes.</p> <p><b>FOSS Pebbles, Sand, and Silt</b> IG: pp. 182, 201, 233, 241-242, 257</p> <p><b>FOSS Insects and Plants</b> TR: pp. 10-11</p> <p><b>Energy and Matter</b> Objects may break into smaller pieces, be put together into larger pieces, or, change shapes.</p> <p><b>FOSS Pebbles, Sand, and Silt</b> IG: p. 212 (Steps 10 and 11), 214 (Step 14)</p>

IG: Investigations Guide • TR: Teacher Resources • SRB: Student *Science Resources* Book • DOR: Digital-Only Resources  
EA: Embedded Assessment • BM: Benchmark Assessment • IA: Interim Assessment

Second

# Engineering Design

The following FOSS program elements address the standard indicated below. References are selected and do not reflect every possible alignment to a standard.

## Standard S.2.13

Students who demonstrate understanding can:

**Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.**

### **FOSS Insects and Plants**

IG: pp. 47, 49, 189, 221, 222, 315, 317

EA: Notebook Entry, IG p. 317 (Step 15)

### **FOSS Pebbles, Sand, and Silt**

IG: pp. 49, 174, 175, 214, 227, 233

EA: Notebook Entry, IG p. 259 (Step 7)

### **FOSS Solids and Liquids**

IG: pp. 45, 77, 117, 118

EA: Notebook Entry, IG p. 116 (Step 13), IG p. 119 (Step 23)

EA: Performance Assessment, IG p. 115 (Step 8)

BM: pp. 6-7 (Item 4)

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.</p> <ul style="list-style-type: none"> <li>Develop a simple model based on evidence to represent a proposed object or tool.</li> </ul> <p><b>FOSS Insects and Plants</b> IG: pp. 189, 221, 222, 315, 317</p> <p><b>FOSS Pebbles, Sand, and Silt</b> IG: pp. 143, 173, 227, 258</p> <p><b>FOSS Solids and Liquids</b> IG: pp. 77, 117, 118 TR: pp. C11-C13, C32-C33</p>	<p><b>ETS1.B: Developing Possible Solutions</b> Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people.</p> <p><b>FOSS Insects and Plants</b> IG: pp. 189, 221, 222, 315, 317</p> <p><b>FOSS Pebbles, Sand, and Silt</b> IG: pp. 174, 175, 214, 227, 233 SRB: pp. 38-39</p> <p><b>FOSS Solids and Liquids</b> IG: pp. 77, 117, 118</p>	<p><b>Cause and Effect</b> Events have causes that generate observable patterns; simple tests can be designed to gather evidence to support or refute student ideas about causes.</p> <p><b>FOSS Insects and Plants</b> IG: p. 159, 190</p> <p><b>FOSS Pebbles, Sand, and Silt</b> IG: pp. 194 (Step 10), 195 (Step 14), 245 (Step 16), 246, 257 SRB: pp. 33-34, 48-49</p> <p><b>Structure and Function</b> The shape and stability of structures of natural and designed objects are related to their function(s). (K–2-ETS1-2)</p> <p><b>FOSS Insects and Plants</b> IG: pp. 210 (Step 3), 212, 295, 315 and 317</p> <p><b>FOSS Solids and Liquids</b> IG: pp. 78, 115, 116, 117, 119 SRB: pp. 22-25, 26-30 TR: pp. D18-D20</p>

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Second

# Engineering Design

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## Standard S.2.14

Students who demonstrate understanding can:

**Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.**

### FOSS Insects and Plants

IG: p. 49, 188, 222 (Step 18), 317 (Step 15)

EA: Performance Assessment, IG p. 222 (Step 18), IG p. 317 (Step 15)

### FOSS Pebbles, Sand, and Silt

IG: p. 49, 200, 206, 212

EA: Performance Assessment, IG p. 200 (Step 8)

### FOSS Solids and Liquids

IG: pp. 45, 113 (Step 1), 116 (Step 13, 15), 117 (Step 18), 118 (Step 21)

EA: Notebook Entry, IG p. 116 (Step 13), IG p. 119 (Step 23)

EA: Performance Assessment, IG p. 115 (Step 8)

BM: pp. 6-7 (Item 4)

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.</p> <ul style="list-style-type: none"> <li>Analyze data from tests of an object or tool to determine if it works as intended.</li> </ul> <p><b>FOSS Insects and Plants</b> IG: p. 317 (Step 15)</p> <p><b>FOSS Pebbles, Sand, and Silt</b> IG: pp.181, 187, 194, 201</p> <p><b>FOSS Solids and Liquids</b> IG: pp. 78, 117 (Step 18),118 (Step 21) SRB: pp. 22-25, 26-30 TR: pp. C17-C19, C38-C41</p>	<p><b>ETS1.C: Optimizing the Design Solution</b></p> <ul style="list-style-type: none"> <li>Because there is always more than one possible solution to a problem, it is useful to compare and test designs.</li> </ul> <p><b>FOSS Insects and Plants</b> IG: pp. 188, 222 (Step 18), 317 (Step 15)</p> <p><b>FOSS Pebbles, Sand, and Silt</b> IG: pp. 200, 206, 212 SRB: p. 71</p> <p><b>FOSS Solids and Liquids</b> IG: pp. 113 (Step 1), 116 (Step 13, 15), 117 (Step 18), 118 (Step 21) SRB: pp. 26-30</p>	<p><b>Cause and Effect</b> Events have causes that generate observable patterns; simple tests can be designed to gather evidence to support or refute student ideas about causes.</p> <p><b>FOSS Insects and Plants</b> IG: p. 157, 159</p> <p><b>FOSS Pebbles, Sand, and Silt</b> IG: p. 182, 195, 201</p> <p><b>Scale, proportion, and quantity</b> Relative scales allow objects and events to be compared and described (bigger and smaller; hotter and colder; faster and slower).</p> <p><b>FOSS Pebbles, Sand, and Silt</b> IG: pp. 182, 200 SRB: pp. 48-49</p> <p><b>Structure and Function</b> The shape and stability of structures of natural and designed objects are related to their function(s). (K–2-ETS1-2)</p> <p><b>FOSS Solids and Liquids</b> IG: pp. 109, 115 (Steps 8-10), 117 (Steps 16-17), 119 SRB: pp. 22-30</p>

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