

## FOSS AND CALIFORNIA STANDARDS

The **Environments Module** supports the following Life Sciences Content Standards for grade 4.\*

### LIFE SCIENCES

**LS2.** *All organisms need energy and matter to live and grow.*

As a basis for understanding this concept, students know

- LS2a. plants are the primary source of matter and energy entering most food chains.
- LS2b. producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.
- LS2c. decomposers, including many fungi, insects, and microorganisms, recycle matter from dead plants and animals.

**LS3.** *Living organisms depend on one another and on their environment for survival.*

As a basis for understanding this concept, students know

- LS3a. ecosystems can be characterized by their living and nonliving components.
- LS3b. in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.
- LS3c. many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter.
- LS3d. that most microorganisms do not cause disease and that many are beneficial.

*“Students in grade four will expand their knowledge of food chains and food webs to include not only the producers and consumers they have previously discussed but also the decomposers of plants and animal remains, such as insects, fungi, and bacteria. They will also learn about other ecological relationships, such as animals using plants for shelter or nesting and plants using animals for pollination and seed dispersal.”†*

\*Science Content Standards for California Public Schools: Kindergarten through Grade Twelve (Sacramento: California Department of Education, 2000).

†Science Framework for California Public Schools: Kindergarten through Grade Twelve (Sacramento: California Department of Education, 2003), page 56.

The **Environments Module** supports the following Investigation and Experimentation Content Standards for grade 4.\*

### **INVESTIGATION AND EXPERIMENTATION**


**I&E6** *Scientific progress is made by asking meaningful questions and conducting careful investigations.*

As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will

- I&E6a differentiate observation from inference (interpretation) and know scientists' explanations come partly from what they observe and partly from how they interpret their observations.
- I&E6b measure and estimate the weight, length, or volume of objects.
- I&E6c formulate and justify predictions based on cause-and-effect relationships.
- I&E6d conduct multiple trials to test a prediction and draw conclusions about the relationships between predictions and results.
- I&E6e construct and interpret graphs from measurements.
- I&E6f follow a set of written instructions for a scientific investigation.

\**Science Content Standards for California Public Schools: Kindergarten through Grade Twelve* (Sacramento: California Department of Education, 2000).

†*Science Framework for California Public Schools: Kindergarten through Grade Twelve* (Sacramento: California Department of Education, 2003), page 56.



*“Students in grade four learn to formulate and justify predictions based on cause-and-effect relationships, differentiate observation from inference, and conduct multiple trials to test their predictions. In collecting data during investigative activities, they learn to follow a written set of instructions and continue to build their skills in expressing measurements in metric system units. They will analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns, all of which support the **Mathematics Content Standards**. They should conduct scientific investigations and communicate their findings in writing.”†*

# ENVIRONMENTS MODULE MATRIX

## SYNOPSIS

## CA LIFE SCIENCES STANDARDS

## CA I&E STANDARDS

### 1. TERRESTRIAL ENVIRONMENTS

Students set up terrariums, observe them for 2 weeks, and describe the living and nonliving components (biotic and abiotic factors) that contribute to the terrarium environment.

LS3a Ecosystems can be characterized by their living and nonliving components.

I&E6b Measure/estimate properties of objects.

### 2. ISOPODS AND BEETLES

Students investigate how isopods and beetles respond to environmental factors such as water and light. They study how plants depend on animals for survival (pollination and seed dispersal) and how animals depend on plants for food and shelter.

LS3a Ecosystems can be characterized by their living and nonliving components.

LS3b In any particular environment, some kinds of plants and animals survive well, some less well, and some not at all.

LS3c Many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter.

I&E6a Differentiate observation from inference.

I&E6b Measure/estimate properties of objects.

I&E6f Follow written instructions.

### 3. AQUATIC ENVIRONMENTS

Students set up freshwater aquariums with fish and plants. They monitor the environmental factors in the systems and look for feeding interactions. They learn about the role of producers, consumers, and decomposers in food chains and webs.

LS2a Plants are the primary source of matter and energy entering most food chains.

LS2b Producers and consumers are related in food chains and food webs and may compete with each other for resources.

LS2c Decomposers recycle matter from dead plants and animals.

LS3a Ecosystems can be characterized by their living and nonliving components.

LS3b In any particular environment, some kinds of plants and animals survive well, some less well, and some not at all.

I&E6c Formulate/justify predictions.

### 4. BRINE SHRIMP HATCHING

Students conduct a controlled experiment to determine which of four salt concentrations allow brine shrimp eggs to hatch. They determine range of tolerance and optimum conditions. They learn about a marine food web.

LS2b Producers and consumers are related in food chains and food webs and may compete with each other for resources.

LS2c Decomposers recycle matter from dead plants and animals.

LS3b In any particular environment, some kinds of plants and animals survive well, some less well, and some not at all.

LS3d Most microorganisms do not cause disease, and many are beneficial.

I&E6b Measure/estimate properties of objects.

I&E6c Formulate/justify predictions.

I&E6d Conduct multiple trials/draw conclusions.

I&E6f Follow written instructions.

### 5. RANGE OF TOLERANCE

Students set up and monitor experiments to determine the range of tolerance of water for germination of four kinds of seeds: corn, pea, barley, and radish. In a second experiment they test the effect of salinity on these seeds.

LS3a Ecosystems can be characterized by their living and nonliving components.

LS3b In any particular environment, some kinds of plants and animals survive well, some less well, and some not at all.

I&E6a Differentiate observation from inference.

I&E6b Measure/estimate properties of objects.

I&E6c Formulate/justify predictions.

I&E6d Conduct multiple trials/draw conclusions.

I&E6e Construct/interpret graphs.

I&E6f Follow written instructions.

- An environment is everything that surrounds and influences an organism.
- An environmental factor is one part of an environment. It can be living or nonliving.
- A relationship exists between environmental factors and how well organisms grow.
- Environments change over time.

- Every organism has a set of preferred environmental conditions.
- Isopods prefer moist environments; beetles prefer dry environments.
- Isopods and beetles prefer dark environments.
- Flowering plants produce seeds to make new plants.
- Pollination and seed dispersal are examples of how plants depend on animals.
- Animals depend on plants for food and shelter.

- Aquatic environments include living and nonliving factors.
- The interaction of organisms with one another and with the nonliving environment is an ecosystem.
- Organisms interact in feeding relationships in ecosystems. Producers (plants) make their own food; consumers eat plants and animals. Decomposers eat dead plants and animals and recycle the raw materials.
- Organisms may compete for resources.

- Brine shrimp eggs can hatch in a range of salt concentrations, but more hatch in environments with optimum salt concentration.
- Organisms interact in feeding relationships in ecosystems. Producers (plants) make their own food; consumers eat plants and animals. Decomposers eat dead plants and animals and recycle the raw materials.
- Most microorganisms do not cause disease, and many are beneficial.

- Every organism has a range of tolerance for each factor in its environment.
- Organisms have specific requirements for successful growth, development, and reproduction.
- Optimum conditions are those most favorable to an organism.

- *Setting Up a Terrarium*
- *Two Terrestrial Environments*
- *Summary: Terrestrial Environments*
- Science Notebook: Students make a terrarium map and record changes in living and nonliving factors in a terrarium environment over time.

- *Isopods and Beetles*
- *Amazon Rain Forest Journal*
- *How Organisms Depend on One Another*
- *Summary: Isopods and Beetles*
- Science Notebook: Students record initial observations of organisms and describe investigation designs and conclusions. They respond to review questions on interdependence.

- *Freshwater Environments*
- *What Is an Ecosystem?*
- *Food Chains and Food Webs*
- *Monterey Bay National Marine Sanctuary*
- *Summary: Aquatic Environments*
- Science Notebook: Students record aquarium observations and list living and nonliving environmental components. They describe food chains and food webs.

- *Brine Shrimp*
- *The Mono Lake Story*
- *Microorganisms*
- *Summary: Brine Shrimp Hatching*
- Science Notebook: Students write predictions about what will happen in each of the experimental brine shrimp hatcheries. They graph and interpret results of hatching experiments. They describe food chains and food webs.

- *Water Pollution: The Lake Erie Story*
- *What Happens When Ecosystems Change?*
- *Edward Osbourne Wilson; Rachel Carson; Tyrone B. Hayes; Wangari Muta Maathai*
- *Summary: Range of Tolerance*
- Science Notebook: Students keep records of two plant experiments. At the end they graph and interpret the results.

**Pretest**

**Embedded Assessment**

- Teacher observation
- Response sheet

**Embedded Assessment**

- Response sheet
- Science Notebook sheets
- Teacher observation

**Benchmark Assessment**

- I-Check 1–2

**Embedded Assessment**

- Teacher observation
- Response sheet

**Benchmark Assessment**

- I-Check 3

**Embedded Assessment**

- Teacher observation
- Science Notebook sheet
- Response sheet
- Performance assessment

**Benchmark Assessment**

- I-Check 4

**Embedded Assessment**

- Teacher observation
- Science Notebook sheet
- Response sheet
- Performance assessment

**Benchmark Assessment**

- I-Check 5

**Posttest**



### FOSS AND CALIFORNIA STANDARDS

The **Magnetism and Electricity Module** supports the following Physical Sciences Content Standards for grade 4.\*

#### PHYSICAL SCIENCES

**PS1.** *Electricity and magnetism are related effects that have many useful applications in everyday life.*

As a basis for understanding this concept, students know

- PS1a. how to design and build simple series and parallel circuits by using components such as wires, batteries, and bulbs.
- PS1b. how to build a simple compass and use it to detect magnetic effects, including Earth's magnetic field.
- PS1c. electric currents produce magnetic fields and know how to build a simple electromagnet.
- PS1d. the role of electromagnets in the construction of electric motors, electric generators, and simple devices, such as doorbells and earphones.
- PS1e. electrically charged objects attract or repel each other.
- PS1f. that magnets have two poles (north and south) and that like poles repel each other while unlike poles attract each other.
- PS1g. electrical energy can be converted to heat, light, and motion.

*"Students in grade four will learn to design and build simple electrical circuits and experiment with components such as wires, batteries, and bulbs. They will learn how to make a simple electromagnet and how electromagnets work in simple devices. They will observe that electrically charged objects may either attract or repel one another and that electrical energy can be converted into heat, light, and motion."†*

\**Science Content Standards for California Public Schools: Kindergarten through Grade Twelve* (Sacramento: California Department of Education, 2000).

†*Science Framework for California Public Schools: Kindergarten through Grade Twelve* (Sacramento: California Department of Education, 2003), page 56.

The **Magnetism and Electricity Module** supports the following Investigation and Experimentation Content Standards for grade 4.\*

### **INVESTIGATION AND EXPERIMENTATION**


*I&E6. Scientific progress is made by asking meaningful questions and conducting careful investigations.*

As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will

- I&E6a. differentiate observation from inference (interpretation) and know scientists' explanations come partly from what they observe and partly from how they interpret their observations.
- I&E6b. measure and estimate the weight, length, or volume of objects.
- I&E6c. formulate and justify predictions based on cause-and-effect relationships.
- I&E6d. conduct multiple trials to test a prediction and draw conclusions about the relationships between predictions and results.
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*“Students in grade four learn to formulate and justify predictions based on cause-and-effect relationships, differentiate observation from inference, and conduct multiple trials to test their predictions. In collecting data during investigative activities, they learn to follow a written set of instructions and continue to build their skills in expressing measurements in metric system units. They will analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns, all of which support the **Mathematics Content Standards**. They should conduct scientific investigations and communicate their findings in writing.”†*

# MAGNETISM AND ELECTRICITY MODULE MATRIX

## SYNOPSIS

## CA PHYSICAL SCIENCES STANDARDS

## CA I&E STANDARDS

### 1. THE FORCE

Students investigate the properties of magnets. They construct a simple compass and use it to detect magnetic effects. They investigate the strength of the force of attraction by graphing data to look for patterns of interaction.

- PS1b Build a simple compass and use it to detect magnetic effects, including Earth's magnetic field.
- PS1f Magnets have two poles (north and south), and that like poles repel each other while unlike poles attract each other.

- I&E6c Formulate/justify predictions.
- I&E6d Conduct multiple trials/draw conclusions.
- I&E6e Construct/interpret graphs.
- I&E6f Follow written instructions.

### 2. MAKING CONNECTIONS

Students investigate current electricity and circuits, the pathways through which electricity flows. They observe electric energy being converted to heat, light, and motion. They work with electrically charged objects and observe their behavior.

- PS1a Design and build simple series and parallel circuits by using components such as wires, batteries, and bulbs.
- PS1e Electrically charged objects attract or repel each other.
- PS1g Electrical energy can be converted to heat, light, and motion.

- I&E6c Formulate/justify predictions.

### 3. ADVANCED CONNECTIONS

Students explore series and parallel circuits and compare the functioning of the components in each circuit. They formulate and justify their predictions, based on their observations of electric energy being converted to light and motion.

- PS1a Design and build simple series and parallel circuits by using components such as wires, batteries, and bulbs.
- PS1g Electrical energy can be converted to heat, light, and motion.

- I&E6c Formulate/justify predictions.

### 4. CURRENT ATTRACTIONS

Students learn how to use electricity to make an electromagnet. They explore the variables that influence the strength of the magnetism produced by their electromagnets.

- PS1c Electric currents produce magnetic fields, which can be used to build a simple electromagnet.

- I&E6a Differentiate observation from inference.
- I&E6b Measure/estimate properties of objects.
- I&E6c Formulate/justify predictions.
- I&E6d Conduct multiple trials/draw conclusions.
- I&E6e Construct/interpret graphs.
- I&E6f Follow written instructions.

### 5. CLICK IT

Students use all the concepts they have learned to build a simple telegraph system. The last part of the investigation asks students to use their inquiry skills to design, conduct, and report their own investigations.

- PS1c Electric currents produce magnetic fields, which can be used to build a simple electromagnet.
- PS1d Electromagnets play a role in the construction of electric motors, electric generators, and simple devices, such as doorbells and earphones.
- PS1g Electrical energy can be converted to heat, light, and motion.

- I&E6c Formulate/justify predictions.
- I&E6d Conduct multiple trials/draw conclusions.

- Only iron sticks to a magnet.
- Magnetism can be induced in iron.
- Magnets have two poles. Like poles repel; opposite poles attract.
- Magnets display forces of attraction and repulsion that decrease with distance.
- A compass is a magnet used to detect magnetic fields, including Earth's.

- *When Magnet Meets Magnet*
- *Magnificent Magnetic Models*
- *Make a Magnetic Compass*
- *Summary: The Force*
- Science Notebook: Students describe interactions, record and analyze data, and explain relationships.

**Pretest**

**Embedded Assessment**

- Science Notebook sheets
- Response sheet
- Teacher observation

**Benchmark Assessment**

- I-Check 1

- A circuit is a pathway on which electric current flows.
- Lightbulbs convert electric energy into heat and light energy.
- Motors convert electric energy into motion energy when placed in a closed circuit.
- Conductors complete circuits and allow the flow of electric current; insulators do not.

- *Making Static*
- *Edison Sees the Light*
- *Summary: Making Connections*
- Science Notebook: Students make schematic diagrams, record results, and write explanations.

**Embedded Assessment**

- Science Notebook sheets
- Response sheet
- Teacher observation

**Benchmark Assessment**

- I-Check 2

- A circuit with only one pathway for current flow is a series circuit. Components "share" the electric energy.
- A circuit with two or more pathways for current flow is a parallel circuit.

- *Series and Parallel Circuits*
- *Summary: Advanced Connections*
- Science Notebook: Students make schematic diagrams and write explanations.

**Embedded Assessment**

- Science Notebook sheets
- Response sheet

**Benchmark Assessment**

- I-Check 3

- A core of iron or steel becomes an electromagnet when electricity flows through a coil of insulated wire surrounding the core.
- There are many ways to change the strength of an electromagnet, including changing the number of winds of wire around the core.

- *Electricity = Magnetism: Oersted's Discovery*
- *How Electromagnetism Stopped a War*
- *Summary: Current Attractions*
- Science Notebook: Students record data from multiple experiments and graph their results.

**Embedded Assessment**

- Teacher observation
- Response sheet
- Science Notebook sheets

**Benchmark Assessment**

- I-Check 4

- A telegraph is an electronic communication device that uses an electromagnet.
- A code is a symbolic system used for communication.
- A telegraph converts electric energy into motion and sound energy.

- *Morse Gets Clicking*
- *Electromagnets Everywhere*
- *Summary: Click It*
- Science Notebook: Students design and draw a long-distance telegraph circuit.

**Embedded Assessment**

- Teacher observation
- Performance assessment

**Posttest**

## FOSS AND CALIFORNIA STANDARDS

The **Solid Earth Module** supports the following Earth Sciences Content Standards for grade 4.\*

### EARTH SCIENCES

**ES4** *The properties of rocks and minerals reflect the processes that formed them.*

As a basis for understanding this concept, students know

- ES4a how to differentiate among igneous, sedimentary, and metamorphic rocks by referring to their properties and methods of formation (the rock cycle).
- ES4b how to identify common rock-forming minerals (including quartz, calcite, feldspar, mica, and hornblende) and ore minerals by using a table of diagnostic properties.

**ES5** *Waves, wind, water, and ice shape and reshape Earth's land surface.*

As a basis for understanding this concept, students know

- ES5a some changes in the earth are due to slow processes, such as erosion, and some changes are due to rapid processes, such as landslides, volcanic eruptions, and earthquakes.
- ES5b natural processes, including freezing and thawing and the growth of roots, cause rocks to break down into smaller pieces.
- ES5c moving water erodes landforms, reshaping the land by taking it away from some places and depositing it as pebbles, sand, silt, and mud in other places (weathering, transport, and deposition).

*"Students in grade four study rocks, minerals, and the processes of erosion. They also study the processes of weathering and erosion as a way of leading into the study of the formation of sedimentary rocks."*<sup>†</sup>

\**Science Content Standards for California Public Schools: Kindergarten through Grade Twelve* (Sacramento: California Department of Education, 2000).

<sup>†</sup>*Science Framework for California Public Schools: Kindergarten through Grade Twelve* (Sacramento: California Department of Education, 2003), page 56.

The **Solid Earth Module** supports the following Investigation and Experimentation Content Standards for grade 4.\*

### **INVESTIGATION AND EXPERIMENTATION**

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- I&E6a differentiate observation from inference (interpretation) and know scientists' explanations come partly from what they observe and partly from how they interpret their observations.
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*“Students in grade four learn to formulate and justify predictions based on cause-and-effect relationships, differentiate observation from inference, and conduct multiple trials to test their predictions. In collecting data during investigative activities, they learn to follow a written set of instructions and continue to build their skills in expressing measurements in metric system units. They will analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns, all of which support the Mathematics Content Standards. They should conduct scientific investigations and communicate their findings in writing.”†*

# SOLID EARTH MODULE MATRIX

## SYNOPSIS

## CA EARTH SCIENCES STANDARDS

## CA I&E STANDARDS

### 1. MOCK ROCKS

Students record observations of mock rocks. They take the rocks apart and sort ingredients. They place some rock material in water, evaporate the liquid, and identify the crystals that form. Students learn that rocks are made of minerals.

ES4b Identify common rock-forming minerals and ore minerals by using a table of diagnostic properties.

I&E6a Differentiate observation from inference.  
I&E6b Measure/estimate properties of objects.

### 2. SCRATCH TEST

Students investigate four unknown minerals and use the property of hardness to make confident identification of the rock-forming minerals. Students learn one important diagnostic property of minerals.

ES4b Identify common rock-forming minerals and ore minerals by using a table of diagnostic properties.

I&E6f Follow written instructions.

### 3. CALCITE QUEST

Students investigate the mineral calcite and its special property of reacting in vinegar. They place four rock samples in vinegar and look for evidence that calcite is an ingredient. Students are introduced to common sedimentary and metamorphic rocks.

ES4a Differentiate among igneous, sedimentary, and metamorphic rocks by referring to their properties and methods of formation.

I&E6a Differentiate observation from inference.

ES4b Identify common rock-forming minerals and ore minerals by using a table of diagnostic properties.

### 4. TAKE IT FOR GRANITE

Students investigate more mineral properties—streak and luster—and use a diagnostic table to identify several unknown minerals. Students are introduced to the rock cycle and the processes that form the three types of rocks.

ES4a Differentiate among igneous, sedimentary, and metamorphic rocks by referring to their properties and methods of formation.

I&E6a Differentiate observation from inference.

ES4b Identify common rock-forming minerals and ore minerals by using a table of diagnostic properties.

### 5. LANDFORMS

Students investigate chemical weathering by soaking limestone in vinegar, and physical weathering by shaking granite in a jar. They investigate erosion and deposition in a stream table. They learn about processes that cause rapid changes to Earth's surface—earthquakes, volcanism, landslides, and floods.

ES5a Some changes in the earth are due to slow processes and some changes are due to rapid processes.

I&E6b Measure/estimate properties of objects.

ES5b Natural processes cause rocks to break down into smaller pieces.

I&E6c Formulate/justify predictions.

ES5c Moving water erodes landforms, reshaping the land by taking it away from some places and depositing it as pebbles, sand, silt, and mud in other places.

I&E6d Conduct multiple trials/draw conclusions.

I&E6f Follow written instructions.

## CONCEPTS

## READING AND WRITING

## ASSESSMENT

- Rocks have many properties, including shape, color, and texture.
- Rocks are made of ingredients called minerals; minerals are made of only one substance.
- Mineral crystals have identifiable shapes.

- *What Geologists Do*
- *Mock Rocks*
- *Crystal Identification Table*
- *Summary: Mock Rocks*
- Science Notebook: Students record observations, make drawings, and come to conclusions about mock rock ingredients.

### Pretest

#### Embedded Assessment

- Teacher observation
- Science notebook
- Response sheet

#### Benchmark Assessment

- I-Check 1

- A mineral is an earth material that cannot be physically broken down any further.
- Hardness, a mineral property, is the resistance of a mineral to being scratched; minerals can be identified and seriated by hardness.

- *Mining for Minerals*
- *Birthstones*
- *Summary: Scratch Test*
- Science Notebook: Students record mineral observations and organize hardness data in a chart to help identify minerals.

### Embedded Assessment

- Science notebook
- Response sheet

#### Benchmark Assessment

- I-Check 2

- Rocks are made of minerals.
- Calcite is one of the most common minerals on Earth.
- Sometimes more than one test is needed to provide conclusive evidence.
- Crystal patterns can help us identify certain minerals.
- Limestone and marble are two rocks that contain calcite.

- *Calcite = Calcium Carbonate*
- *Rock of Ages*
- *Summary: Calcite Quest*
- Science Notebook: Students record rock observations and organize evidence for the presence of calcite in rock samples.

### Embedded Assessment

- Science notebook
- Response sheet

#### Benchmark Assessment

- I-Check 3

- Rocks are made of ingredients called minerals.
- Minerals can be identified by their properties (e.g. hardness, luster, streak, fizzing in acid).
- The three basic rock types are igneous, sedimentary, and metamorphic.
- The rock cycle is a way to describe how the three types of rocks form from one another.

- *Identifying Minerals*
- *Where Do Rocks Come From?*
- *Summary: Take It for Granite*
- Science Notebook: Students record their rock and mineral observations and organize this information on a diagnostic chart to identify the minerals.

### Embedded Assessment

- Teacher observation
- Response sheet
- Science notebook

#### Benchmark Assessment

- I-Check 4

- Chemical weathering of rocks changes minerals into different minerals.
- Physical weathering breaks rock into smaller particles by physical forces.
- Erosion wears away and transports earth materials by water, wind, or ice; deposition relocates eroded earth materials.
- Volcanoes, earthquakes, and landslides contribute to rapid changes in landforms.

- *Weathering*
- *Landform Vocabulary*
- *Erosion and Deposition*
- *Landforms Photo Album*
- *It Happened So Fast!*
- *Cynthia Dusel-Bacon: USGS Geologist*
- *Summary: Landforms*
- Science Notebook: Students record observations of results, draw stream-table maps, and interpret results.

### Embedded Assessment

- Science notebook
- Teacher observation
- Response sheet
- Performance assessment

#### Benchmark Assessment

- I-Check 5

### Posttest