

**Macmillan/McGraw-Hill Science: A Closer Look (© 2008)**  
**Grade 2**

**Be a Scientist**

**Be a Scientist Lesson 1: Science Skills**

**Be a Scientist Lesson 2: Scientific Method**

**Life Science**

**Unit A: Plants and Animals**

**Unit Opener**

**Unit Literature The Seed by Aileen Fisher**

**Chapter 1 Plants**

**Lesson 1—What Living Things Need**

OBJECTIVE:

- Identify living and nonliving things.
- Explain why plants are living things and describe their parts.
  - Explore-What do leaves need?
  - What do living things need?
  - How do plants make food?
  - Reading Skill: Compare and Contrast

**Inquiry Skill Builder—Observe Jasmine**

**Lesson 2—Plants Make New Plants**

OBJECTIVE:

- Describe where seeds come from and what they look like.
- Identify the stages in a plant's life cycle
  - Explore-What are the parts of a seed?
  - Where do seeds come from?
  - How do seeds look?
  - How do seeds grow?
  - Reading Skill: Sequence

**Writing in Science** — Write about a flower

**Math in Science** — How many seeds?

**Lesson 3—How Plants Are Alike and Different**

OBJECTIVE:

- Understand that plants look and act like their parent plants.
- Describe ways that plants change to stay safe and meet their needs.
  - Explore-How do plants grow?
  - How are plants like their parents?

- How do plants survive in different places?
- Reading Skill: Classify

**Reading in Science — STS: The Power of Periwinkle**  
**I Read to Review: Peach Tree Life Cycle**  
**Chapter Review`**

**Chapter 2 Animals**

**Lesson 1— Animal Groups**

OBJECTIVE:

- Describe, classify, and compare animals.
- Explain how the parts of animals help them meet their needs.
  - Explore: How can we put animals into groups?
  - How do we group animals?
  - What are some animals without backbones?
  - Reading Skill: Classify

**Inquiry Skill Builder — Classify animals**

**Lesson 2—Animals Grow and Change**

OBJECTIVE:

- Explain that every animal has a life cycle.
- Explain and compare the life cycles of animals.
  - Explore — How are babies and adults alike and different?
  - What is a life cycle?
  - What are some other animal life cycles?
  - Reading Skill: Predict

**Reading in Science — Meet Nancy Simmons (Bats)**

**Inquiry Investigation— Mealworm Life Cycle**

**Lesson 3—Staying Alive**

OBJECTIVE:

- Explore how camouflage helps animals to be safe.
- Explain how animals protect themselves.
  - Explore — How does the color of an animal keep it safe?
  - Why do animals act and look the way they do?
  - How do animals stay safe?
  - Reading Skill: Cause and Effect

**Writing in Science: Helpful Traits**

**Math in Science: Parts of a Group**

**I Read to Review**

**Chapter Review**

**Careers Bird Bander**

**Unit B: Habitats**

**Unit Opener**

**Unit Literature In Payment by Aileen Fisher**

**Chapter 3 Looking at Habitats**

**Lesson 1—Places to Live**

**OBJECTIVE:**

- Describe different habitats.
- Explain how plants and animals use their habitats.
  - Explore: Where do animals live?
  - What is a habitat?
  - How do living things use their habitats?
  - Reading Skill: Summarize

**Inquiry Skill Builder — Put things in order**

**Lesson 2—Food Chains and Food Webs**

**OBJECTIVE:**

- Describe a food chain.
- Describe a food web.
  - Explore: What do animals eat?
  - What is a food chain?
  - What is a food web?
  - Reading Skill: Main Idea and Details

**Writing in Science — A Food Web for Lunch**

**Math in Science — Food in a Meadow**

**Lesson 3—Habitats Change**

**OBJECTIVE:**

- Explain why habitats change.
- Describe what happens when habitats change.
  - Explore: What happens when habitats change?
  - How do habitats change?
  - What happens when habitats change?
  - How can we tell what a habitat used to be like? (fossils)
  - Reading Skill: Cause and Effect

**Reading in Science: Meet Mike Novacek**

**Inquiry Investigation** Clues from fossils

**I Read to Review**

**Chapter Review**

## **Chapter 4 Kinds of Habitats**

### **Lesson 1—Forests**

#### **OBJECTIVE:**

- Compare and contrast woodland forests and rain forests.
- Explain how different animals live in forest habitat.
  - Explore: What is a forest like?
  - What is a woodland forest like?
  - What is a tropical rain forest like?
  - Reading Skill: Compare and Contrast

**Reading in Science** (Meet a Scientist) Meet Liliana Davalos

### **Lesson 2—Hot and Cold Deserts**

#### **OBJECTIVE:**

- Describe desert habitats.
- Explain how plants and animals survive in a dry habitats.
  - Explore: How does the shape of a leaf help a plant?
  - What is a hot desert like?
  - What is the Arctic like?
  - Reading Skill: Classify

**Inquiry Skill Builder— Infer** animals from footprints

### **Lesson 3—Oceans and Ponds**

#### **OBJECTIVE:**

- Describe ponds and oceans.
- Explain how plants and animals live in oceans and ponds.
  - Explore: What lives in a saltwater habitat?
  - What is the ocean like?
  - What is a pond like?
  - Reading Skill: Main Idea and Details

**Writing in Science A Visit to the Ocean**

**Math in Science A Pond Bar Graph**

**I Read to Review**

**Chapter Review**

**Careers — Marine Mammal Scientist**

## **Unit C Our Earth**

**Unit Opener**

**Unit Literature - Earthworms: Soil Helpers (Ranger Rick)**

## **Chapter 5 Land and Water**

### **Lesson 1— Earth’s Land**

**OBJECTIVE:**

- Identify various geological land features of Earth’s surface
  - Explore: How are parts of Earth’s surface alike and different?
  - What is land like on Earth?
  - What can maps tell us about Earth?
  - What is inside Earth?
  - Reading Skill: Compare and Contrast

### **Inquiry Skill Builder Make a model**

### **Lesson 2—Earth’s Water**

**OBJECTIVE:**

- Identify sources and uses of water.
  - Explore: How do people use water?
  - Why is Earth’s water important?
  - Where is most of Earth’s water found? (oceans)
  - Reading Skill: Summarize

### **Writing in Science - My Water**

### **Math in Science - How Much Water?**

### **Lesson 3—Changes on Earth**

**OBJECTIVE:**

- Explain slow and fast changes on Earth.
  - Explore: How can you change rocks?
  - How does the land change slowly?
  - How does the land change quickly?
  - Reading Skill: Predict

### **Reading in Science — STS Living with Floods (Mekong River floods)**

### **I Read to Review**

### **Chapter Review**

## **Chapter 6 Earth’s Resources**

### **Lesson 1—Rocks and Minerals**

**OBJECTIVE:**

- Explain what rocks are and how they are used.
- Explain what minerals are and how they are used.
  - Explore: How can we sort rocks?
  - What are rocks?
  - What are minerals?
  - Reading Skill: Classify

**Inquiry Skill Builder— Compare**

**Writing in Science— Rock and Stroll** (friendly letter)

**Math in Science— Rock Patterns**

**Lesson 2—Soil**

OBJECTIVE:

- Explain what soil is made of.
- Explain how soil is formed.
  - Explore: What is in soil?
  - What is soil?
  - How is soil formed?
  - Reading Skill: Sequence

**Inquiry Investigation** Which soil holds more water?

**Lesson 3—Using Earth’s Resources**

OBJECTIVE:

- Describe how people use natural resources.
- Explain why we need to care for Earth’s resources.
- Explain how we can save our natural resources.
  - Explore: How do we use Earth’s resources every day?
  - How do we use natural resources?
  - Why should we care for Earth’s resources?
  - How can we save Earth’s resources?
  - Reading Skill: Problem and Solution

**Reading in Science— World of Wool**

**I Read to Review**

**Chapter Review**

**Careers Gemologist**

**Unit D Weather and Sky**

**Unit Opener**

**Unit Literature Sun Flakes by Frank Asch**

**Chapter 7 Observing Weather**

**Lesson 1—Weather**

OBJECTIVE:

- Define components of weather, including temperature, wind, and precipitation
  - Explore— How does the weather change each day?
  - What is weather?
  - What is wind?
  - Reading Skill: Summarize

**Writing in Science — A Snowy Day** (Write about what you do on a snowy day)

**Math in Science — A Sunny Day** Count to find the temperature difference.

### **Lesson 2—The Water Cycle**

OBJECTIVE:

- Describe and illustrate the water cycle
  - Explore— Where did the water go?
  - How does water disappear?
  - What is the water cycle?
  - Reading Skill: Cause and Effect

### **Inquiry Skill Builder— Predict**

### **Lesson 3—Changes in Weather**

OBJECTIVE:

- Identify different types of clouds and the weather associated with each.
  - Explore: How can clouds help predict the weather?
  - What are different kinds of clouds?
  - How can we stay safe from weather?
  - Reading Skill: Main Idea and Details

**Reading in Science— Predicting Storms** (History of Science)

**I Read to Review**

**Chapter Review**

## **Chapter 8 Earth and Space**

### **Lesson 1—Day and Night**

OBJECTIVE:

- Observe how Earth rotates to make day and night.
- Explain how shadows change because the Sun moves in the sky.
  - Explore: Why can't we see the Sun at night?
  - What causes day and night?
  - Why do the Sun and Moon seem to move ~~across the sky~~?
  - Reading Skill: Problem and Solution

**Inquiry Skill Builder— Draw conclusions:** Measure length of shadows

### **Lesson 2—Why Seasons Happen**

OBJECTIVE:

- Describe repeating seasonal and annual patterns on Earth.
- Observe how these patterns are related to Earth's orbit around the Sun.
  - Explore: What clothes do people wear in each season?)
  - What are the seasons like?
  - What causes the seasons?
  - Reading Skill: Compare and Contrast

**Writing in Science: Fun with the Seasons**  
**Math in Science: How Much Sunlight?**

**Lesson 3—The Moon and Stars**

OBJECTIVE:

- Observe the Moon and its phases as it orbits Earth.
- Describe stars including the closest star to Earth, the Sun.
  - Explore: How do we see the Moon at night?
  - Why can we see the Moon from Earth?
  - Why does the Moon seem to change shape?
  - What are stars?
  - Reading Skill: Predict

**Inquiry Investigation**— How does the Moon seem to change shape during one month?

**Lesson 4—The Solar System**

OBJECTIVE:

- Understand the relationship between the planets and Sun.
- Describe the planets in the Solar System.
  - Explore: How are orbits alike and different?
  - What goes around the Sun?
  - What are the planets like?
  - Reading Skill: Sequence

**Reading in Science**— **Starry, Starry Night** (History of Science)

**I Read to Review**

**Chapter Review**

**Careers: Science Writer**

**Unit E Matter**

**Unit Opener**

**Unit Literature Poem: Popcorn Hop by Stephanie Calmenson**

**Chapter 9 Looking at Matter**

**Lesson 1—Describing Matter**

OBJECTIVE:

- Identify that matter is anything that has a mass and occupies space.
- Identify and compare the different properties of matter.
  - Explore: How can you describe objects?
  - What is matter?
  - How can you describe matter? (properties of matter, solid liquid gas)
  - Reading Skill: Compare and Contrast

**Inquiry Skill Builder**— Record data



**Lesson 2—Solids**

OBJECTIVE:

- Identify and compare the properties of solids.
- Explore different ways to measure solids.
  - Explore: What are the properties of these solids?
  - What is a solid?
  - How can we measure solids?
  - Reading Skill: Summarize

**Reading in Science— Natural or Human-made? (STS)**

**Lesson 3—Liquids and Gases**

OBJECTIVE:

- Describe the general properties of liquids and gases.
- Compare the properties of different liquids and gases.
  - Explore: What happens to liquids in different shaped containers?
  - What is a liquid?
  - What is a gas?
  - Reading Skill: Classify

**Writing in Science: Fun with Water** (Write about how you had fun with water.)

**Math in Science: Which Has More Volume?**

**I Read to Review**

**Chapter Review**

**Chapter 10 Changes in Matter**

**Lesson 1—Matter Changes**

OBJECTIVE:

- Identify chemical and physical changes.
  - Explore: How can clay be changed?
  - What are physical changes?
  - What are chemical changes?
  - Reading Skill: Problem and Solution

**Inquiry Skill Builder— Communicate—** How many ways can you change clay?

**Inquiry Investigation—** Shake cream to make butter

**Lesson 2—Changes of State**

OBJECTIVE:

- Observe how heat can change matter
  - Explore; How can heat change matter?
  - How can heating change matter?
  - How can cooling change matter?
  - Reading Skill: Predict

## **Reading in Science Colorful Creations (crayons) STS**

### **Lesson 3—Mixtures**

#### **OBJECTIVE:**

- Observe how solids, liquids, and gases mix.
  - Explore: What mixes with water?
  - What are mixtures?
  - Which mixtures stay mixed?
  - How can you take mixtures apart?
  - Reading Skill: Main Idea and Details

## **Writing in Science Writing a Recipe Math in Science Muffin Math**

### **I Read to Review**

### **Chapter Review**

### **Careers —Food Chemist**

## **Unit F Motion and Energy**

### **Unit Opener**

### **Unit Literature R Rick Echolocation**

## **Chapter 11 How Things Move**

### **Lesson 1—Position and Motion**

#### **OBJECTIVE:**

- Describe the position of an object in relation to another object.
- Investigate motion by measuring and recording changes in an object's position.
  - Explore: What words help us find things?
  - What are position and motion?
  - What is speed?
  - Reading Skill: Sequence

### **Inquiry Skill Builder— Investigate**

### **Lesson 2—Forces**

#### **OBJECTIVE:**

- Understand that a force is a push or a pull.
- Compare what happens when different amounts of force are applied.
  - Explore: How do you make things go farther and faster?
  - What makes things move? (force, energy)
  - What are some forces? (gravity, weight, friction)
  - How do forces change motion?
  - Reading Skill: Cause and Effect

## **Reading in Science Meet Hector Arce (gravity)**

### **Lesson 3—Using Simple Machines**

**OBJECTIVE:**

- Understand that simple machines change force to make work easier.
  - Explore: Which side will go up? (lever)
  - What are levers and ramps?
  - What are other simple machines?
- Reading Skill: Summarize

**Writing in Science**— Explain why penguins slide on ice.

**Math in Science**— How far did it move?

### **Lesson 4—Exploring Magnets**

**OBJECTIVE:**

- Observe and describe the way magnets attract some objects and not others.
- Understand that objects can be sorted by more than one attribute.
  - Explore: What can a magnet pick up?
  - What do magnets do?
  - What are poles?
- Reading Skill: Problem and Solution

**Inquiry Investigation** How can you compare the strength of different magnets?

**I Read to Review**

**Chapter Review**

## **Chapter 12 Using Energy**

### **Lesson 1—Heat**

**OBJECTIVE:**

- Understand that the Sun supplies heat and energy to Earth.
  - Explore: Where will ice cubes melt more quickly?
  - What is heat?
  - What is temperature?
- Reading Skill: Main Idea and Details

**Inquiry Skill Builder— Measure (temperature)**

### **Lesson 2—Sound**

**OBJECTIVE:**

- Explore how different sounds are produced.
- Understand that sound can be described by volume and pitch.
  - Explore: How is sound made?
  - What makes sound?
  - How are sounds different? (loud, soft, pitch)
  - What do sounds move through? (wood, water)
- Reading Skill: Problem and Solution

**Writing in Science: Sound Off**  
**Math in Science: Drum Fun**

**Lesson 3—Light**

OBJECTIVE:

- Explore the composition and properties of light.
  - Explore: What does light pass through?
  - What is light?
  - How do we see color?
  - Reading Skill: Sequence

**Inquiry Investigation— How does color affect the temperature of light and dark objects?**

**Lesson 4—Exploring Electricity**

OBJECTIVE:

- Explore forms of electricity and their uses.
  - Explore: What makes the bulb light up?
  - What is current electricity?
  - What is static electricity?
  - Reading Skill: Cause and Effect

**Reading in Science— STS Electricity from power plants**

**I Read to Review**

**Chapter Review**

**Careers Crash Tester**