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— Iner 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
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