

Kindergarten Science

Unit 3: Changing Environments

22 lessons and a unit quiz. Use this pack with the **Changing Environments Student Reader** (print it, or download it once from the course) to teach the whole unit without the internet.

What is in this pack

- A lesson plan for each chapter: the Big Question, words to know, which pages to read, questions to talk over and the activity pages.
- The unit quiz, ready to print.
- Answers for the teacher at the back: every discussion question and the quiz key.

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Lesson schedule

Two or three lessons a week, about 30 minutes each. Tick each one off as you go.

	Lesson	Reader pages	Activity pages
☐	Getting started: Meet the Big Question	PDF pages 6–9	—
☐	Lesson 1.1: Meeting Needs	PDF pages 10–17	AP 1.1.1, AP 1.1.2
☐	Lesson 1.2: Seasons	—	AP 1.2.1
☐	Lesson 1.3: Damaging Changes	—	AP 1.3.1
☐	Lesson 1.4: Lesson 1 Roundup: Organisms and Their Environments	—	AP 1.4.1
☐	Lesson 2.1: Plants Get What They Need	PDF pages 18–21	AP 2.1.1
☐	Lesson 2.2: Roots, Leaves, and Seeds Cause Changes	—	AP 2.2.1
☐	Lesson 2.3: Plants Change Environments	—	AP 2.3.1
☐	Lesson 2.4: Lesson 2 Roundup: Plants Change Other Living Things	—	AP 2.4.1
☐	Lesson 3.1: Animals Get What They Need	PDF pages 22–25	AP 3.1.1
☐	Lesson 3.2: Animal Behaviors Cause Changes	—	AP 3.2.1
☐	Lesson 3.3: Animals Change Environments	—	AP 3.3.1
☐	Lesson 3.4: Lesson 3 Roundup: Animals Change Other Living Things	—	AP 3.4.1
☐	Lesson 4.1: Humans Get What They Need	PDF pages 26–31	AP 4.1.1
☐	Lesson 4.2: Human Behaviors Cause Changes	—	AP 4.2.1
☐	Lesson 4.3: People Change Environments	—	AP 4.3.1
☐	Lesson 4.4: Lesson 4 Roundup: People Change Other Living Things	—	AP 4.4.1
☐	Lesson 5.1: Being Eco-friendly	PDF pages 32–37	AP 5.1.1
☐	Lesson 5.2: Good and Bad Changes	—	AP 5.2.1
☐	Lesson 5.3: Conservation	—	AP 5.3.1
☐	Lesson 5.4: People Can Protect the Environment	—	AP 5.4.1

	Lesson	Reader pages	Activity pages
☐	Lesson 5.5: Environmental Solutions	PDF pages 38–48	AP 5.5.1
☐	Unit review and assessment	—	AP UO.1, AP US.1
☐	Words quiz	—	—

Page numbers are the PDF page numbers of the Student Reader file, so they match what your PDF reader shows.

Getting started: Meet the Big Question

THE BIG QUESTION

How do living things change the environment when they get what they need?

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 23–31: the steps, materials and timing for this lesson.

Read

Read Student Book, Chapter 1: “Alex’s Nutty Lunch”: PDF pages 6–9. Look at the pictures and maps together.

Talk it over

1. Alex thinks this is quite funny. 3 INFERENTIAL—How are the nuts Alex is eating the same as what the squirrel is eating?
2. INFERENTIAL—Which of the foods came from plants, and which came from animals?
3. After each meal, there is a story of what is left over and what happens to it. 5 INFERENTIAL—What will happen to the nutshell?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: How do living things change the environment when they get what they need?

Lesson 1.1: Meeting Needs

THE BIG QUESTION

Where do living things get the food and water that they need?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 32–39: the steps, materials and timing for this lesson.

Read

Read Student Book, Chapter 2: “Living Things Have Needs”: PDF pages 10–17. Look at the pictures and maps together.

Talk it over

1. How do you usually get the food and water you need?
2. Have students draw what the living things that they identified consume in the environment: AP 1.1.1 What does each plant need to live?
3. What does each animal need to live?
4. How does each living thing change the environment?
5. How could you tell that humans have changed the environment?
6. Discuss the following elements, and have students draw the elements that appeal to them: What plants would you need?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: Where do living things get the food and water that they need?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 1.1.1: Living and Nonliving Things — Teacher Guide PDF page 179
- Activity Page 1.1.2: Garden Plan — Teacher Guide PDF page 180

Lesson 1.2: Seasons

THE BIG QUESTION

Can living things survive changes in their environments?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 40–44: the steps, materials and timing for this lesson.

Talk it over

1. Discuss these questions to activate prior knowledge about seasons: Is it warm or cold outside?
2. NGSS Elements How is summer different from spring?
3. SEP 7 SEP 1 CCC 4 DCI ESS2.E 36 How is fall different from summer?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: Can living things survive changes in their environments?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 1.2.1: Seasons — Teacher Guide PDF page 181

Lesson 1.3: Damaging Changes

THE BIG QUESTION

What kinds of environmental changes can living things not survive?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing
- **extinct** — describing an organism of which there are no more living individuals

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 45–49: the steps, materials and timing for this lesson.

Talk it over

1. Did this happen quickly or slowly?
2. When will the animals be able to come back to live?
3. LESSON 1.3 | DAMAGING CHANGES 41 • Discuss the following questions to identify the changes: How are the pictures the same and different?
4. See the Online Resources Guide for a link to the recommended images: Online Resources www.coreknowledge.org/cksci-online-resources • Discuss the following questions to identify the changes: How are the pictures the same and different?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: What kinds of environmental changes can living things not survive?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 1.3.1: Danger — Teacher Guide PDF page 182

Lesson 1.4: Lesson 1 Roundup: Organisms and Their Environments

THE BIG QUESTION

What do living things consume from their environments?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **extinct** — describing an organism of which there are no more living individuals
- **organism** — a living thing that can reproduce, grow, adapt, and respond to its environment

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 50–61: the steps, materials and timing for this lesson.

Talk it over

1. Animals need shelter to stay alive. 7 LITERAL—What do animals need to survive?
2. A forest floor is a shady environment. 9 LITERAL—What are the different types of environments in the pictures?
3. INFERENTIAL—Which of these environments has the most sunlight?
4. LESSON 1.4 | LESSON 1 ROUNDUP: ORGANISMS AND THEIR ENVIRONMENTS 49 INFERENTIAL—Which of these environments has the most water?
5. This helps the fox hide when its environment becomes snowy. 11 INFERENTIAL—How do animals in our local environment change with the seasons?
6. Movement of rock and dirt can be a sudden change. 12 INFERENTIAL—How do fires and floods affect an environment?
7. INFERENTIAL—Why are sudden changes dangerous?
8. Many living things could not survive this sudden change. 13 LESSON 1.4 | LESSON 1 ROUNDUP: ORGANISMS AND THEIR ENVIRONMENTS 53 LITERAL—What happens if an environment changes too quickly?
9. Discuss how both Alex and the squirrel changed the environment by asking the following questions: • What was the school ground like before the lunch break?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: What do living things consume from their environments?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 1.4.1: Parts of a Dry Environment — Teacher Guide PDF page 183

Lesson 2.1: Plants Get What They Need

THE BIG QUESTION

Where do plants get what they need?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 62–68: the steps, materials and timing for this lesson.

Read

Read Student Book, Chapter 3: “Plants Can Change Environments”: PDF pages 18–21. Look at the pictures and maps together.

Talk it over

1. How are indoor plants taken care of?
2. How do these indoor plants change the indoor environment?
3. Monitor Progress Activity Page Formative Assessment Review Plants Get What They Need (AP 2.1.1) by asking the following questions: • How does the plant you drew survive in the environment?
4. AP 2.1.1 • What would happen if the plant didn't get enough sunlight, water, or space?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: Where do plants get what they need?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 2.1.1: Plants Get What They Need — Teacher Guide PDF page 184

Lesson 2.2: Roots, Leaves, and Seeds Cause Changes

THE BIG QUESTION

How can plants' roots, leaves, and seeds cause changes?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 69–73: the steps, materials and timing for this lesson.

Talk it over

1. Online Resources See the Online Resources Guide for a link to the recommended images. www.coreknowledge.org/cksci-online-resources How does this plant change the environment?
2. Consider amount of water, sunlight, and warmth. • At the end of two weeks, discuss the following questions: How did your plant make changes in its environment?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: How can plants' roots, leaves, and seeds cause changes?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 2.2.1: Planting Seeds — Teacher Guide PDF page 185

Lesson 2.3: Plants Change Environments

THE BIG QUESTION

How can plants change their environments?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 74–80: the steps, materials and timing for this lesson.

Talk it over

1. LITERAL—How are the kudzu plants changing the environment?
2. CHANGING ENVIRONMENTS INFERENTIAL—How would kudzu affect animals in the environment?
3. They can break sidewalks apart. 15 LITERAL—How are the trees in the pictures changing the environment?
4. LESSON 2.3 | PLANTS CHANGE ENVIRONMENTS 71 INFERENTIAL—How would the trees be different if they had more space?
5. They can shade other plants when they grow on top of them. 16 LITERAL—How are the vines growing to get sunlight?
6. LESSON 2.3 | PLANTS CHANGE ENVIRONMENTS 73 LITERAL—How do the plants in the pictures change the environment?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: How can plants change their environments?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 2.3.1: Plants Make Changes — Teacher Guide PDF page 186

Lesson 2.4: Lesson 2 Roundup: Plants Change Other Living Things

THE BIG QUESTION

How can plants change their environments?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing
- **organism** — a living thing that can reproduce, grow, adapt, and respond to its environment

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 81–85: the steps, materials and timing for this lesson.

Talk it over

1. Briefly review what students have learned about plant needs by asking these questions: What do plants need to live?
2. Monitor Progress Formative Assessment Use the following questions to check for understanding: • How can plants affect other plants?
3. Discuss how plants had changed the environment in the schoolyard where Alex and the squirrel ate by asking the following questions: • How do the trees change the environment?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: How can plants change their environments?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 2.4.1: Plants Cause Changes — Teacher Guide PDF page 187

Lesson 3.1: Animals Get What They Need

THE BIG QUESTION

Where do animals get what they need?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 86–92: the steps, materials and timing for this lesson.

Read

Read Student Book, Chapter 4: “Animals Can Change Environments”: PDF pages 22–25. Look at the pictures and maps together.

Talk it over

1. They were alive and healthy. • Briefly review Lessons 1 and 2 by asking these questions: What do animals need from their environment to survive?
2. How does your animal change the environment it is in?
3. Monitor Progress Formative Assessment Activity Page Review Animals Get What They Need (AP 3.1.1) by asking the following questions: • Why does the animal you drew survive in the environment?
4. AP 3.1.1 • What would happen if it didn't get enough water, air, food, or shelter?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: Where do animals get what they need?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 3.1.1: Animals Get What They Need — Teacher Guide PDF page 188

Lesson 3.2: Animal Behaviors Cause Changes

THE BIG QUESTION

What animal behaviors can cause changes?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing
- **organism** — a living thing that can reproduce, grow, adapt, and respond to its environment

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 93–96: the steps, materials and timing for this lesson.

Talk it over

1. What do animals need to live?
2. See the Online Resources Guide for a link to the recommended videos:
www.coreknowledge.org/cksci-online-resources How does this animal change the environment?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: What animal behaviors can cause changes?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 3.2.1: Animal Changes — Teacher Guide PDF page 189

Lesson 3.3: Animals Change Environments

THE BIG QUESTION

How can animals change their environments?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing
- **organism** — a living thing that can reproduce, grow, adapt, and respond to its environment

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 97-103: the steps, materials and timing for this lesson.

Talk it over

1. LITERAL—How does the squirrel change the environment?
2. INFERENTIAL—How does a new tree change the environment where it grows for animals?
3. It is the beaver's home. 20 LITERAL—How can a beaver change the environment?
4. Many plants that live near a stream cannot survive the change when the land is flooded with water. 21 INFERENTIAL—How does a beaver get what it needs to live?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: How can animals change their environments?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 3.3.1: Animals Make Changes — Teacher Guide PDF page 190

Lesson 3.4: Lesson 3 Roundup: Animals Change Other Living Things

THE BIG QUESTION

How can animals change their environments?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing
- **organism** — a living thing that can reproduce, grow, adapt, and respond to its environment

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 104–108: the steps, materials and timing for this lesson.

Talk it over

1. Focus student attention. • Briefly review what students learned about animal needs by asking these questions: What do animals need to live?
2. Monitor Progress Formative Assessment Use the following questions to check for understanding: • How can animals affect plants?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: How can animals change their environments?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 3.4.1: Animals Change Living and Nonliving Things — Teacher Guide PDF page 191

Lesson 4.1: Humans Get What They Need

THE BIG QUESTION

Where do people get what they need?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 109–115: the steps, materials and timing for this lesson.

Read

Read Student Book, Chapter 5: “Humans Can Change Environments”: PDF pages 26–31. Look at the pictures and maps together.

Talk it over

1. What do you need to live?
2. AP 4.1.1 Could an animal have made this change?
3. Human food production and needs for water and shelter, including energy and materials, affect air and water quality around the world. 108 CHANGING ENVIRONMENTS How does this change affect other animals in the environment?
4. How are the ways humans meet their water needs different from the ways other animals and plants meet their water needs?
5. Monitor Progress Formative Assessment Activity Page Review People Get What They Need (AP 4.1.1) by asking the following questions: • What types of changes do people make to the environment for food?
6. AP 4.1.1 • What types of changes do people make to the environment for shelter?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: Where do people get what they need?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 4.1.1: People Get What They Need — Teacher Guide PDF page 192

Lesson 4.2: Human Behaviors Cause Changes

THE BIG QUESTION

What human behaviors can cause changes?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing
- **organism** — a living thing that can reproduce, grow, adapt, and respond to its environment

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 116–121: the steps, materials and timing for this lesson.

Talk it over

1. Briefly review what students learned about human needs in the last segment by asking these questions: What do people need to live?
2. How is the help people need different from what would happen if another animal didn't get what it needs to live?
3. Ask these questions: How are the foods you like to eat different from the foods a squirrel eats?
4. See the Online Resources Guide for a link to the recommended video: www.coreknowledge.org/cksci-online-resources What are some of the changes people made to the environment to get the food, like eggs, to the grocery store?
5. People had to build a grocery store where the eggs can be kept cool and safe so people can buy them. 112 CHANGING ENVIRONMENTS How did all these changes make the environment change?
6. See the Online Resources Guide for a link to the recommended video: www.coreknowledge.org/cksci-online-resources What are some of the changes people made to the environment to get the drink, like orange juice, to the grocery store?
7. How did all these buildings change the environment?
8. See the Online Resources Guide for a link to the recommended video: www.coreknowledge.org/cksci-online-resources What are some of the changes people made to the environment to build the houses?
9. How did all these homes change the environment?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: What human behaviors can cause changes?

- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 4.2.1: Human Needs — Teacher Guide PDF page 193

Lesson 4.3: People Change Environments

THE BIG QUESTION

How do people change their environments?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing
- **organism** — a living thing that can reproduce, grow, adapt, and respond to its environment

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 122–130: the steps, materials and timing for this lesson.

Talk it over

1. They cut down all the trees and dug up the ground to plant crops. They cleared the land for the buildings. INFERENTIAL—What kinds of food come from farms?
2. LITERAL—What living things are in the picture?
3. Humans gather these materials to package things like granola bars. 23 INFERENTIAL—Where do all the parts needed to package food come from?
4. In meeting our need for food, people change the environment. 24 LITERAL—How did the people who built the farm change the environment?
5. These grain crops are sold around the world. 120 CHANGING ENVIRONMENTS EVALUATIVE—What would people do for food if there weren't farms?
6. Pollution can make nearby environments unsafe for plants and animals. 26 INFERENTIAL—What kinds of foods are made in factories?
7. They can have a hard time getting what they need to survive. 27 LITERAL—How do the foods from the factories get to the stores?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: How do people change their environments?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 4.3.1: Humans Make Changes — Teacher Guide PDF page 194

Lesson 4.4: Lesson 4 Roundup: People Change Other Living Things

THE BIG QUESTION

How do people change their environments?

Words to know

- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing
- **organism** — a living thing that can reproduce, grow, adapt, and respond to its environment

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 131–135: the steps, materials and timing for this lesson.

Talk it over

1. What do people need to live?
2. After the well digger cuts down the tree and as the digging starts, the worm moves. • After each pantomime, discuss these questions: (See Know the Science.) What human need is being met?
3. How does meeting the human need affect land, air, and water?
4. Monitor Progress Formative Assessment Use the following questions to check for understanding: • How can people affect plants in an environment?
5. Humans change environments, too, by overhunting, overfishing, logging, or burning forests. 128 CHANGING ENVIRONMENTS • How can people affect other animals in an environment?
6. Discuss how humans had changed the environment in the schoolyard where Alex and the squirrel ate by asking the following questions: • What evidence of human changes to the environment are there?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: How do people change their environments?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 4.4.1: People Change Environments — Teacher Guide PDF page 195

Lesson 5.1: Being Eco-friendly

THE BIG QUESTION

What does it mean to be eco-friendly?

Words to know

- **eco-friendly** — posing minimal harm to the natural environment
- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 136–142: the steps, materials and timing for this lesson.

Read

Read Student Book, Chapter 6: “Humans Can Help Environments”: PDF pages 32–37. Look at the pictures and maps together.

Talk it over

1. Then distribute Eco-friendly?
2. What happened after Alex and the squirrel finished eating their snack?
3. What does it mean to be friendly?
4. After each presentation, ask these questions: AP 5.1.1 NGSS Elements SEP 8 CCC 2 DCI ESS3.C Did this change happen to meet a need for shelter, for water, for air, for food, or for some other reason?
5. LESSON 5.1 | BEING ECO-FRIENDLY 135 How does this change affect other animals in the environment?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: What does it mean to be eco-friendly?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 5.1.1: Eco-friendly? — Teacher Guide PDF page 196

Lesson 5.2: Good and Bad Changes

THE BIG QUESTION

What human activities can be labeled harmful to the environment?

Words to know

- **eco-friendly** — posing minimal harm to the natural environment
- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 143–147: the steps, materials and timing for this lesson.

Talk it over

1. Why is reusing things good for the environment?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: What human activities can be labeled harmful to the environment?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 5.2.1: Better Changes — Teacher Guide PDF page 197

Lesson 5.3: Conservation

THE BIG QUESTION

What does it mean to protect the environment?

Words to know

- **eco-friendly** — posing minimal harm to the natural environment
- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 148–151: the steps, materials and timing for this lesson.

Talk it over

1. making choices that cause less harm to the environment What materials can be recycled?
2. Focus student attention. • Briefly review what students learned about eco-friendly choices people make in the last segment by asking these questions: What does eco-friendly mean?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: What does it mean to protect the environment?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 5.3.1: Eco-friendly Choices — Teacher Guide PDF page 198

Lesson 5.4: People Can Protect the Environment

THE BIG QUESTION

How can people take care of the environment?

Words to know

- **eco-friendly** — posing minimal harm to the natural environment
- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 152–161: the steps, materials and timing for this lesson.

Talk it over

1. INFERENTIAL—How does riding your bike instead of riding in a car help the environment?
2. Another way to save water is to do a few full loads of laundry instead of many small loads. 29 LESSON 5.4 | PEOPLE CAN PROTECT THE ENVIRONMENT 149 LITERAL—What are the two ways shown on the page to conserve water?
3. Recycling means turning the material into something new. 30 150 CHANGING ENVIRONMENTS LITERAL—What are the examples of reusing on this page?
4. When old buildings or farmland are no longer used, people can return the land to what it was like before. older trees growing new trees 31 INFERENTIAL—Why is planting trees eco-friendly?
5. This way they do not need to use sprays that can wash into streams when it rains. 32 INFERENTIAL—Why do we need farms?
6. You can, too! 33 INFERENTIAL—Why is planting a garden eco-friendly?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: How can people take care of the environment?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 5.4.1: Humans Help Environments — Teacher Guide PDF page 199

Lesson 5.5: Environmental Solutions

THE BIG QUESTION

How can people take care of the environment?

Words to know

- **eco-friendly** — posing minimal harm to the natural environment
- **ecosystem** — organisms and their environment together as an interrelated system
- **environment** — the place and conditions that surround a living thing

Teacher's lesson plan

Follow the Teacher Guide, PDF pages 162–176: the steps, materials and timing for this lesson.

Read

Read Student Book, Chapter 7: “Science in Action”: PDF pages 38–48. Look at the pictures and maps together.

Talk it over

1. LITERAL—How does Alex try to take care of the environment?
2. UNIT SUPPLEMENT | SCIENCE IN ACTION: MEETING A SOIL TESTER 163 LITERAL—How do people know if the land and water are healthy?
3. How can you tell?
4. Is this helping the soil?
5. Influence of Engineering, Technology, and Science on Society and the Natural World
INFERENTIAL—Why do you think the farmer wants to help the soil?
6. INFERENTIAL—Why is it a good idea for the scientist to collect data again and again and to compare the data?
7. Data from soil samples help farmers grow healthy plants. 38 LITERAL—What can scientists use the data for?
8. UNIT SUPPLEMENT | SCIENCE IN ACTION: MEETING A SOIL TESTER 167
INFERENTIAL—Why does this information help farmers?

Answers are at the back of this pack.

Check for understanding

- Answer the Big Question in a sentence or two: How can people take care of the environment?
- Use one of today's words in a sentence of your own.

Activity pages

- Activity Page 5.5.1: Solutions — Teacher Guide PDF page 200

UNIT REVIEW

Unit review and assessment

- Activity page answer key (for the teacher): Teacher Guide PDF pages 202–203
- Activity Page UO.1 — Teacher Guide PDF page 178
- Activity Page US.1 — Teacher Guide PDF page 201

WORDS QUIZ

Changing Environments

Name: _____ Date: _____

Circle the letter of the best answer.

1. Which word means “a living thing that eats plants or other animals and can move around”?
 - a) spring
 - b) animal
 - c) shelter
 - d) air
2. Which word means “the plant part that takes up water and minerals, typically underground”?
 - a) environment
 - b) root
 - c) leaf
 - d) summer
3. Which word means “to lessen the amount of something”?
 - a) environment
 - b) reduce
 - c) organism
 - d) fire
4. Which word means “the season of the year between summer and winter when temperature starts to cool”?
 - a) litter
 - b) fall
 - c) fire
 - d) pollution
5. Which word means “a long period of unusually dry weather”?
 - a) needs
 - b) sunlight
 - c) root
 - d) drought
6. Which word means “the central part of a plant that provides support”?
 - a) organism
 - b) stem
 - c) eco-friendly
 - d) plant

- 7.** Which word means “posing minimal harm to the natural environment”?
- a) eco-friendly
 - b) space
 - c) reduce
 - d) air
- 8.** Which word means “the light, flames, and heat that occur when something burns”?
- a) reduce
 - b) fire
 - c) shelter
 - d) organism
- 9.** Which word means “a clear, tasteless, odorless liquid that covers most of Earth’s surface and on which living organisms depend”?
- a) reuse
 - b) organism
 - c) flood
 - d) ter
- 10.** Which word means “a living thing that can reproduce, grow, adapt, and respond to its environment”?
- a) fall
 - b) environment
 - c) organism
 - d) extinct
- 11.** Which word means “a mix of invisible gases that are all around us and that animals and plants breathe in”?
- a) air
 - b) space
 - c) animal
 - d) pollution
- 12.** Which word means “the season of the year between fall and spring when days are shorter and temperature is cooler or cold”?
- a) recycle
 - b) nter
 - c) organism
 - d) environment

Answers

Getting started: Meet the Big Question

1. **Alex thinks this is quite funny. 3 INFERENTIAL—How are the nuts Alex is eating the same as what the squirrel is eating?**
Both are food that will be eaten and digested. INFERENTIAL—How are the nuts different?
2. **INFERENTIAL—Which of the foods came from plants, and which came from animals?**
The oranges, juice, bread, lettuce, and granola bar came from plants. The meat and cheese came from animals. Online Resources
3. **After each meal, there is a story of what is left over and what happens to it. 5 INFERENTIAL—What will happen to the nutshell?**
It might blow away or be buried. INFERENTIAL—What will happen to Alex's trash?

Lesson 1.1: Meeting Needs

1. **How do you usually get the food and water you need?**
From the store, from parents, from the school cafeteria How does a bird get the food and water it needs?
2. **Have students draw what the living things that they identified consume in the environment: AP 1.1.1 What does each plant need to live?**
Soil, water, space, sunlight How does the plant get what it needs?
3. **What does each animal need to live?**
Food, water, air, shelter How does the animal get what it needs?
4. **How does each living thing change the environment?**
Accept all reasonable answers. For example, an insect that eats leaves changes the plant. A tree takes up space and blocks sunlight that other plants might need. How can nonliving things change the environment?
5. **How could you tell that humans have changed the environment?**
The grass was mowed, and the bushes were trimmed. There are sidewalks and a trash can. There are power wires and lights.
6. **Discuss the following elements, and have students draw the elements that appeal to them: What plants would you need?**
Trees, flowers, favorite food plants How would you get food?

Lesson 1.2: Seasons

1. **Discuss these questions to activate prior knowledge about seasons: Is it warm or cold outside?**
Answers will vary based on the time of year, current weather, and location. Is it sunny, dry, cloudy, rainy, or snowy outside?

2. **NGSS Elements How is summer different from spring?**

Summer is usually hotter than spring. The sun is out longer in the summer than the spring.

3. **SEP 7 SEP 1 CCC 4 DCI ESS2.E 36 How is fall different from summer?**

In fall, the days get shorter, and the weather is cooler. Plants might lose their leaves in the fall. Summer is much warmer than the fall.

Lesson 1.3: Damaging Changes

1. **Did this happen quickly or slowly?**

Quickly What do you think happened to the animals during the fire?

2. **When will the animals be able to come back to live?**

Not until the plants grow back because the animals will not be able to get what they need from the environment to live

3. **LESSON 1.3 | DAMAGING CHANGES 41 • Discuss the following questions to identify the changes: How are the pictures the same and different?**

The roads and building are the same but most of the land is underwater. What happened to the plants during the flood?

4. **See the Online Resources Guide for a link to the recommended images: Online Resources www.coreknowledge.org/cksci-online-resources • Discuss the following questions to identify the changes: How are the pictures the same and different?**

The landscape is the same, but there is a lot of water in one picture and very little water in the other. What happened to the plants during the drought?

Lesson 1.4: Lesson 1 Roundup: Organisms and Their Environments

1. **Animals need shelter to stay alive. 7 LITERAL—What do animals need to survive?**

Food, water, air, and a safe place to live INFERENTIAL—What do people need to stay alive?

2. **A forest floor is a shady environment. 9 LITERAL—What are the different types of environments in the pictures?**

Dry desert, wet pond, shady forest EVALUATIVE—Which environment is most likely to have the most living things?

3. **INFERENTIAL—Which of these environments has the most sunlight?**

Desert

4. **LESSON 1.4 | LESSON 1 ROUNDUP: ORGANISMS AND THEIR ENVIRONMENTS 49 INFERENTIAL—Which of these environments has the most water?**

Pond INFERENTIAL—Which of these environments has the most food for living things?

5. **This helps the fox hide when its environment becomes snowy. 11 INFERENTIAL—How do animals in our local environment change with the seasons?**

Answers will vary depending on location. For example, some areas may have a greater population of birds in the winter. Other areas may see rabbits throughout the

year.

6. **Movement of rock and dirt can be a sudden change. 12 INFERENTIAL—How do fires and floods affect an environment?**

They cause plants to die and animals to leave the area.

7. **INFERENTIAL—Why are sudden changes dangerous?**

Animals and plants cannot get ready for them. Page 13

8. **Many living things could not survive this sudden change. 13 LESSON 1.4 | LESSON 1 ROUNDUP: ORGANISMS AND THEIR ENVIRONMENTS 53 LITERAL—What happens if an environment changes too quickly?**

Living things cannot survive the change LITERAL—What might have happened to the environment of the dinosaurs?

9. **Discuss how both Alex and the squirrel changed the environment by asking the following questions: • What was the school ground like before the lunch break?**

It was a space with trees, grass, and a trash can.

Lesson 2.1: Plants Get What They Need

1. **How are indoor plants taken care of?**

People water them and make sure they have sunlight and nutrients. What would happen to the plants if they didn't get water or sunlight?

2. **How do these indoor plants change the indoor environment?**

They add color. They take up space. They make the room smell nice.

3. **Monitor Progress Activity Page Formative Assessment Review Plants Get What They Need (AP 2.1.1) by asking the following questions: • How does the plant you drew survive in the environment?**

It gets the air, water, space, nutrients, and sunlight it needs to grow.

4. **AP 2.1.1 • What would happen if the plant didn't get enough sunlight, water, or space?**

It would die.

Lesson 2.2: Roots, Leaves, and Seeds Cause Changes

1. **Online Resources See the Online Resources Guide for a link to the recommended images. www.coreknowledge.org/cksci-online-resources How does this plant change the environment?**

The roots can break up the sidewalk. The leaves can cover the ground, block sunlight, and kill other plants. The plant covers the water and blocks sunlight. The seeds spread and make new plants that crowd out other plants. Why are there fewer ground plants in a forest than in a field?

2. **Consider amount of water, sunlight, and warmth. • At the end of two weeks, discuss the following questions: How did your plant make changes in its environment?**

It pushed the dirt aside as the roots grew. The leaves shaded the dirt. How is your plant like the plants that made changes in the pictures?

Lesson 2.3: Plants Change Environments

1. **LITERAL—How are the kudzu plants changing the environment?**

The leaves are covering the tree and other plants, blocking sunlight from other plants and creating a dark environment below. 70

2. **CHANGING ENVIRONMENTS INFERENTIAL—How would kudzu affect animals in the environment?**

If it kills the food for the animals, the animals will go away. CORE VOCABULARY—Have students identify the vegetative body parts of a plant: leaves, roots, stems. Flowers and seeds are some of the reproductive body parts. Discuss the function of each part. Roots absorb water and nutrients from the soil. Stems hold the plants up and move water and nutrients from the roots to the leaves. Leaves absorb sunlight. Flowers and seeds make new plants. Page 15

3. **They can break sidewalks apart. 15 LITERAL—How are the trees in the pictures changing the environment?**

Their roots are covering the rock in the first picture. In the second picture, the roots are growing and pushing the cement in the sidewalk.

4. **LESSON 2.3 | PLANTS CHANGE ENVIRONMENTS 71 INFERENTIAL—How would the trees be different if they had more space?**

The tree in the first picture wouldn't have to grow over the rock. In the second picture, the roots wouldn't have to push the sidewalk up. CORE VOCABULARY—Explain that plants need water and space to live. Discuss how these trees get water. Then have students describe how the trees changed the environment in their struggle to find more space. Page 16

5. **They can shade other plants when they grow on top of them. 16**

LITERAL—How are the vines growing to get sunlight?

They are climbing up the tree. INFERENTIAL—How would the vines grow if the sunlight was in a different place?

6. **LESSON 2.3 | PLANTS CHANGE ENVIRONMENTS 73 LITERAL—How do the plants in the pictures change the environment?**

They cover other plants and the water. This blocks sunlight, and other plants can't grow. INFERENTIAL—How do invasive plants hurt other plants?

Lesson 2.4: Lesson 2 Roundup: Plants Change Other Living Things

1. **Briefly review what students have learned about plant needs by asking these questions: What do plants need to live?**

Sunlight, air, water, nutrients, space What would happen if a plant doesn't get enough sunlight, air, water, or space?

2. **Monitor Progress Formative Assessment Use the following questions to check for understanding: • How can plants affect other plants?**

They can block sunlight so other plants don't grow well.

3. **Discuss how plants had changed the environment in the schoolyard where Alex and the squirrel ate by asking the following questions: • How do the**

trees change the environment?

They shade the area.

Lesson 3.1: Animals Get What They Need

1. **They were alive and healthy.** • Briefly review Lessons 1 and 2 by asking these questions: What do animals need from their environment to survive? Food, air, shelter, water What do plants need from their environment to survive?
2. **How does your animal change the environment it is in?**
Accept all reasonable answers. For example, the animal digs up the ground or builds nests in trees or grass. EXTEND—It may not be obvious what an animal eats or where it sleeps in a shelter. Assist students in researching online shelters and foods for certain insects, birds, or rodents.
3. **Monitor Progress Formative Assessment Activity Page Review Animals Get What They Need (AP 3.1.1) by asking the following questions:** • Why does the animal you drew survive in the environment?
It gets the water, food, air, and shelter it needs to grow.
4. **AP 3.1.1 • What would happen if it didn't get enough water, air, food, or shelter?**
It would die or move to another location.

Lesson 3.2: Animal Behaviors Cause Changes

1. **What do animals need to live?**
Food, water, air, shelter What would happen if an animal didn't get enough water, air, food, or shelter?
2. **See the Online Resources Guide for a link to the recommended videos: www.coreknowledge.org/cksci-online-resources How does this animal change the environment?**
It digs tunnels underground. It buries nuts. It makes holes in trees. It makes dirt hills. It builds nests in trees. It eats everything and kills the plants.

Lesson 3.3: Animals Change Environments

1. **LITERAL—How does the squirrel change the environment?**
The squirrel digs a hole and buries the nut. LITERAL—What can happen to the nut if the squirrel doesn't eat it?
2. **INFERENTIAL—How does a new tree change the environment where it grows for animals?**
Birds build nests in trees. Animals make hollow spaces to live in. Insects lay eggs on tree leaves. Insects eat tree leaves. EVALUATIVE—Do you think it's good or bad for a tree for animals to live in it?
3. **It is the beaver's home. 20 LITERAL—How can a beaver change the environment?**
It cuts down trees that other animals live in. It builds dams as a shelter that change how water flows.

4. **Many plants that live near a stream cannot survive the change when the land is flooded with water. 21 INFERENTIAL—How does a beaver get what it needs to live?**

It cuts down trees to build shelter. It collects and stores food to eat. It gets all the water it needs. EVALUATIVE—In what ways do beaver dams change the environment?

Lesson 3.4: Lesson 3 Roundup: Animals Change Other Living Things

1. **Focus student attention. • Briefly review what students learned about animal needs by asking these questions: What do animals need to live?**
Food, water, shelter What would happen if an animal didn't get enough food or water or didn't have shelter?
2. **Monitor Progress Formative Assessment Use the following questions to check for understanding: • How can animals affect plants?**
They can eat them. They can step on them. They can use them for shelter.

Lesson 4.1: Humans Get What They Need

1. **What do you need to live?**
Food, water, air, shelter How do you get what you need to live?
2. **AP 4.1.1 Could an animal have made this change?**
Probably not How does this change affect plants in the environment?
3. **Human food production and needs for water and shelter, including energy and materials, affect air and water quality around the world. 108 CHANGING ENVIRONMENTS How does this change affect other animals in the environment?**
Birds or insects may like the new plants. Other animals, like deer, may stay away because they cannot find what they need to survive. Some animals, like birds and raccoons, may find food, water, or shelter in the changes humans made.
4. **How are the ways humans meet their water needs different from the ways other animals and plants meet their water needs?**
Humans can drink from a water fountain, a water bottle, or a canned drink after it has been filtered and processed. When they have to, people can drink rainwater or from a stream or pond.
5. **Monitor Progress Formative Assessment Activity Page Review People Get What They Need (AP 4.1.1) by asking the following questions: • What types of changes do people make to the environment for food?**
Make gardens, farms, orchards, food processing plants, and grocery stores
6. **AP 4.1.1 • What types of changes do people make to the environment for shelter?**
Build houses, apartment buildings, and office buildings

Lesson 4.2: Human Behaviors Cause Changes

1. **Briefly review what students learned about human needs in the last segment by asking these questions: What do people need to live?**

Food, water, air, shelter What would happen if you didn't get enough water, food, or shelter?

2. **How is the help people need different from what would happen if another animal didn't get what it needs to live?**

Other animals don't have the same help and resources people have.

3. **Ask these questions: How are the foods you like to eat different from the foods a squirrel eats?**

Many are from a lot of different ingredients. They come from many different places, not from the local environment. They are prepared and sometimes packaged in plastic or cans. How is the way you get food different from the way an animal gets its food?

4. **See the Online Resources Guide for a link to the recommended video: www.coreknowledge.org/cksci-online-resources What are some of the changes people made to the environment to get the food, like eggs, to the grocery store?**

People had to make sure the chickens have food and water.

5. **People had to build a grocery store where the eggs can be kept cool and safe so people can buy them. 112 CHANGING ENVIRONMENTS How did all these changes make the environment change?**

Trees were cut down, land was cleared, and electricity was provided. The animals and plants that lived on the land were eliminated or moved to another location.

EXTEND—Ask a local farmer to come and discuss the process of growing the food that we buy at a grocery store.

6. **See the Online Resources Guide for a link to the recommended video: www.coreknowledge.org/cksci-online-resources What are some of the changes people made to the environment to get the drink, like orange juice, to the grocery store?**

People had to grow an orchard.

7. **How did all these buildings change the environment?**

Trees were cut down, land was cleared, and electricity was provided. The animals and plants that lived on the land were eliminated or moved. EXTEND—Choose a food and conduct internet research on where the ingredients come from.

8. **See the Online Resources Guide for a link to the recommended video: www.coreknowledge.org/cksci-online-resources What are some of the changes people made to the environment to build the houses?**

People had to clear land and dig foundations.

9. **How did all these homes change the environment?**

Trees were cut down, land was cleared, and electricity was provided. The animals and plants that lived on the land were eliminated or moved.

Lesson 4.3: People Change Environments

1. **They cut down all the trees and dug up the ground to plant crops. They cleared the land for the buildings. INFERENTIAL—What kinds of food come from farms?**
See Know the Science.
2. **LITERAL—What living things are in the picture?**
Trees, bushes, and likely insects
3. **Humans gather these materials to package things like granola bars. 23 INFERENTIAL—Where do all the parts needed to package food come from?**
They come from paper, glass, and plastic from other factories. INFERENTIAL—What would happen if foods were not packaged?
4. **In meeting our need for food, people change the environment. 24 LITERAL—How did the people who built the farm change the environment?**
They cut down all the trees and dug up the ground to plant crops. They cleared the land for the buildings. INFERENTIAL—What kinds of food come from farms? (See Know the Science.)
5. **These grain crops are sold around the world. 120 CHANGING ENVIRONMENTS EVALUATIVE—What would people do for food if there weren't farms?**
Everyone would need to produce food for themselves. They would have to have their own gardens, chickens, and cows if they wanted milk, eggs, fruits, and vegetables. CORE VOCABULARY—Explain that people need water, air, and food to live. Discuss how most people get food and water and how people have changed the environment to make it accessible. Page 25
6. **Pollution can make nearby environments unsafe for plants and animals. 26 INFERENTIAL—What kinds of foods are made in factories?**
Foods that have to be made from many ingredients, for example bread and granola bars
7. **They can have a hard time getting what they need to survive. 27 LITERAL—How do the foods from the factories get to the stores?**
Trucks and trains take food from the factories to the stores. INFERENTIAL—How can roads be bad for animals?

Lesson 4.4: Lesson 4 Roundup: People Change Other Living Things

1. **What do people need to live?**
Food, water, air, and shelter
2. **After the well digger cuts down the tree and as the digging starts, the worm moves. • After each pantomime, discuss these questions: (See Know the Science.) What human need is being met?**
The need for food, shelter, or water How does meeting the human need affect other living things?
3. **How does meeting the human need affect land, air, and water?**
Water may be polluted or redirected, air may be polluted, and land may be cleared.

SUPPORT—If students struggle, provide prompts that lead them to a logical outcome. You may have to explain each scenario. Model for or pair up with struggling students as necessary.

4. **Monitor Progress Formative Assessment Use the following questions to check for understanding:** • **How can people affect plants in an environment?**
They can cut them down to make buildings. They can replace them with crops. They can kill them with pesticides.
5. **Humans change environments, too, by overhunting, overfishing, logging, or burning forests. 128 CHANGING ENVIRONMENTS** • **How can people affect other animals in an environment?**
They can make them move, kill them, or make them sick.
6. **Discuss how humans had changed the environment in the schoolyard where Alex and the squirrel ate by asking the following questions:** • **What evidence of human changes to the environment are there?**
Humans built the school, mowed the grass, built a sidewalk, and installed a trash can.

Lesson 5.1: Being Eco-friendly

1. **Then distribute Eco-friendly?**
AP 5.1.1
2. **What happened after Alex and the squirrel finished eating their snack?**
The squirrel left the shell in the dirt. Alex threw his wrapper in the trash can.
3. **What does it mean to be friendly?**
To be kind, to reach out, to help other people, to smile and talk to other people What's a way to be friendly to the environment?
4. **After each presentation, ask these questions: AP 5.1.1 NGSS Elements SEP 8 CCC 2 DCI ESS3.C Did this change happen to meet a need for shelter, for water, for air, for food, or for some other reason?**
Many changes will not specifically be for shelter, food, or water. For example, playground equipment is for recreation. Landscaping is for attractiveness. And many changes, like electric wires, are for improvements to shelter. How does this change affect plants in the environment?
5. **LESSON 5.1 | BEING ECO-FRIENDLY 135 How does this change affect other animals in the environment?**
Birds or insects may like the plantings. Other animals, like deer, may stay away because they cannot find what they need to survive. Some animals, like birds or raccoons, may find food, water, or shelter in the changes humans made. Is it eco-friendly?

Lesson 5.2: Good and Bad Changes

1. **Why is reusing things good for the environment?**
Reusing causes less trash and less waste of materials. Why is reducing things, like the amount of water or electricity, you use good for the environment?

Lesson 5.3: Conservation

1. **making choices that cause less harm to the environment What materials can be recycled?**

See Know the Science.

2. **Focus student attention. • Briefly review what students learned about eco-friendly choices people make in the last segment by asking these questions: What does eco-friendly mean?**

Making choices that cause less harm to the environment What materials can be recycled? (See Know the Science.)

Lesson 5.4: People Can Protect the Environment

1. **INFERENTIAL—How does riding your bike instead of riding in a car help the environment?**

It conserves gas. INFERENTIAL—How else can you conserve gas?

2. **Another way to save water is to do a few full loads of laundry instead of many small loads. 29 LESSON 5.4 | PEOPLE CAN PROTECT THE ENVIRONMENT 149 LITERAL—What are the two ways shown on the page to conserve water?**

Turn the water off when you brush your teeth. Do full loads of laundry.

INFERENTIAL—What are some other ways to conserve water?

3. **Recycling means turning the material into something new. 30 150 CHANGING ENVIRONMENTS LITERAL—What are the examples of reusing on this page?**

Reusing grocery bags and reusing plastic cartons INFERENTIAL—What are other ways to reduce, reuse, and recycle?

4. **When old buildings or farmland are no longer used, people can return the land to what it was like before. older trees growing new trees 31 INFERENTIAL—Why is planting trees eco-friendly?**

Trees provide food and shelter for many animals. Trees restore the environment to how it was before human changes.

5. **This way they do not need to use sprays that can wash into streams when it rains. 32 INFERENTIAL—Why do we need farms?**

Almost all of our food comes from different kinds of farms in different places in the world. INFERENTIAL—Why might growing plants inside be helpful to the environment?

6. **You can, too! 33 INFERENTIAL—Why is planting a garden eco-friendly?**

It provides food for us and other living things. CORE VOCABULARY—Ask students to think of other words for litter, such as trash, waste, and garbage. Discuss how litter refers to trash or garbage that is not put into a trash can or recycling bin.

Lesson 5.5: Environmental Solutions

1. **LITERAL—How does Alex try to take care of the environment?**

By throwing away his trash, picking up litter, and getting his teacher to make a classroom recycling bin

2. **UNIT SUPPLEMENT | SCIENCE IN ACTION: MEETING A SOIL TESTER 163**

LITERAL—How do people know if the land and water are healthy?

Scientists can test the water and the soil. Explain that chemicals are substances that are used for something. Give students examples of chemicals, such as cleaning products, shampoo, and soap. **LITERAL—What can scientists tell about the land from the soil?**

3. **How can you tell?**

It looks healthy. The plants are green, and they are growing well.

4. **Is this helping the soil?**

Yes

5. **Influence of Engineering, Technology, and Science on Society and the Natural World INFERENTIAL—Why do you think the farmer wants to help the soil?**

So plants can grow better there

6. **INFERENTIAL—Why is it a good idea for the scientist to collect data again and again and to compare the data?**

It is good to compare the data so the scientist can see if anything changes in the soil.

7. **Data from soil samples help farmers grow healthy plants. 38 LITERAL—What can scientists use the data for?**

They can use the data to balance the nutrients in the soil; they can use the data to tell if the soil has enough water in it or if the soil has chemicals in it.

8. **UNIT SUPPLEMENT | SCIENCE IN ACTION: MEETING A SOIL TESTER 167 INFERENTIAL—Why does this information help farmers?**

Knowing this information can help them grow healthy crops. Page 39

Unit quiz key

1. b 2. b 3. b 4. b 5. d 6. b 7. a 8. b 9. d 10. c 11. a 12. b