

## You Will Discover

- what makes up Earth.
- how people can help protect Earth.

# Chapter 6

# Land, Water, and Air



Build Background

# How are land, water, and air important?

sand



clay



humus

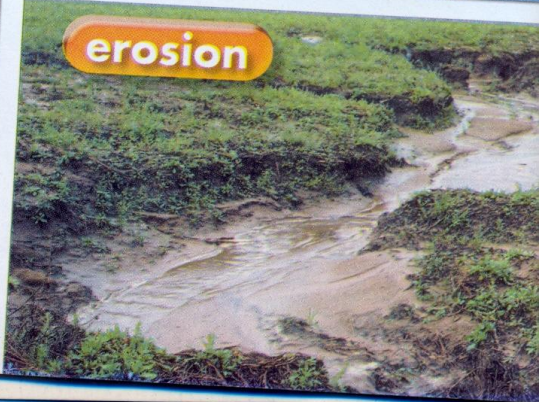
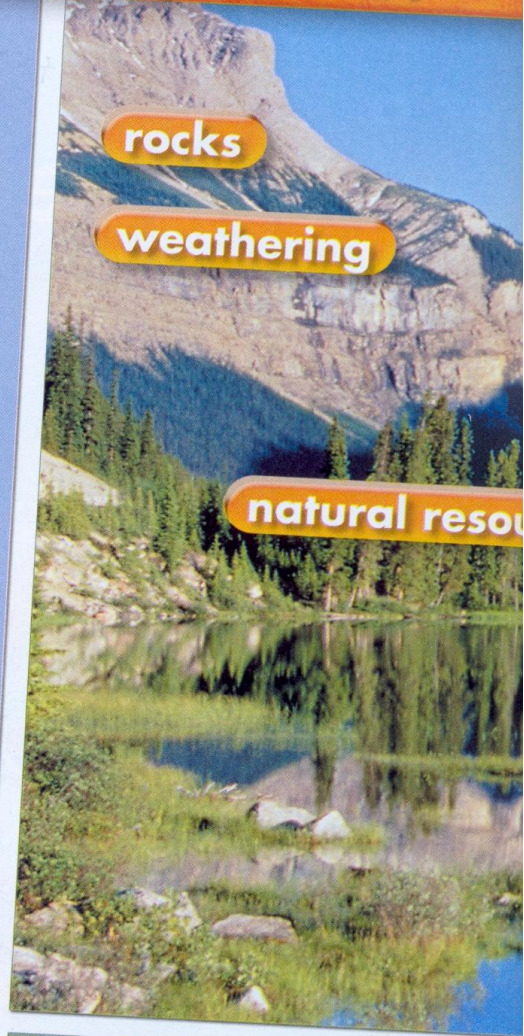


rocks

weathering

natural resource

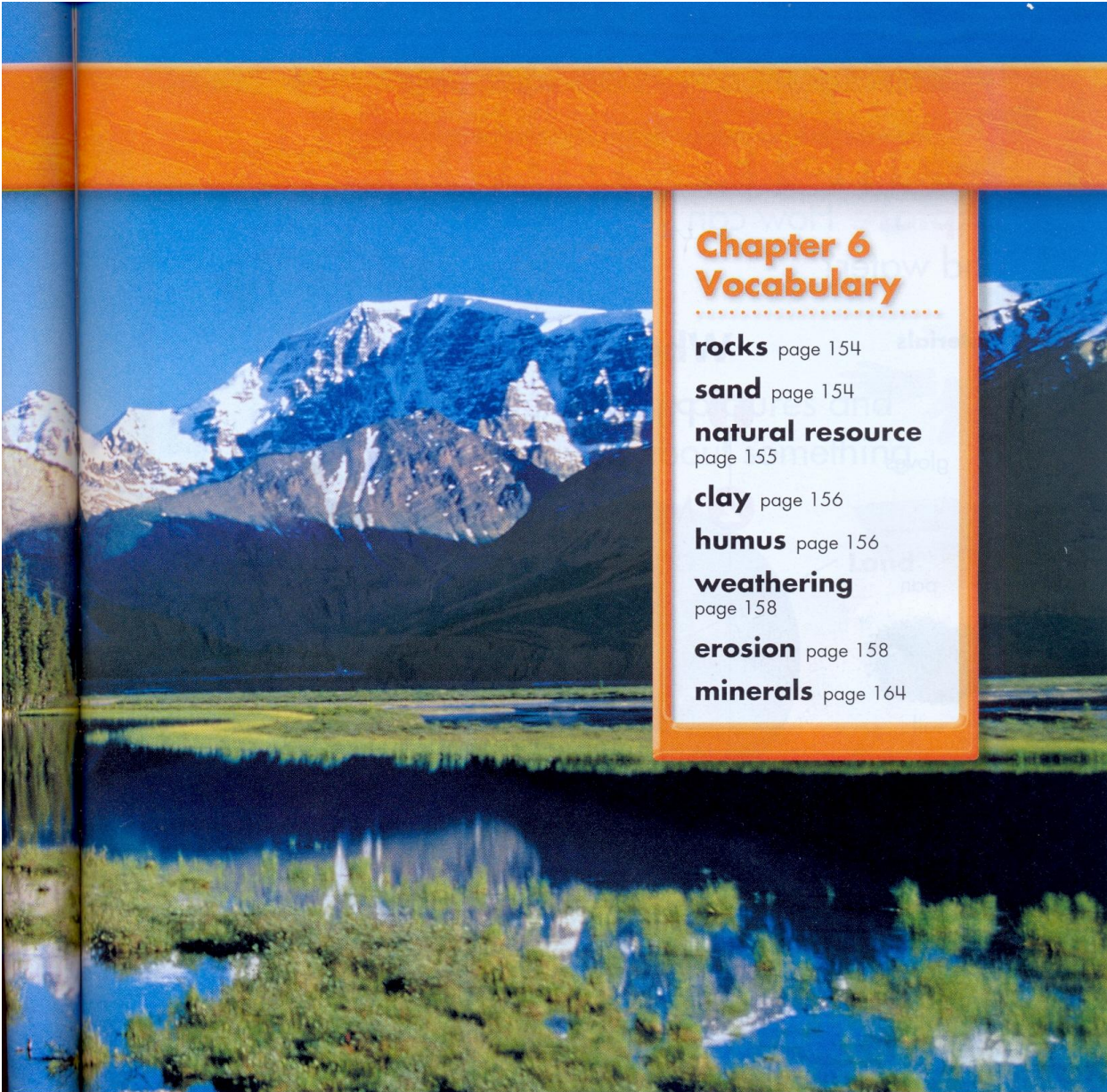
erosion



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## Chapter 6 Vocabulary

**rocks** page 154

**sand** page 154

**natural resource**  
page 155

**clay** page 156

**humus** page 156

**weathering**  
page 158

**erosion** page 158

**minerals** page 164



**minerals**

# Directed Inquiry

**Explore** How can you make a model of land and water?

## Materials



gloves



pan



soil



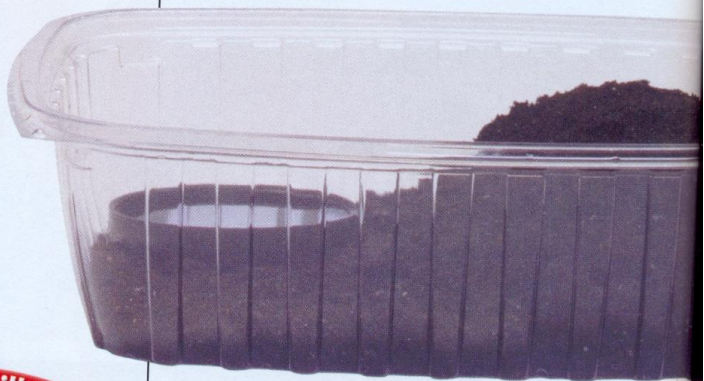
lid with water

## What To Do

- 1 Put on your gloves.
- 2 Make a model. Show land and water on Earth.

What part looks like a lake?

What part looks like a hill?



## Process Skills

**Making a model** can help you learn about Earth.

**Explain Your Results**  
What parts of Earth do you see in your **model**?

# How to Read Science

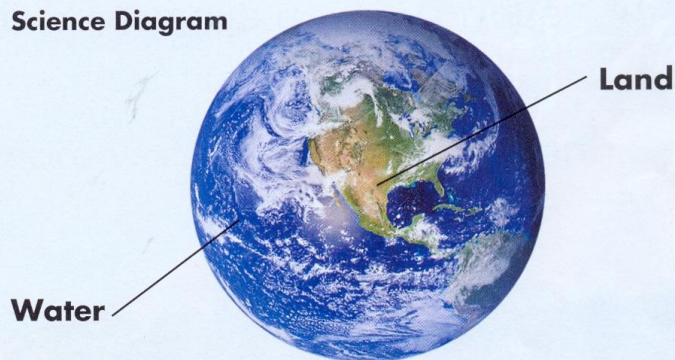
## Reading Skills



### Important Details

Important details are pictures and words that tell you about something.

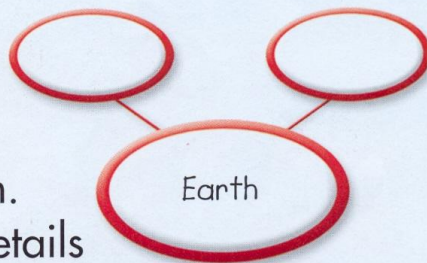
#### Science Diagram



This is how Earth looks from space.  
The blue is the water on Earth.  
The brown and green are land on Earth.

#### Apply It!

Suppose you are going to **make a model** of Earth.  
What important details would you show?



You Are There



## Water, Air, and Land

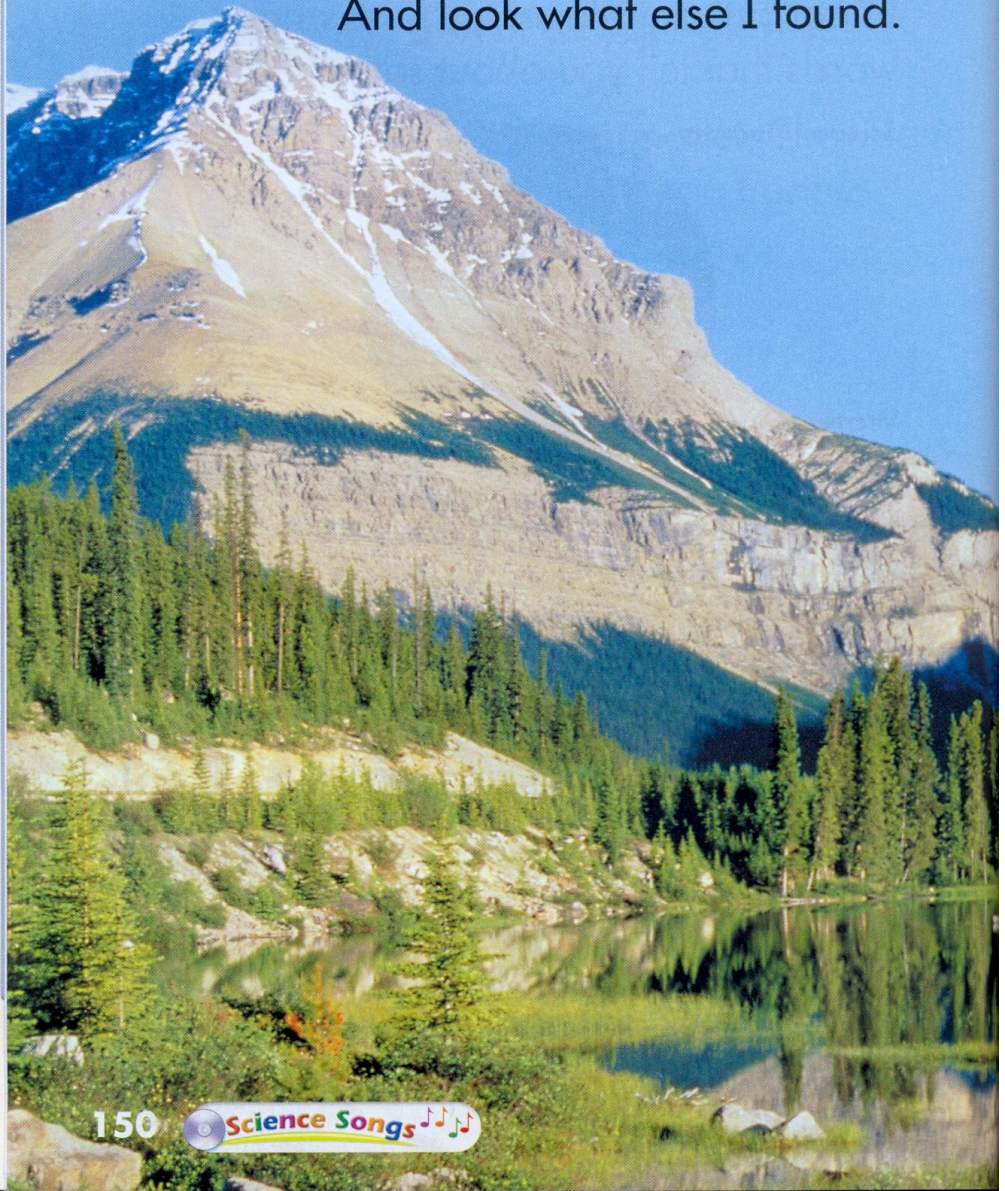
Sung to the tune of "I've Been Working On the Railroad"  
Lyrics by Gerri Brioso & Richard Freitas/The Dovetail Group, Inc.

Earth is made of land and water.

Air is all around.

Earth is made of land and water.

And look what else I found.



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150

Science Songs A small icon of musical notes.

## Lesson 1

# What makes up Earth?

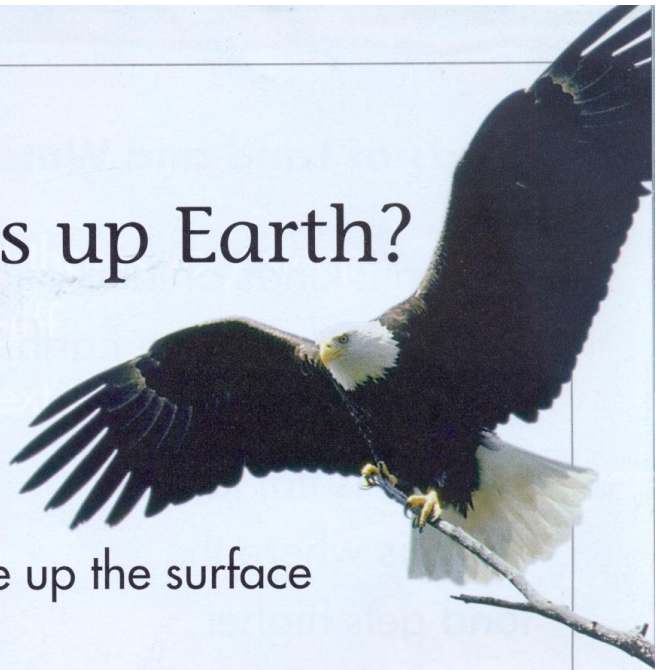
Look at the picture.

Find the land.

Find the water.

Land and water make up the surface  
of Earth.

There is more water than land on Earth.





## Kinds of Land and Water

Different kinds of land and water are found on Earth.

A plain is flat land.

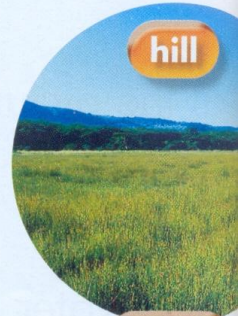
A hill is where the land gets higher.

This is a lake.

A lake is water that has land all around it.

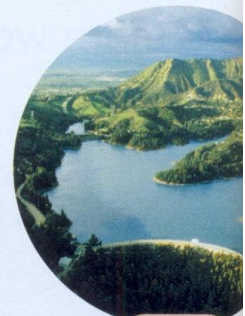
This is a river.

A river is water that flows through the land.

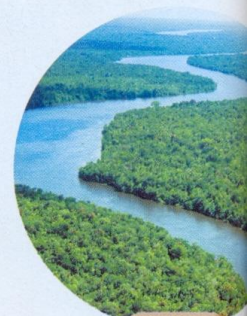


hill

plain

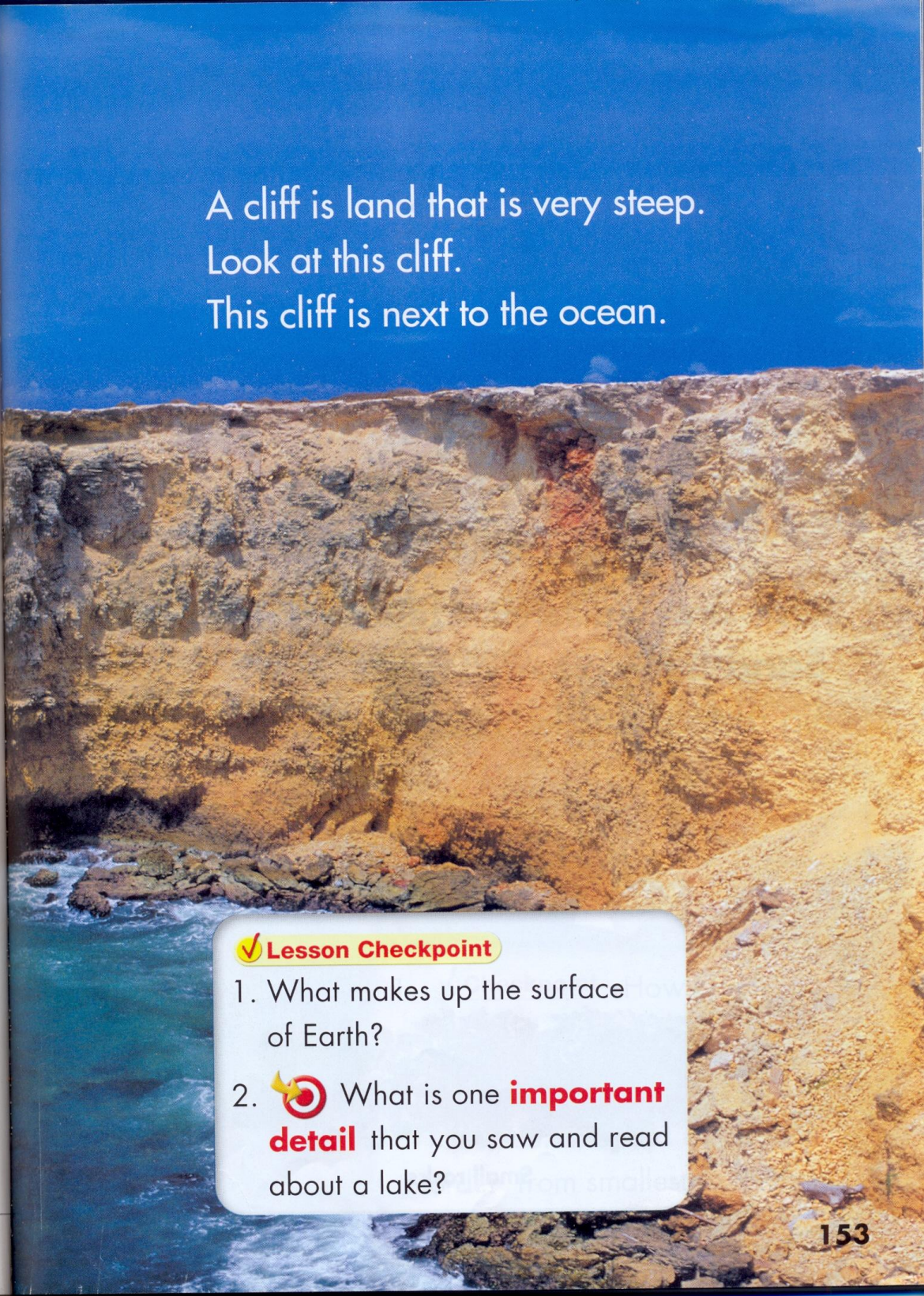


lake



river





A cliff is land that is very steep.  
Look at this cliff.  
This cliff is next to the ocean.

✓ **Lesson Checkpoint**

1. What makes up the surface of Earth?
2. 🎯 What is one **important detail** that you saw and read about a lake?



## Lesson 2

# What are rocks and soil

**Rocks** are nonliving things.  
Rocks come from Earth.

Rocks can be many colors.  
Some rocks feel smooth.  
Some rocks feel rough.

Rocks are all different sizes and shapes.

**Sand** is tiny pieces of broken rock.  
Big rocks are called boulders.



Sand

Small rocks





The road is made of rocks.



The fox is hiding in the rocks.

Rocks are a natural resource.

A **natural resource** is a useful thing that comes from nature.

Rocks

Boulder

1. **✓ Checkpoint** How can living things use rocks?
2. **Math in Science** Put small rocks, sand, and a boulder in order from smallest to largest.



## Soil

Soil is a natural resource.

Soil may have sand, clay, and humus in it.

Sand feels rough.

Sand is loose and easy to dig.

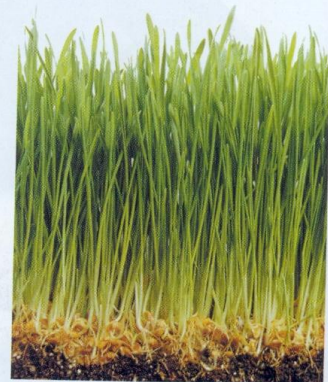
**Clay** is sticky and soft.

It is hard for plants to grow in clay.

**Humus** is made of parts of living things that died.



**Worms loosen the soil. The loose soil helps plants grow.**



**Humus in the soil helps plants grow.**

✓ **Lesson Checkpoint**

1. What helps plants grow?
2. **Math in Science** How many rabbits are in the picture?

**Look at this picture.  
What lives and  
grows in the soil?**





### Lesson 3

# What changes land?

Weathering can change land.

**Weathering** happens when rocks break apart and change.

Water and ice can cause weathering.


Weathering can take a long time!

Erosion can change land.

**Erosion** happens when wind or water moves rocks and soil.

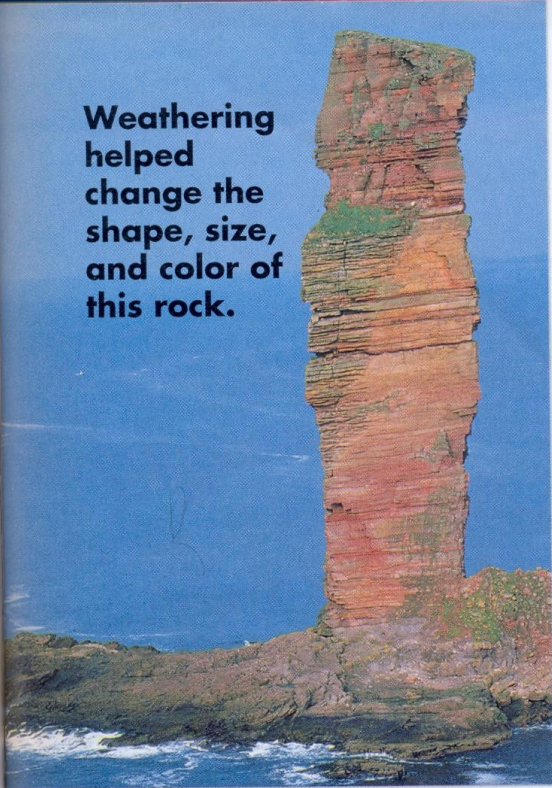
Roots of plants help hold soil in place. Plants can slow down erosion.

#### ✓ Lesson Checkpoint

1. What can change rocks?
2.  What is one **important detail** you saw and read about erosion?

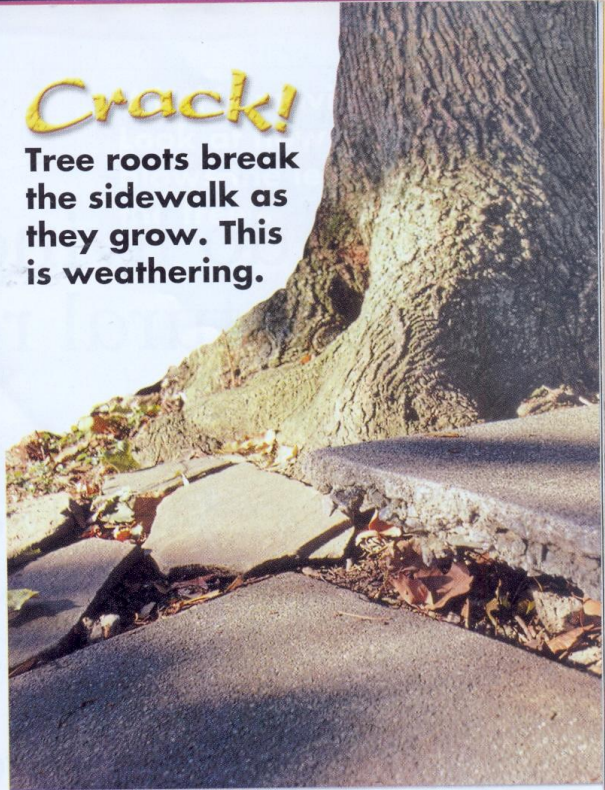


**Weathering**  
helped  
change the  
shape, size,  
and color of  
this rock.



**Crack!**

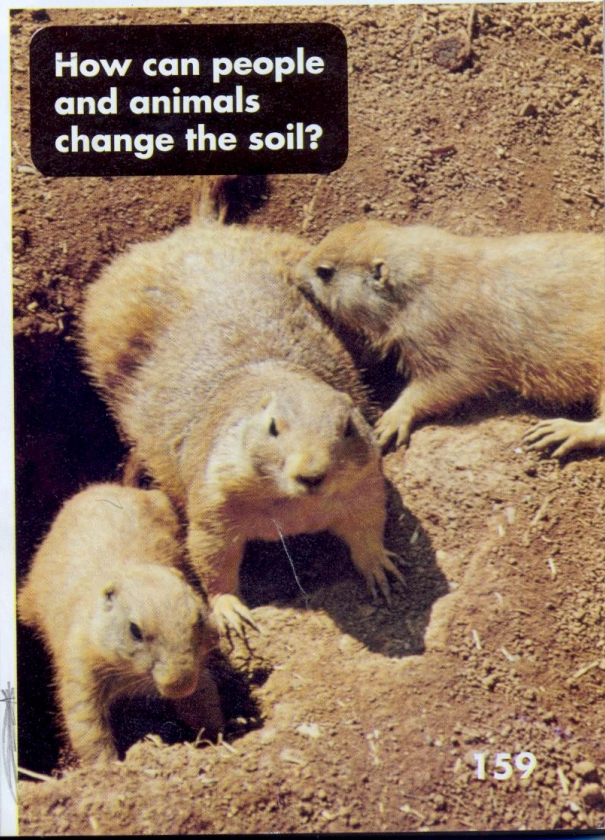
**Tree roots break  
the sidewalk as  
they grow. This  
is weathering.**



**Erosion is happening here.  
The water is washing the  
soil away quickly.**



**How can people  
and animals  
change the soil?**



## Lesson 4

# How do living things use natural resources?

Air is a natural resource.

Plants and trees need clean air to grow.

People and animals breathe air.

Some animals fly in the air.

Cars and trucks can give off harmful materials into the air.

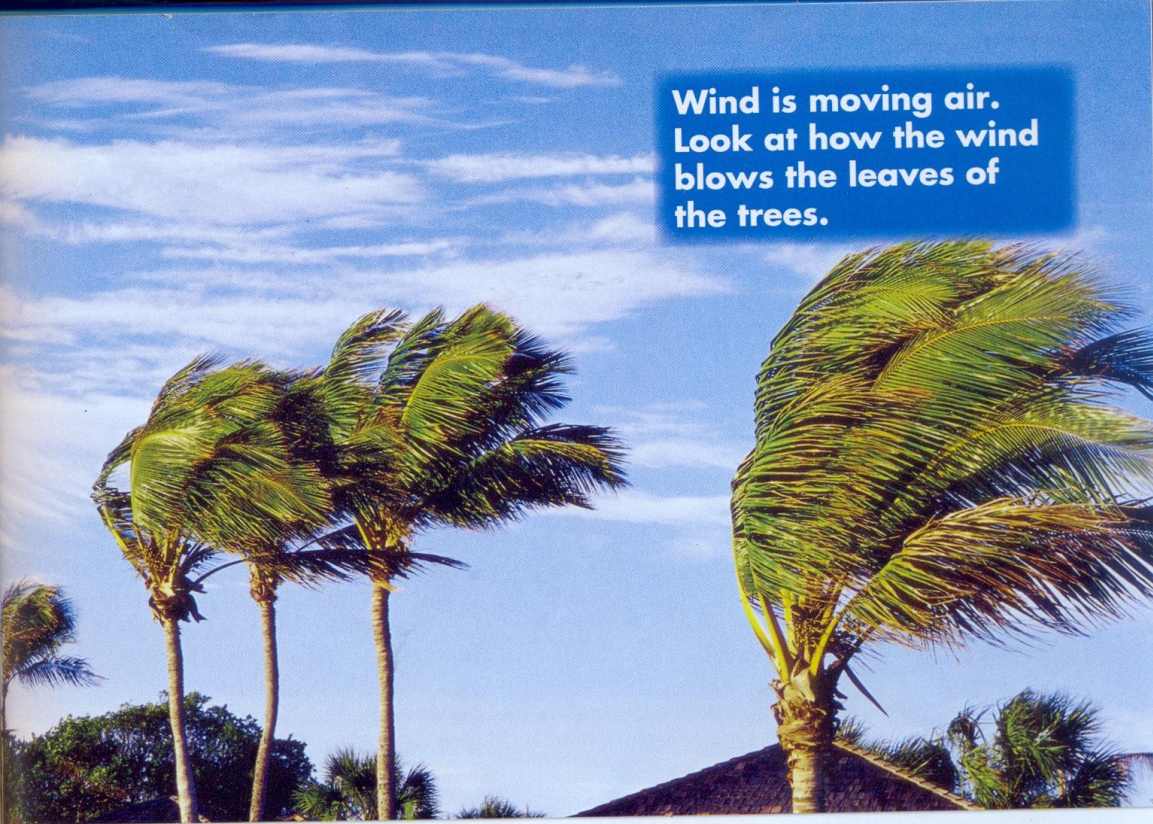
People can help keep the air clean.

People can walk.

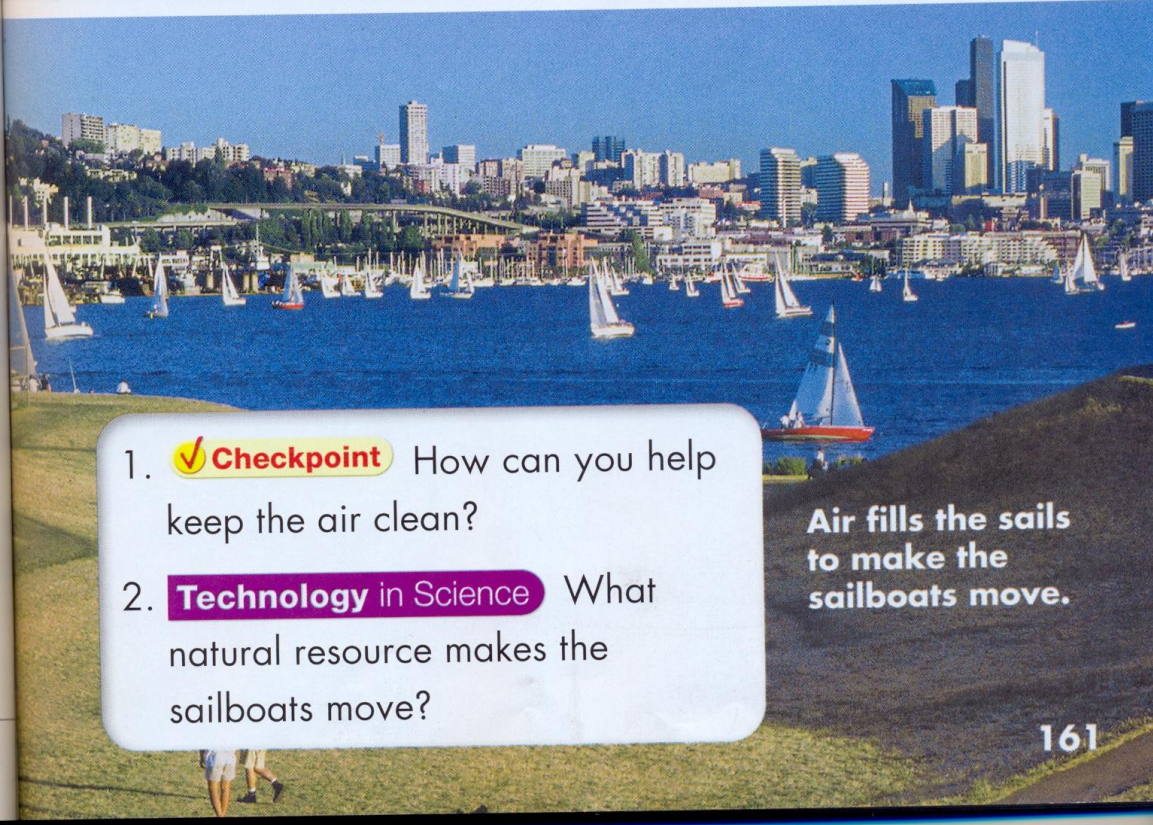
People can ride bikes.







Wind is moving air.  
Look at how the wind  
blows the leaves of  
the trees.

- 
1. **✓ Checkpoint** How can you help keep the air clean?
  2. **Technology in Science** What natural resource makes the sailboats move?

Air fills the sails  
to make the  
sailboats move.

## Using Water

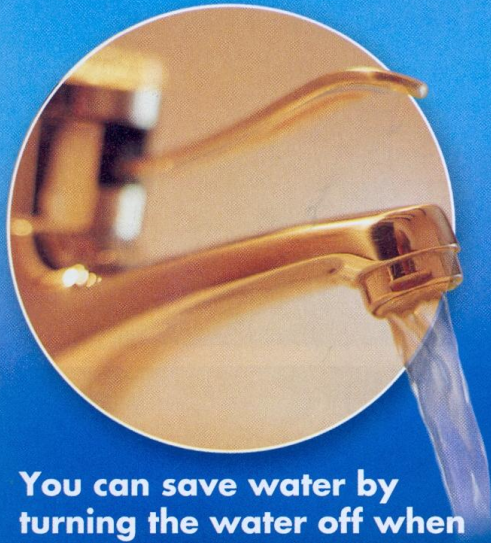
Water is a natural resource.  
Many animals live in water.  
Most animals drink water.

### Splish!

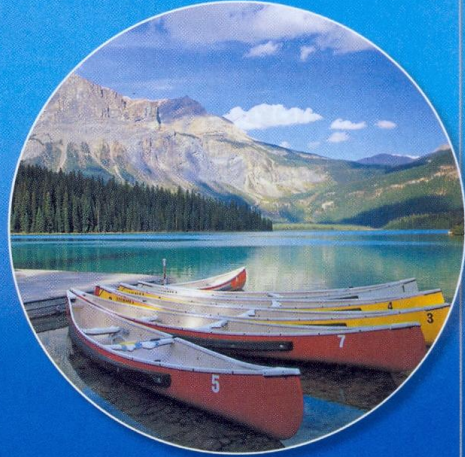
This crab lives in the  
ocean. Some people  
use crabs for food.



People use water for drinking. People use water for bathing and cooking food. What other ways do people use water?



You can save water by turning the water off when brushing your teeth.



**Splash!**

People swim and play in water.

1. **✓ Checkpoint** How do animals use water?
2. **Writing in Science** Write in your **science journal**. List three ways that you use water.



## Using Land

Land is an important natural resource. The pictures show ways that people use land.

People grow food in soil. People use wood from trees to build things.

Minerals come from the land.

**Minerals** are nonliving things.

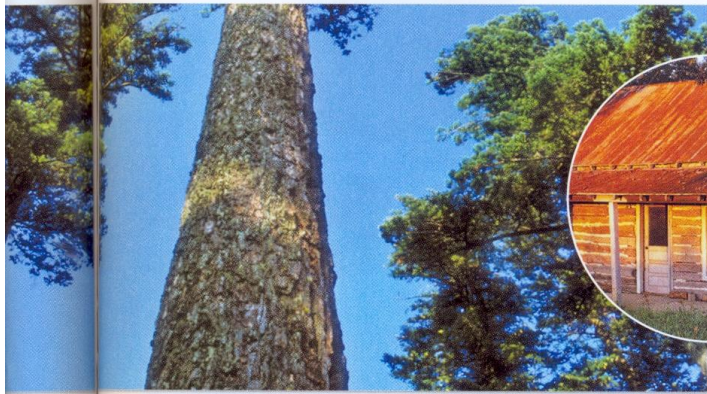
Minerals are found in rocks and soil. Gold, silver, and copper are minerals. People use minerals in different ways.

### ✓ Lesson Checkpoint

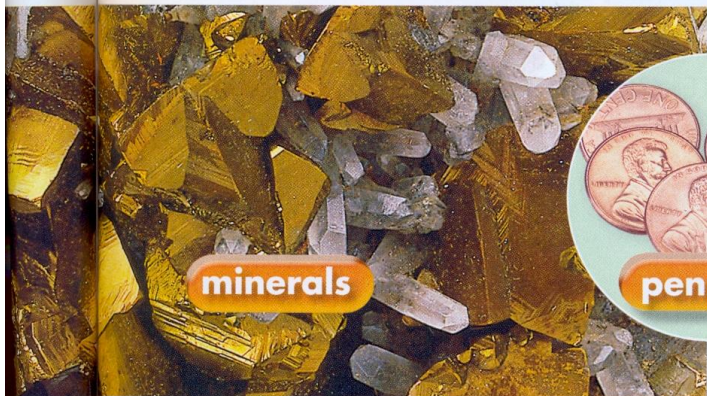
1. What is one way that people use land?
2. **Writing in Science** Write a sentence that describes minerals.



**Carrots grow in soil. What other foods that you eat grow in soil?**



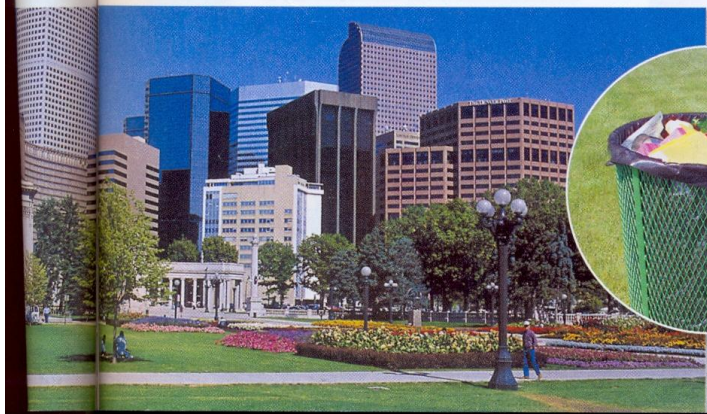
**Trees grow on land. Name some things made from wood.**



**minerals**

**pennies**

**People use copper to make pennies.**



**You can help keep the land clean. You can put trash in a trash can.**



## Lesson 5

# How can you reduce, reuse, and recycle?

You can help save Earth's land, water, and air.

You can reduce, reuse, and recycle.

Reduce means to use less.

Reuse means to use things again.

Recycle means to make old things into new things.

**You can carry food in a cloth bag. This will help reduce the paper you use.**



**You can reuse an old jug. It can be a pot for plants.**



**Old papers can be recycled to make boxes.**

**Glass bottles can be recycled to make glass beads.**



**✓ Lesson Checkpoint**

1. What are three ways to help save Earth's resources?
2. **Art in Science** Make a poster. Show others how to reduce, reuse, and recycle.

# Guided Inquiry

**Investigate** How are these soils different?

**Materials**



cups with soils



hand lens



cup with water



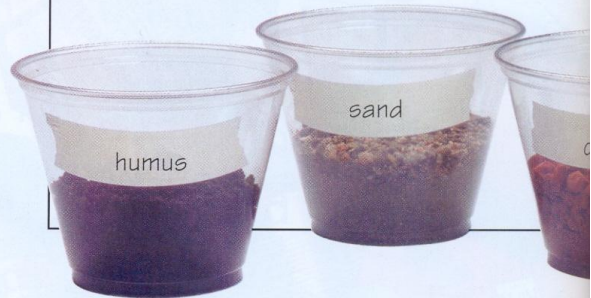
dropper



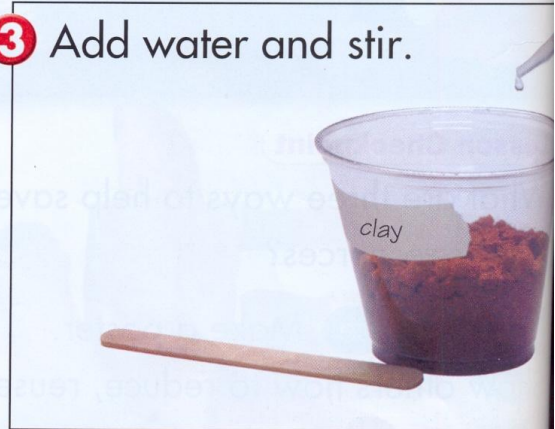
3 craft sticks

**What to Do**

- 1 Observe** the soils.
- 2 Collect Data** Draw and write about the dry soils. Use the word bank.



- 3 Add water and stir.**

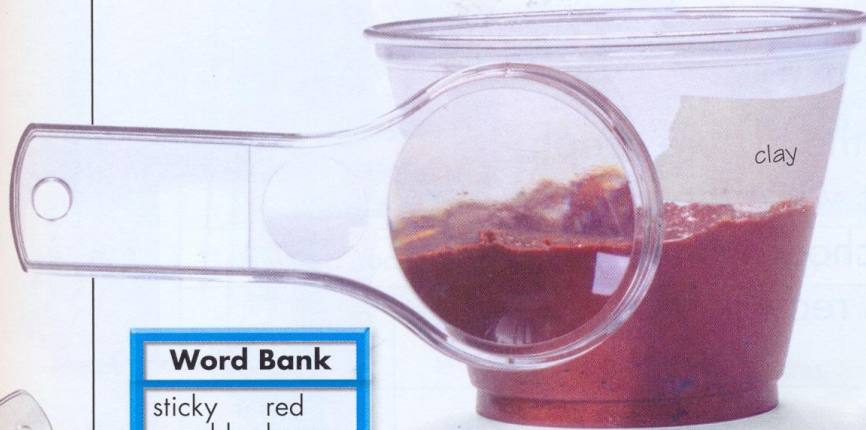


**Process Skills**

Recording in a chart is a way to **collect data** about soils.



- 4 Draw and write about the wet soils.  
Use the word bank.



Word Bank	
sticky	red
crumbly	brown
dusty	black
sandy	

	Dry	Wet
Humus		
Sand		
Clay		

### Explain Your Results

1. **Communicate** How did the soils change when you added water?
2. Which of the soils have you seen? Tell where.

### Go Further

What is the soil like where you live? Investigate to find out.

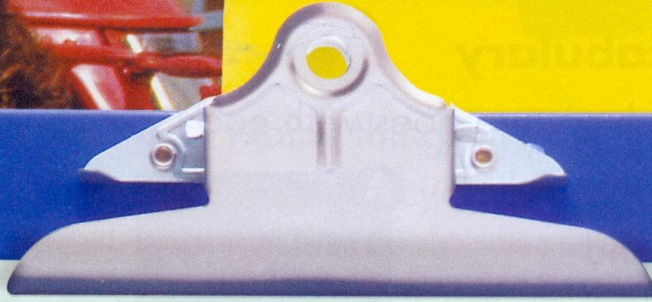
## Math in Science

# Reading a Picture Graph















Look at the picture graph.  
It shows what the children at  
West School found in their  
school's recycling bin.



Use the picture graph to answer the questions.



What children found in their recycling bin.

 Juice Boxes					
 Cans					
 Paper					
 Plastic Bottles					

1. Are there more cans or bottles in the recycling bin?
2. How many things are there to recycle in all?

Lab zone

### Take-Home Activity

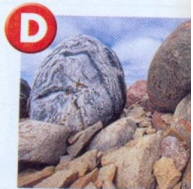
Collect cans used by your family. Collect boxes used by your family. Make a picture graph. Show how many cans and boxes your family can recycle.

## Chapter 6 Review and Test

### Vocabulary

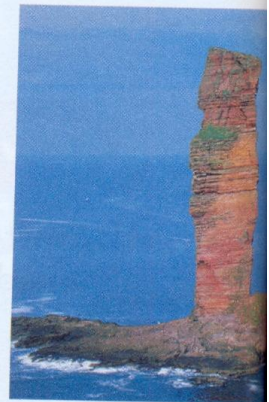
Which picture goes with each word?

1. rocks
2. sand
3. clay
4. humus
5. erosion
6. minerals



### What did you learn?

7. What is weathering?
8. Why is land an important natural resource?
9. How do you use water and air?





### Process Skills

**10. Collect Data** Name things in your classroom that can be recycled or reused.

### Important Details

**11.** What are two **important details** you saw and read about Lily's shoebox?



Lily's Shoebox

Lily is using a shoebox. She is using it to hold her CDs.



### Test Prep

Fill in the circle that correctly answers the question.

**12.** What makes up the surface of Earth?

- (A) sun and moon
- (B) water and land
- (C) plants and animals
- (D) summer and winter

**13. Writing in Science** Write two sentences. Tell how people can protect the land.