

## Lesson 2 Erosion

2.1d Erosion and deposition result from the interaction among air, water, and land.

- interaction between air and water breaks down earth materials
- pieces of earth material may be moved by air, water, wind, and gravity
- pieces of earth material will settle or deposit on land or in the water in different places
- soil is composed of broken-down pieces of living and nonliving earth material

Erosion and deposition move, break down, and build earth materials and structures.

**Erosion** is the moving and breakdown of earth materials.

**Weathering** is the breaking of rock into smaller rocks and soil.

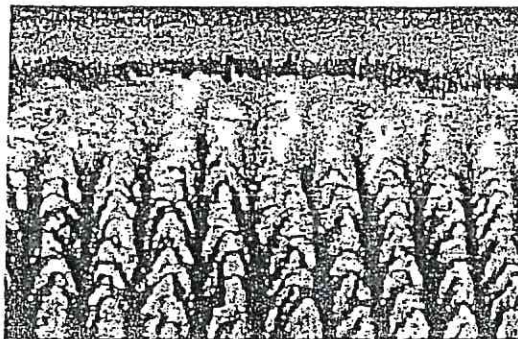
**Deposition** is the dropping or settling of earth materials.

**Directions** Read the following information.

During rain, you may have watched runoff water collect in puddles on the sidewalk. Often the water in puddles is muddy. The rainwater picks up soil and carries it to the puddle. After the rain stops, the water evaporates, but the dirt carried into it is left behind.

Think about what happens to the ground in the rain. Water carries soil from one place to another. The same process takes place on a larger scale. By a process called **erosion**, water and wind move earth materials around and change the shape of the land they touch. Even gravity causes erosion of land and earth materials when earth and rocks fall.

Part of the erosion process is moving rock and soil from one place to another. Water, wind, air, and gravity also erode land by **weathering**, or breaking rock into smaller rocks and soil. The smaller the rocks or soil pieces, the more likely they are to be moved. Breaking up rocks is not easy. Gases from the air help. They dissolve in water, changing the water so that it can dissolve minerals. After some minerals



### Guided Questions

What is erosion?

What is weathering?

How has this field been eroded by heavy rain?

110

in a rock are dissolved, the rock breaks up more easily.

Runoff water moving downhill flows fast. Fast-flowing rivers may move even large rocks. Driven by rushing water, rocks bash into each other. Small chips of rock break off. Over time, water grinds rocks into sand. Sand wears into tiny pieces called silt. Soil is made up of sand, silt, and other broken-down pieces of earth material. Some material in soil was broken down from the bodies of living things.

When moving water and wind slow down, they drop the pieces of sand, silt, and earth they are carrying. After this **deposition**, these tiny pieces of earth form soil miles from where they were picked up or broken down.

After forming, soil can erode and be deposited elsewhere. Carried by a fast-flowing river, rocks and sand scrape and batter the land. Rushing water washes the finest soil from mountains into rivers. Meanwhile, wind picks up dry soil from the land and carries it for miles.

Guided Questions

What happens during deposition?

**Directions** For each question, write your answer in the space provided.

1. What happens during erosion?

\_\_\_\_\_

2. What is weathering?

\_\_\_\_\_

3. How do gases from the air help break down rocks?

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4. How does erosion make more soil?

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5. Explain how erosion can be helpful to the environment.

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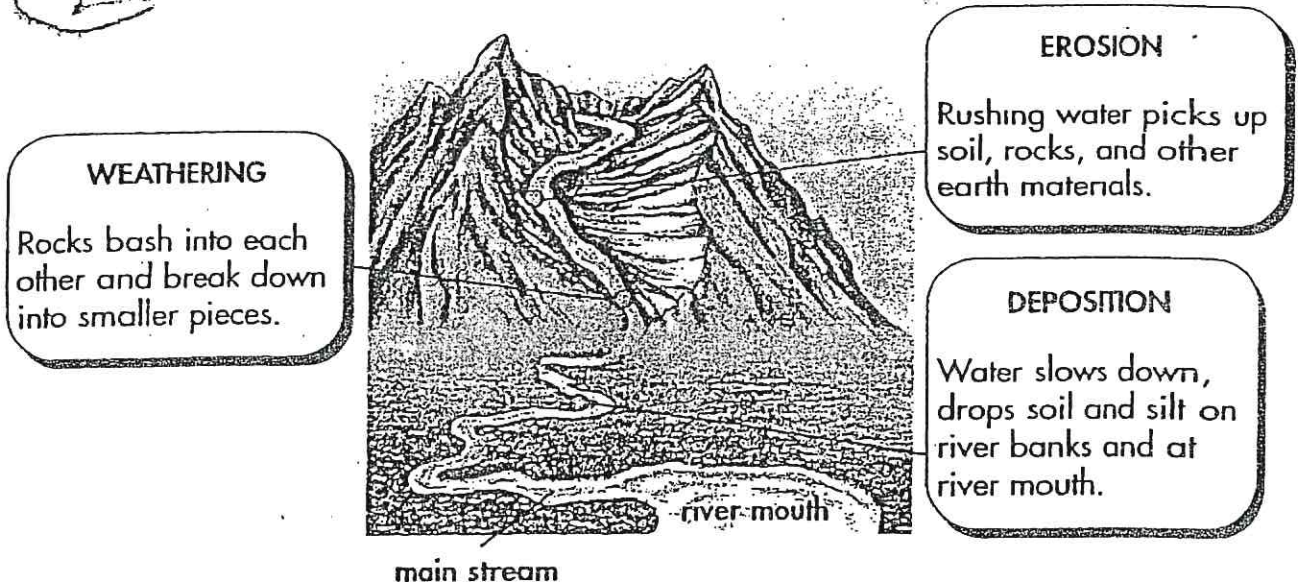
6. Explain how erosion can be harmful to the environment.

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Apply the  
New York State  
Learning Standards  
to the State Test

*Directions:* For each question, write your answer in the space provided. Base your answers to questions 7 through 12 on the drawing below.



7 When does deposition begin to take place?

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8 Where is most silt and soil deposited?

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9 Why does more erosion take place in the mountains?

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10 At which point is more silt in the water: in the mountains or on flatland? Explain.

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11 Would you expect more fertile land near the river, in the mountains, or on flat land?

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12 Where would you expect to find the most good, fine soil in this picture?

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Directions (13-18): Each question is followed by four choices. Decide which choice is the best answer. Circle the letter of the answer you have chosen.

13 Breaking rock into smaller rocks and soil is called

- A deposition
- B silt
- C weathering
- D erosion

14 All of the following can cause erosion except

- A sunlight
- B gravity
- C wind
- D water

15 What is made up of broken-down pieces of living and nonliving earth material?

- A silt
- B soil
- C sand
- D gravel

17 What processes result in a buildup of soil on river banks?

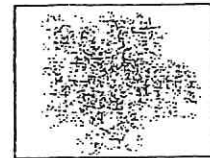
- A weathering and erosion
- B weathering and deposition
- C erosion and deposition
- D weathering, erosion, and deposition

16 During a rain, runoff water collects in puddles on your clean cement driveway. The water in the puddles is muddy. After the rain stops, the water evaporates and you find dried soil where the puddles were. What processes have taken place in your yard?

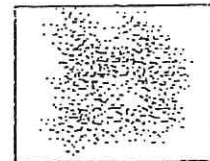
- A weathering and erosion
- B weathering and deposition
- C erosion and deposition
- D weathering, erosion, and deposition

18 As moving water slows down, what would you expect it to drop to the bottom of the river first?

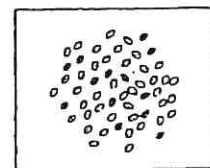
A silt



B sand



C gravel



D rocks



