

Chapter 5 Weathering, Soil, and Mass Movements

Section 5.3 Mass Movements

This section describes situations in which large amounts of soil are moved naturally.

Reading Strategy

Previewing As you read the section, rewrite the green topic headings as *what* questions. Then write an answer to each question. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

Question	Answer
a.	b.
c.	d.

1. 🗣️ The transfer of rock and soil downslope due to _____ is called mass movement.

Triggers of Mass Movements

2. 🗣️ What are the factors that commonly trigger mass movements?

3. Circle the letter of each sentence that is true about water triggering mass movements.

- a. Heavy rains and rapid melting of snow can trigger mass movements by saturating surface materials with water.
- b. When the pores in sediment become filled with water, the particles slide past one another more easily.
- c. If there is sufficient water, sand grains will ooze downhill.
- d. Saturation of the ground with water makes slopes more susceptible to the force of gravity.

4. Is the following sentence true or false? If the steepness of a slope exceeds the stable angle, mass movements become more likely.

5. What are three possible causes of oversteepened slopes?

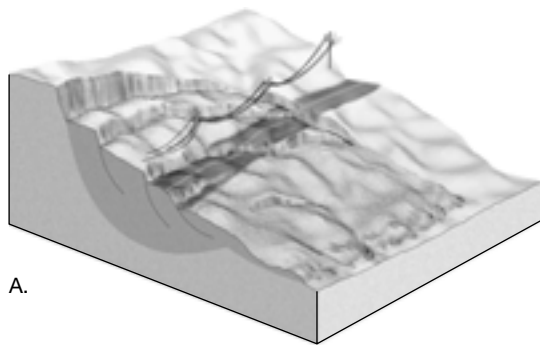
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Types of Mass Movements

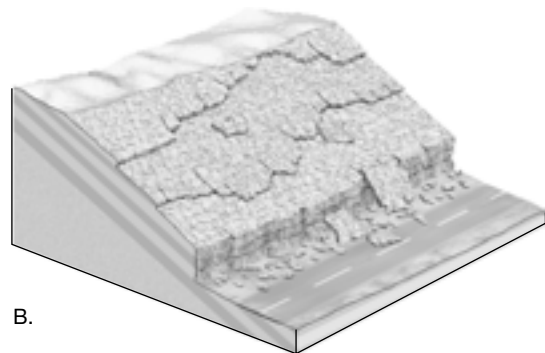
Match each description with its term.

Description	Term
_____ 6. a flow that moves relatively slowly—from about a millimeter per day to several meters per day	a. rockfall
_____ 7. the downward movement of a block of material along a curved surface	b. rockslide
_____ 8. a quickly moving mass of material that contains large amounts of water	c. slump
_____ 9. when rock or rock fragments fall freely through the air	d. mudflow
_____ 10. slides that include bedrock that move suddenly along a flat, inclined surface	e. earthflow

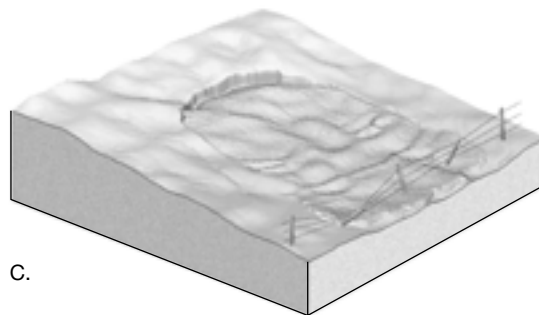
11. Identify each of the forms of mass wasting illustrated in the figures below by writing the name of the process on the lines provided. Choose *earthflow*, *slump*, or *rockslide*.



A.



B.



C.

- A. _____
- B. _____
- C. _____

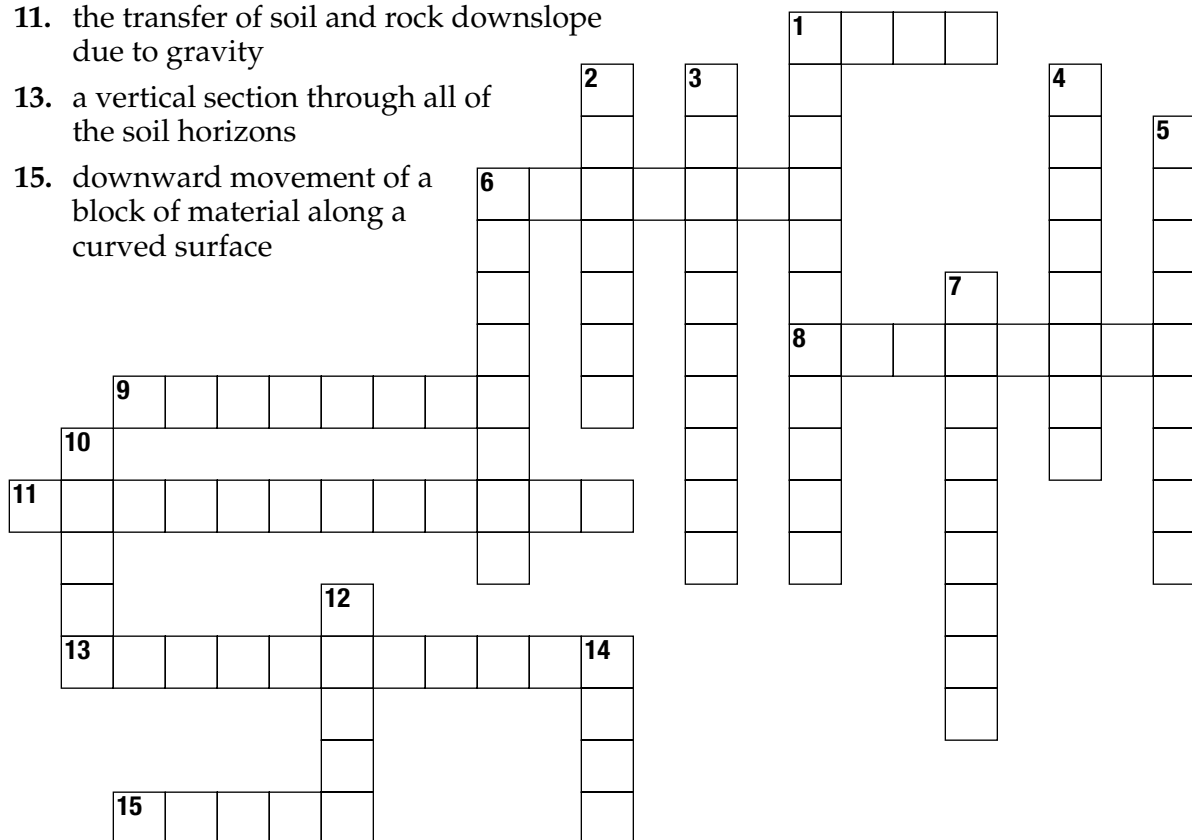
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WordWise

Test your knowledge of vocabulary terms from Chapter 5 by completing this crossword puzzle.

Clues across:

- 1. the part of the regolith that supports the growth of plants
- 6. soil usually found in drier western United States in areas that have grasses and brush vegetation
- 8. a layer of rock and mineral fragments produced by weathering
- 9. occurs when rocks or rock fragments fall freely through the air
- 11. the transfer of soil and rock downslope due to gravity
- 13. a vertical section through all of the soil horizons
- 15. downward movement of a block of material along a curved surface



Clues down:

- 1. zones of soil that have similar composition, texture, structure, and color
- 2. flows that move quickly
- 3. a type of weathering in which physical forces break rock into smaller pieces without changing its composition
- 4. soil that forms in hot, wet tropical areas
- 5. flows that move relatively slowly
- 6. soil that usually forms in temperate areas
- 7. slides that include segments of bedrock
- 10. large piles of rock
- 12. the slowest type of mass movement
- 14. slabs of rock separating like layers of an onion