Mass Movements, Wind, and Glaciers

SECTION 8.1 Mass Movement at Earth’s Surface

In your textbook, read about mass movement.
Use each of the terms below just once to complete the passage.

avalanche  creep  landslide  mass movement  mudflow  slump

(1) ___________________________ is downward movement that results from gravity acting on loose sediments and weathered rock. If the downward movement of loose material is slow, it is called (2) ___________________________, whereas the rapid movement of a mud and water mixture is known as a(n) (3) ___________________________. A rapid downslope slide of a thin sheet of earth materials is a(n) (4) ___________________________. If these materials rotate and slide along a curved surface, it is called a(n) (5) ___________________________. A(n) (6) ___________________________ occurs in mountainous areas with thick accumulations of snow.

In your textbook, read about the different types of mass movement.
Briefly describe the different types of mass movement.

7. Creep ___________________________

8. Flows ___________________________

9. Slides ___________________________

10. Falls ___________________________
SECTION 8.1  Mass Movement at Earth’s Surface, continued

In your textbook, read about mass movement and the factors that control it. For each item in Column A, write the letter of the matching item in Column B.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Determines how much material is available for mass movement</td>
<td>a. rockslide</td>
</tr>
<tr>
<td>12. A force that works to pull material downslope</td>
<td>b. earthquake</td>
</tr>
<tr>
<td>13. Acts as a lubricant to reduce friction between soil grains</td>
<td>c. gravity</td>
</tr>
<tr>
<td>14. Occurs when a sheet of rock moves downhill on a sliding surface</td>
<td>d. slopes</td>
</tr>
<tr>
<td>15. Can trigger a sudden mass movement</td>
<td>e. water</td>
</tr>
<tr>
<td>16. Where all mass movements occur</td>
<td>f. climate</td>
</tr>
</tbody>
</table>

In your textbook, read about people and mass movement.
Answer the following questions.

17. How does mass movement affect people?

_____________________________________________________________________

_____________________________________________________________________

18. How do people contribute to mass movement?

_____________________________________________________________________

_____________________________________________________________________
SECTION 8.2 Wind

In your textbook, read about wind erosion and deposition.
Use each of the terms below just once to complete the passage.

abrasion        deflation        dunes        loess        ventifacts

The lowering of the land surface caused by the wind’s removal of surface particles is called (1) ________________. The process of erosion in which wind causes particles such as sand to rub against rocks is (2) ________________. Rocks shaped by this process are called (3) ________________. Over time, wind-blown sand accumulates to produce (4) ________________. If the wind carries and drops finer particles such as silt, then deposits known as (5) ________________ form.

For each statement below, write true or false.

6. In suspension, strong winds cause particles to stay airborne for long distances.

7. During the 1930s in the Great Plains, poor agricultural practices resulted in severe dust storms and the formation of deflation blowouts.

8. Most sand carried by the wind moves by saltation.

9. The steeper slope of a sand dune is on the windward side, the side protected by the wind.

10. Wind erosion tends to occur in areas of heavy vegetation cover.

11. Dune migration is caused by prevailing winds continuing to move sand from the windward side of a dune to the leeward side.
SECTION 8.2  *Wind, continued*

In your textbook, read about the types of sand dunes.

![Diagram of sand dunes](A B C D)

Complete the table by filling in the missing information.

<table>
<thead>
<tr>
<th>Diagram</th>
<th>Type of Dune</th>
<th>How and Where Formed</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>12.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>13.</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>14.</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>15.</td>
<td></td>
</tr>
</tbody>
</table>

In your textbook, read about wind erosion and deposition.

Circle the letter of the choice that best answers the question.

16. Which of the following results in the formation of desert pavement?
   - a. abrasion
   - b. deflation
   - c. deposition
   - d. saltation

17. Which of the following is true of loess?
   - a. It consists of sand and gravel.
   - b. It is deposited by melting ice.
   - c. Its soils are some of the most fertile on Earth.
   - d. Its most common component is gypsum.
SECTION 8.3 Glaciers

In your textbook, read about glaciers.
Use each of the terms below just once to complete the passage.

cirques          continental glacier       drumlins          eskers          glacier
moraines         outwash plain            valley glacier

A large moving mass of ice is a(n) (1) _________________. A moving mass of ice formed in a mountainous area is a(n) (2) ________________, and one that covers a large continent-sized area is a(n) (3) ________________. Deep depressions called (4) ________________ are carved by mountain glaciers. When glaciers melt, they deposit (5) ________________, which are ridges consisting of till. A melting glacier also forms a(n) (6) ________________ composed of sorted gravel, sand, and fine silt. Glaciers that move over older moraines form (7) ________________, which are elongated landforms. Sometimes glacier meltwater deposits long, winding piles of sediment called (8) ________________.

In your textbook, read about glacial erosion and deposition.
Complete the table by filling in the missing information.

<table>
<thead>
<tr>
<th>Glacial Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Groove</td>
<td></td>
</tr>
<tr>
<td>10. Medial moraine</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Ridge consisting of unsorted sediments deposited at the sides of a glacier</td>
</tr>
</tbody>
</table>
SECTION 8.3  Glaciers, continued

In your textbook, read about glacial erosion.
Label the diagram below. Choose from the following: cirque, arête, horn, hanging valley, U-shaped valley.

17. Outwash is deposited by
   a. glacial ice.
   b. high winds
   c. glacial meltwater.
   d. gravity.

18. Continental glaciers form from
   a. sorted sediments deposited by meltwaters.
   b. snow that accumulates and recrystallizes.
   c. valley glaciers that flow downslope and meet.
   d. mixed debris dropped by ice.

19. Which of the following is true of striations?
   a. They are formed by plucking.
   b. They are formed by deposition.
   c. They occur only on glacial outwash plains.
   d. They indicate a glacier’s direction of movement.

20. Sometimes ice breaks off a glacier, gets covered by sediment, and later melts. When the resulting depression fills with water, it forms
   a. a kettle lake.
   b. an esker lake.
   c. a moraine-dammed lake.
   d. a cirque lake.