

Name: _____

Surface Processes

Date: _____ Period: _____

Earth Science

Packet: Erosion and Deposition

CLASS NOTES

- After rocks are broken up from weathering they need to be moved

- Erosion- _____

- Over time erosion helps shape and lower all surface features
- Agents of Erosion- forces that are set in motion by gravity that causes sediments to move

- _____
- _____
- _____
- _____
- _____

- Gravity - _____ role and force behind most agents of erosion

- Causes rivers to flow, ice to move, and rocks to slide

- Sun - _____ role that drives the _____

- Produces rain and fuels winds that drive ocean currents

- Deposition - _____

- Sediments are deposited in locations where they form layers of sedimentary rock

- The sediments determine how fast they are deposited:

- Size - larger sediments will settle faster

- Shape - rounder sediments settle faster and flatter sediment will take longer

- Density - more dense sediment will settle faster

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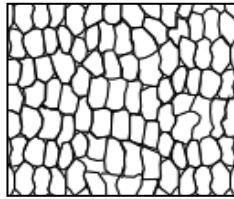
- Deposition [continued]

- Sorted Sediment - _____

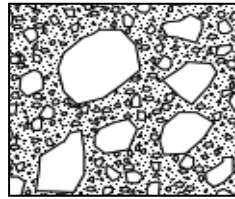
- Example: deposition from a stream

- Unsorted Sediment - _____

- Example: deposition from a glacier



Sorted Sediment

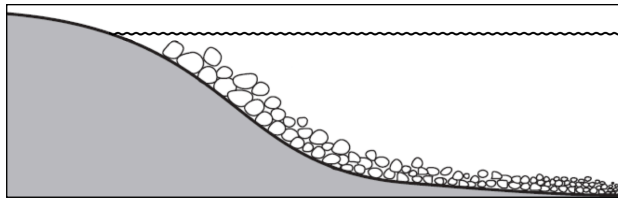


Unsorted Sediment

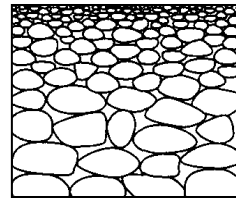
- Horizontal Sorting - when the _____ of a wind or water erosional system gradually _____; the size, roundness, and density gradually _____ as you move farther out

- Vertical Sorting - _____

- Example: as a stream slows down throughout the year it can no longer transport larger material and begins to deposit the sediments according to size order



Horizontal Sorting



Vertical Sorting

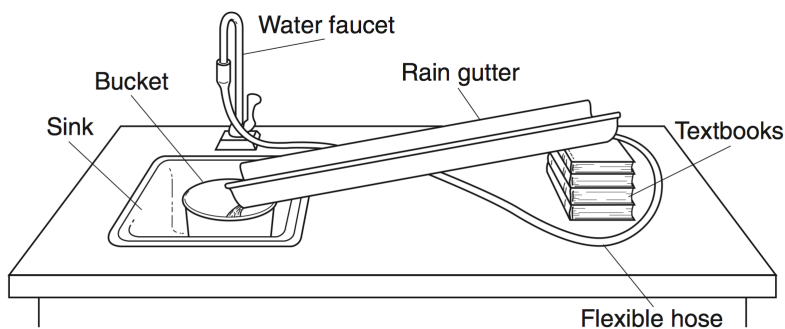
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PART I QUESTIONS: MULTIPLE CHOICE

1. Which is the best evidence that erosion has occurred?
 - a. a large number of fossils embedded in limestone
 - b. a soil rich in lime on top of a limestone bedrock
 - c. sediments found in a sandbar of a river
 - d. a layer of basalt found on the floor of the ocean
2. For which movement of earth materials is gravity not the main force?
 - a. snow tumbling in an avalanche
 - b. moisture evaporating from an ocean
 - c. boulders carried by a glacier
 - d. sediments flowing in a river
3. Which sediment is the largest that could be carried by a stream flowing at a velocity of 100 cm/sec?
 - a. sand
 - b. cobbles
 - c. silt
 - d. pebbles
4. What can a stream flowing at a velocity of 100 cm/sec can transport?
 - a. silt, sand, and pebbles, but not cobbles
 - b. silt, but not sand, pebbles, or cobbles
 - c. silt, sand, pebbles, and cobbles
 - d. silt and sand, but not pebbles or cobbles
5. A glass sphere and a lead sphere have the same volume. Each sphere is dropped into a container of water. Which statement best explains why the lead sphere settles faster?
 - a. The lead sphere has a higher density.
 - b. The lead sphere takes up less space.
 - c. The glass sphere has more surface area.
 - d. The glass sphere has a smoother surface.
6. Which rock particles will remain suspended in water for the longest time?
 - a. pebbles
 - b. silt
 - c. clay
 - d. sand
7. Compared to a low-density spherical particle, a high-density spherical particle of the same size will sink through water
 - a. more rapidly
 - b. more slowly
 - c. at the same rate

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Base your answers to questions 8 and 10 on the diagram and data table below. The diagram shows the equipment used to determine the factors affecting the rate of erosion in a stream. The data table shows the time it took a 10-gram sample of quartz sand to move 100 centimeters down the rain gutter under various conditions.



Data Table

Rain Gutter Slope	Water Velocity	Erosion Time (s)	
		Fine Sand	Coarse Sand
5°	slow	20	60
	fast	15	40
10°	slow	15	40
	fast	10	30
20°	slow	10	30
	fast	5	15

8. In this experiment, the water velocity could be increased by
 - a. decreasing the slope of the rain gutter
 - b. increasing the amount of water from the faucet
 - c. lowering the flexible hose
 - d. widening the rain gutter

9. What is the relationship between the water velocity and the rate of erosion?
 - a. If the water velocity decreases, the rate of erosion increases.
 - b. If the water velocity increases, the rate of erosion increases.
 - c. If the water velocity remains constant, the rate of erosion decreases.
 - d. If the water velocity remains constant, the rate of erosion increases.

10. By adding more textbooks underneath the rail gutter, what happens to velocity?
 - a. increases
 - b. decreases
 - c. remains the same