

Name: _____

Surface Processes

Date: _____ Period: _____

Earth Science

Packet: Running Water

CLASS NOTES

- Running water is the most common agent of erosion
- Stream - _____

- Tributary - _____

- Flood Plain - _____

- Levee - _____

- Delta - _____

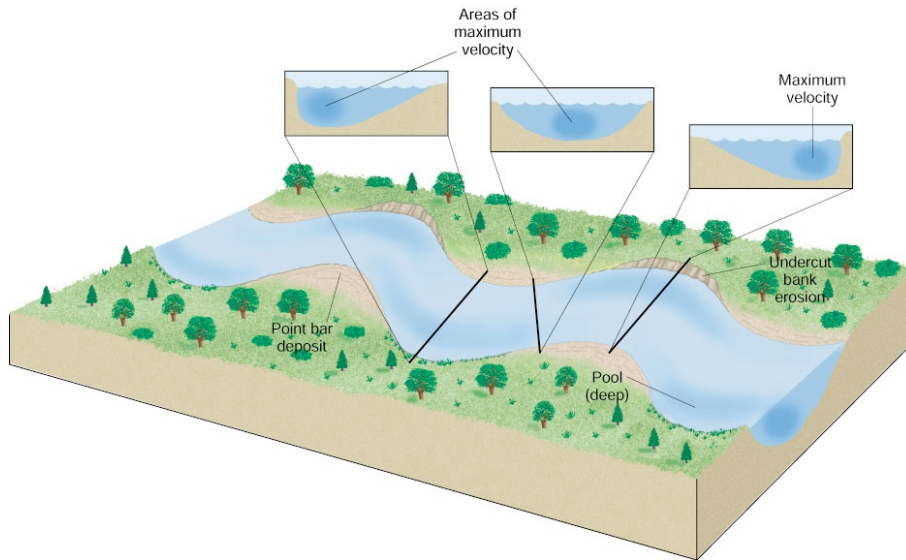
- Streams carry sediment in various ways:
 - _____ minerals in solution
 - Solid particles are _____ in water
 - Larger particles _____, _____ or _____ along the bottom

- Stream Velocity - the speed of the stream
 - Gradient - slope of the stream
 - Discharge - amount of water that flows past a given point for a given period of time
 - Channel Shape - shape of the stream bed where the running water is confined Solid particles are suspended in water

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- Variations in Stream Velocity:

- When a stream channel is _____ the greatest velocity is in the middle
- When a stream channel _____ the greatest velocity is on the outside of the curve

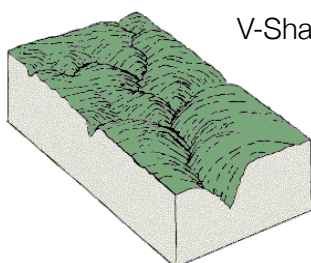


- Stream Characteristics:

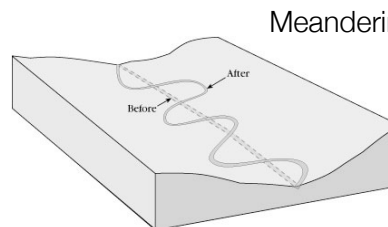
- V-Shaped Valley - _____

- Meanders - _____

- Oxbow Lake - _____



V-Shaped Valley

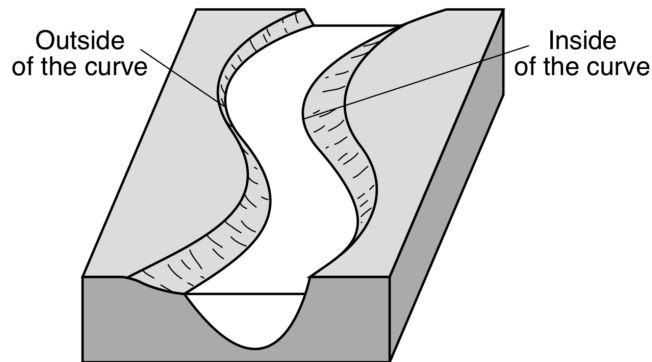


Meandering Stream

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PART I QUESTIONS: MULTIPLE CHOICE

The block diagram below represents a meandering stream.



1. Which table indicates where the greatest stream velocity and rate of stream erosion occur?

Greatest Stream Velocity	Greatest Stream Erosion
outside of the curve	outside of the curve

a.

Greatest Stream Velocity	Greatest Stream Erosion
inside of the curve	inside of the curve

b.

Greatest Stream Velocity	Greatest Stream Erosion
outside of the curve	inside of the curve

c.

Greatest Stream Velocity	Greatest Stream Erosion
inside of the curve	outside of the curve

d.

2. Stream A has a steeper slope than stream B. However, the average water velocity of stream B is greater than that of stream A. Which is the most reasonable explanation for this?
- Stream B has a curved stream bed.
 - Stream B has more friction to overcome along its banks.
 - Stream B has a greater volume of water.
 - Stream B has a higher average temperature.
3. A stream flowing at a velocity of 100 cm/sec can transport
- silt, sand, and pebbles, but not cobbles
 - silt, but not sand, pebbles, or cobbles
 - silt, sand, pebbles, and cobbles
 - silt and sand, but not pebbles or cobbles

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The diagram below represents the size and shape of a pebble. This pebble and 20 other pebbles having a similar size and shape were placed in a rock tumbler with water and allowed to abrade for five days.



4. Which diagram best represents the size and shape of this pebble after the five-day period?



a.



b.



c.



d.

5. What is the name of the largest sediment that can be transported by a stream moving at a velocity of 100 centimeters per second [cm/s]?
- silt
 - sand
 - pebbles
 - cobbles
6. The rate at which particles are deposited by a stream is least affected by the
- size and shape of the particles
 - velocity of the stream
 - stream's elevation above sea level
 - density of the particles
7. Why do the particles carried by a river settle to the bottom as the river enters the ocean?
- The velocity of the river water decreases as it enters the ocean.
 - The kinetic energy of the particles increases as the particles enter the ocean.
 - The density of the ocean water is greater than the density of the river water.
 - The large particles have a greater surface area than the small particles.
8. A river transports material by suspension, rolling, and
- transpiration
 - solution
 - sublimation
 - evaporation

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Base your answers to questions 9 and 10 on the block diagram below and on your knowledge of Earth science. The diagram represents a meandering stream. Points A-B, C-D and E-F represent cross sectional views of a stream profile. Point X represent a location in the stream.

9. If the stream is moving at a velocity of 5 cm/s at point X, what sized sediments can it transport?

10. On the diagram below, draw the cross sectional view of the general shape of the stream bottoms between points A-B, C-D and E-F. The water surface has been drawn.

