

5. Where do most streams have their origin?  
a) in the Arctic  
b) near the Great Lakes  
c) high in the mountains  
d) in oceans and seas

6. Most streams and rivers have this characteristic shape:

- a) "A"  
b) "V"  
c) "U"  
d) "Z"

7. A stream's primary function is:

- a) Deposition  
b) Erosion  
c) Transportation  
d) All the above

## Answers

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1. Liquid (water), gas (air), solid (ice)  
2. D  
3. C  
4. D  
5. C  
6. B  
7. D

# The Physical Geography Series

## *Running Water How It Erodes And Deposits*

KG1159

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**TEACHER'S GUIDE**

## ***Glossary***

**Hydrologic Cycle** - The continuous cycle of water from evaporation, condensation and the use of water on the earth's surface.

**Laminar Flow** - Smooth running water through a channel generally following in straight lines.

**Turbulent Flow** - When obstructions lay in a smooth channel, the fluid does not flow smoothly.

**Jet Flow** - Also called shooting flow this takes place at waterfalls.

**Velocity** - Movement of water in a channel and is measured by how far water travels in a given amount of time such as 1.5 feet per second.

**Gradient** - The number of feet a river descends in one mile.

**Discharge** - Amount of water flowing past a given point.

**Flood Plain** - The area which normally floods in a stream channel.

**Load** - Material carried by running water.

**Potholes** - Round, deep holes in a stream channel caused by rocks swirling and grinding the bottom.

**Meander** - Wind curves found in well-developed streams; a river that curves back upon itself.

**Braided Streams** - Complex tangle of channels separated by sand bars.

**Delta** - An alluvial deposit at the mouth of a stream.

**Alluvial Fans** - The fan-shaped mound of alluvium that forms at the base of a mountain where a stream reaches a plain.

**Steam Terrace** - A bench along the side of a valley, the upper surface of which was formerly the alluvial floor of the valley.

**Oxbow Lake** - A curved lake occupying a cutoff meander loop.

**Natural Levee** - A broad, low ridge of fine alluvium built along the side of a stream channel by water spreading out of a channel during floods.

**Stream Pattern: Dendritic** - A stream pattern characterized by irregular branching in all directions.

**Stream Pattern: Trellis** - A rectangular stream pattern in which tributary streams are parallel and very long. Known also as a grapevine pattern.

**Water Gap** - A pass in a ridge or mountain through which a stream flows.

**Wind Gap** - A former water gap through which a stream no longer flows.

## ***Suggested Teaching Activities***

1. Ask your students to recall when they were at a stream or river and observed the flowing water. Did the water trickle or rush by? Was it crystal clean or muddy in appearance? When did the stream move faster? In the summer? In the winter? Now lead the students into how nature uses rivers and streams as its transportation system which carries sand and silt and deposits the material elsewhere.

2. If a small stream is available near your school take the students to it and have them make some observations about the running water. Measure its width and depth. Using a topographic map of the

area determine the GRADIENT (distance divided by its drop in elevation) and its VELOCITY (how fast is the water moving). Also collect a small sample of the water in a clean jar and let the water evaporate. Is anything left in the bottom of the jar? Describe it.

3. Using a map of the United States point out how rivers criss-cross the continent and act as the major transportation system carrying materials from the highlands into the oceans. What are the principle rivers in the U.S.?

## ***Quiz***

1. What are the three basic forms of water?
2. Which of the following do NOT affect a stream's velocity?
  - a) the nature of a stream's bank
  - b) amount of water passing over a given point
  - c) gradient or slope of the stream bed
  - d) temperature and humidity
3. The highest FLOW in a river takes place where?
  - a) along the edges
  - b) at the bottom
  - c) in the center and middle
  - d) on the surface
4. Discharge in a river is related to
  - a) a channel's width
  - b) a channel's depth
  - c) actual water velocity
  - d) all the above