

**SECTION 3-3****ENRICH****Factors That Affect a River's Speed**

The table below contains data gathered from an experiment that used a model of a stream in the laboratory. The stream model could vary in angle of slope and in volume of flow. For each of four different angles of slope, scientists measured the stream speed at a low volume of flow and a high volume of flow.

Angle of Slope	Volume of Flow	Speed of Stream (cm/sec)
5°	Low	43.5
5°	High	52.6
10°	Low	62.5
10°	High	76.9
15°	Low	83.3
15°	High	100.0
20°	Low	102.3
20°	High	126.4

Answer the following questions on separate sheets of paper.

- Use a piece of graph paper to make a line graph of the data in the table above. Make a graph that represents the relationship between the angle of slope and stream speed. Draw one line for a stream with a high volume of flow and a second line for a stream with a low volume of flow. Label each line appropriately as either "High volume" or "Low volume."
- When the angle of slope is 10° and the volume of flow is high, what is the speed of the stream?
- When the angle of slope is 20° and the volume of flow is high, what is the speed of the stream?
- What is the relationship between the angle of slope and the speed of the stream?
- When the angle of slope is 5°, how does increasing the volume of flow affect the stream's speed?
- When the angle of slope is 15°, how does increasing the volume of flow affect the stream's speed?
- What is the relationship between the volume of flow and the speed of the stream?
- When a river floods, would its water flow faster or slower than its normal speed? Explain.