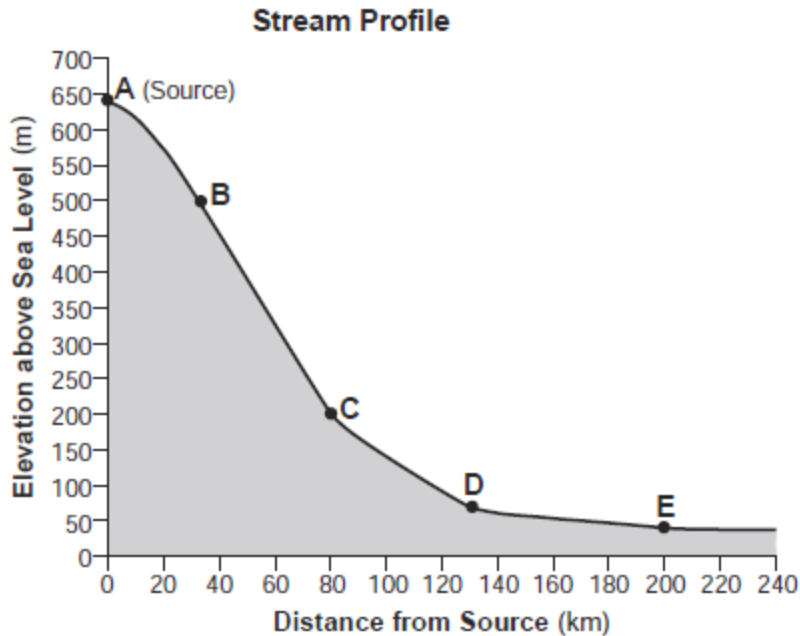


1. Base your answer to the following question on the cross section and data table below and on your knowledge of Earth science. The cross section shows the profile of a stream that is flowing down a valley from its source. Points *A* through *E* represent locations in the stream. The data table shows the average stream velocity at each location. The volume of water in the stream remains the same at all locations.



Location in Stream	Average Stream Velocity (cm/s)
A	10
B	110
C	130
D	20
E	15

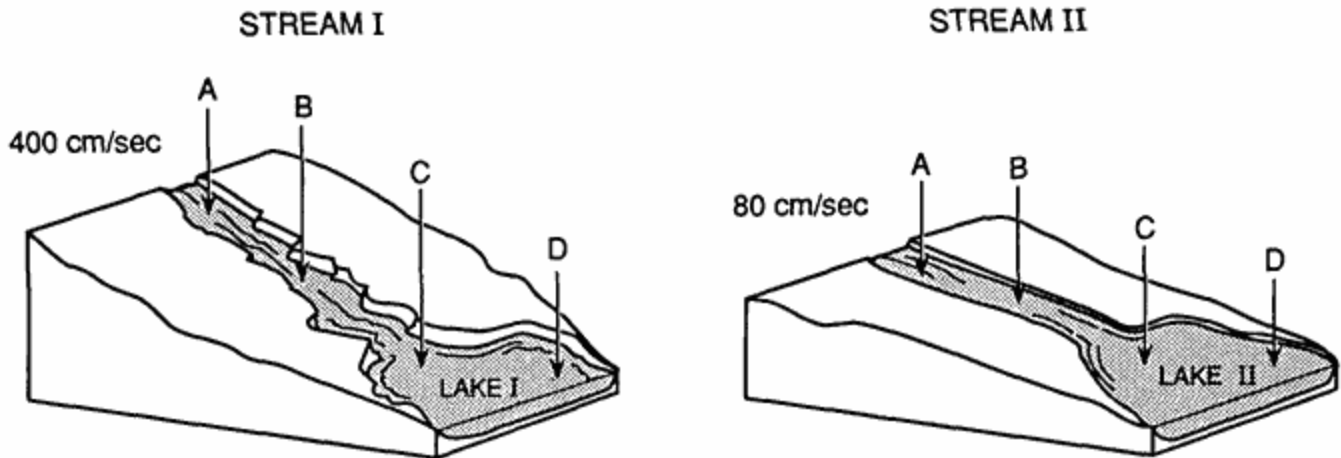
What is the largest type of sediment that could be transported at location *B*?

- A) silt B) sand C) **pebbles** D) cobbles

2. Which particles will be transported by a stream moving at a velocity of 5 cm/s?
- A) pebbles, sand, silt, and clay, only
B) sand, silt, and clay, only
 C) silt and clay, only
 D) clay, only
3. What is the approximate minimum water velocity needed to maintain movement of a sediment particle with a diameter of 5.0 centimeters?
- A) 75 cm/sec B) 100 cm/sec
C) 150 cm/sec D) 200 cm/sec
4. Sandstone, limestone, and conglomerate cobbles are found in a streambed in New York State where the surrounding bedrock is composed of shales and siltstones. The most likely explanation for the presence of these cobbles is that they were
- A) weathered from the surrounding bedrock
 B) formed when shale and siltstone bedrock were eroded
C) transported to this area from another region
 D) metamorphosed from shale and siltstone

5. Base your answer to the following question on the information and diagrams below.

A mixture of colloids, clay, silt, sand, pebbles, and cobbles is put into stream I at point *A*. The water velocity at point *A* is 400 centimeters per second. A similar mixture of particles is put into stream II at point *A*. The water velocity in stream II at point *A* is 80 centimeters per second.



If a sudden rainstorm occurs at both streams above point *A*, the erosion rate will

- A) increase for stream I, but not for stream II
- B) increase for stream II, but not for stream I
- C) increase for both streams**
- D) not change for either stream

6. What is the best evidence that a glacial erratic has been transported?

- A) It is located at a high elevation in a mountainous area.
- B) It is less than 25 centimeters in diameter.
- C) Its composition is different from that of the bedrock under it.**
- D) It appears to have been intensely metamorphosed.

7. The composition of sediments on the Earth's surface usually is quite different from the composition of the underlying bedrock. This observation suggests that most

- A) bedrock is formed from sediments
- B) bedrock is resistant to weathering
- C) sediments are residual
- D) sediments are transported**

8. As water velocity of a stream increases from 25 to 225 centimeters per second, in which order will particles of different sizes begin to move?

- A) sand → pebbles → cobbles → boulders
- B) silt → sand → pebbles → cobbles**
- C) cobbles → pebbles → sand → silt
- D) silt → pebbles → sand → cobbles

9. A stream with a water velocity of 150 centimeters per second decreases to a velocity of 100 centimeters per second. Which sediment size will most likely be deposited?

- A) pebbles**
- B) sand
- C) boulders
- D) cobbles

10. What is the minimum water velocity needed in a stream to maintain the transportation of the smallest boulder?

- A) 100 cm/sec
- B) 200 cm/sec
- C) 300 cm/sec**
- D) 500 cm/sec

Answer Key
Transported Particle / Water Velocity

1. **C**
 2. **B**
 3. **C**
 4. **C**
 5. **C**
 6. **C**
 7. **D**
 8. **B**
 9. **A**
 10. **C**
-