

**AIM:** What is deposition?

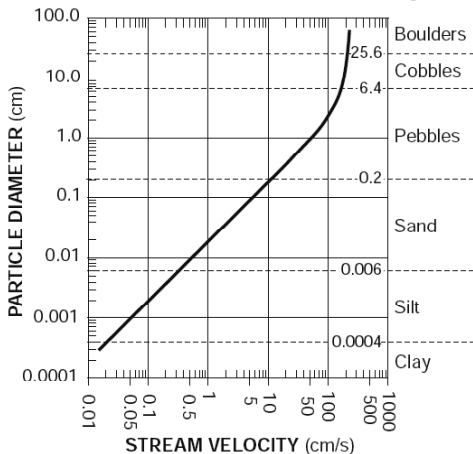
**Unit 4:** Weathering and Erosion—What happens to rocks once they've formed?

**Do Now:**

- 1) Where do most earthquakes and volcanoes occur?
- 2) What data did scientists use to figure out the interior of the Earth?
- 3) What is erosion?
- 4) What are 5 methods of erosion?

	<p>1) A stream carries sediments in three ways:</p> <ol style="list-style-type: none"> <li>a. In <u>suspension</u>: _____</li> <li>b. In <u>solution</u>: _____</li> <li>c. In <u>bedload</u>: _____</li> </ol> <p>2) In order for wind, gravity, water, and glaciers to move sediments, they must have _____</p> <ol style="list-style-type: none"> <li>a. As soon as they lose kinetic energy, they _____</li> <li>b. As a stream slows down, it will _____ and deposit the _____</li> </ol>
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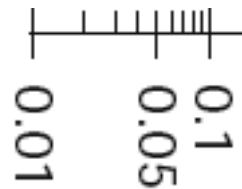
**Relationship of Transported Particle Size to Water Velocity**



To figure out how fast the stream has to flow in order to carry a particle:

- Find the particle diameter or name on the horizontal axis
- Move left/right to the graph (black line) to see where it intersects
- Move down to the x-axis to see the velocity

To figure out how much each line goes up by, Example: how much do you go up by in the scale between 0.01 and 0.05?



- 1) count the number of lines from between after the first number to the last number
- 2) subtract the smaller number from the larger number
- 3) take what you got in #2 and divide it by what you got in #1

*What is each line worth between 0.05 and 0.1?*

Determine which particles could be carried by a stream moving at the following velocities

7. .5 cm/sec \_\_\_\_\_
8. 1.0 cm/sec \_\_\_\_\_
9. 11 cm/sec \_\_\_\_\_
10. 100 cm/sec \_\_\_\_\_
11. 200 cm/sec \_\_\_\_\_

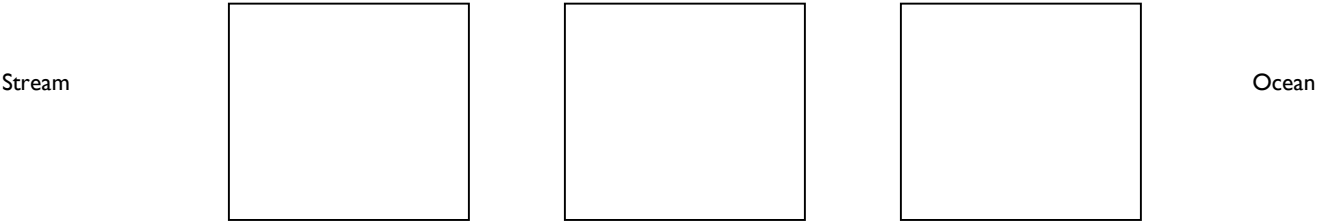
For each particle diameter size, write down the velocity that is needed to keep moving that particle:

- |                   |                  |                   |
|-------------------|------------------|-------------------|
| 12. .001 cm _____ | 14. 0.1 cm _____ | 16. 25.6 cm _____ |
| 13. .02 cm _____  | 15. 1.0 cm _____ | 17. 0.2 cm _____  |

	<p>3) When the wind or water velocity _____ decreases ....</p> <p>a. 1<sup>st</sup> sediments to drop are _____</p> <p>b. Last sediments to drop are _____</p> <p>c. This pattern of dropping sediments one at a time in size order is called _____</p>
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Sorting activity: pretend that these sediments are carried by a stream that is running into the ocean (coming from west, going east)

- 1) Arrange the particles so they are going from smallest to largest
- 2) Draw each particle below (to scale)



- 3) Use your ruler on the front of the ESRT to measure the diameter of each particle and write their diameters underneath their pictures.
- 4) Describe the particle that you think would be deposited first by the stream. Why did you think this particle would be deposited first?

5) Describe the particle that you think would be deposited last by the stream. Why did you think this particle would be deposited last?

6) Look at the table on page 6 of the ESRT, in the diagram below, label where each particle will be deposited based on its diameter

	<p>4) When a glacier is carrying sediments, when it deposits the sediments, the sediments will be _____ : _____</p>
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Did you get it?

1) When there is mass movement, will the sediments be sorted or unsorted when they are deposited? How do you know?

- 2) Classify the following particle sizes:
  - 1. .07 cm \_\_\_\_\_
  - 2. .005 cm \_\_\_\_\_
  - 3. 20.5 cm \_\_\_\_\_
  - 4. 4.2 cm \_\_\_\_\_
  - 5. .002 cm \_\_\_\_\_
  - 6. 39.5 cm \_\_\_\_\_

3) Explain how you can tell if the sediments were deposited by a glacier or if they were deposited by a stream: