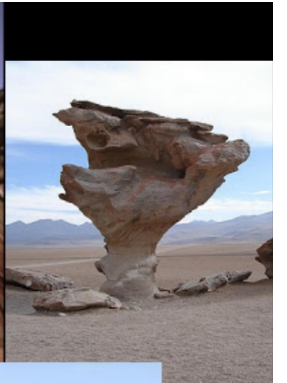
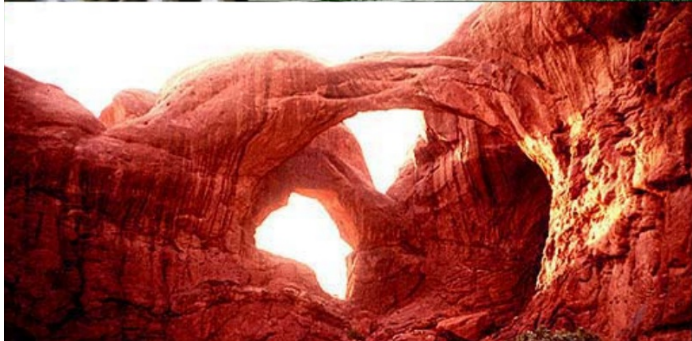
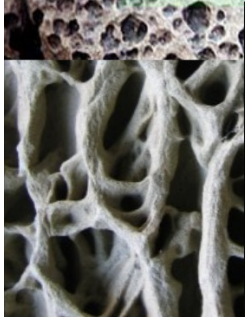


Day 4

**bellwork starts with sharing
previous-day's story**



**What's wrong with these rocks?
What's similar? (2 similarities)
What's different? (2 differences)**

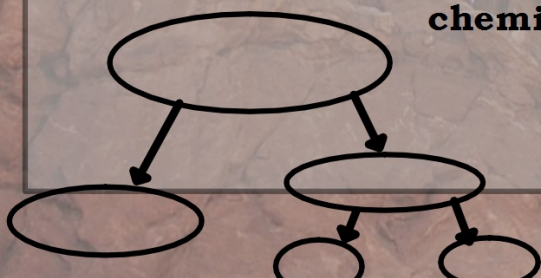


Content Purpose Identify causes and processes of physical and chemical weathering, and identify relationships between both.

Language Purpose Use the words **ice wedging, abrasion, plants** and **animals** to explain **physical weathering**, and the words **oxidation, acid, and dissolve** to explain **chemical weathering**.

PGW Outcome Shoulder-partners create a cause-and-effect graphic organizer of physical weathering and chemical weathering

- Bubble Chart/Concept Map
- Venn-Diagram
- Flipchart



Weathering and Erosion

Weathering _____ into smaller pieces.

Weathering can also change rocks' _____.

Weathering causes rocks to break down into **sediment**; such as sand, silt and clay; which make up soil.

There are two types of weathering:

_____ and _____.

Chemical weathering causes chemical changes in the rock, it _____.

Physical weathering breaks rocks down into _____.

Physical weathering does not change the type of rock.

- The rate of weathering depends on _____ and _____.
- Higher temperatures increase the rate of chemical reaction.
- Water is an agent of chemical weathering.

Erosion, like weathering, is a _____.

Erosion is the removal of weathered product from one location to another.

Agents of erosion include:

- _____
- _____
- _____
- _____

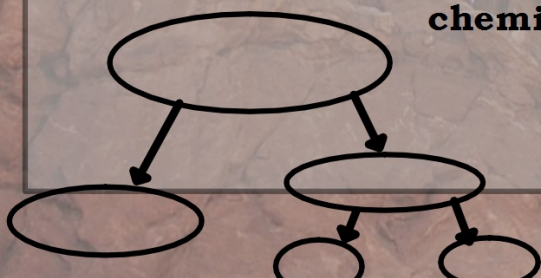
The rate of erosion can be affected by weather, climate, shape of the land, and the type of rock.

Content Purpose Identify causes and processes of physical and chemical weathering, and identify relationships between both.

Language Purpose Use the words **ice wedging, abrasion, plants** and **animals** to explain **physical weathering**, and the words **oxidation, acid, and dissolve** to explain **chemical weathering**.

PGW Outcome Shoulder-partners create a cause-and-effect graphic organizer of physical weathering and chemical weathering

- Bubble Chart/Concept Map
- Venn-Diagram
- Flipchart



Graphic Organizer instructions:

Create a cause-and-effect graphic organizer for physical and chemical weathering.

It's your choice how you want to organize the information, things you **MUST** include:

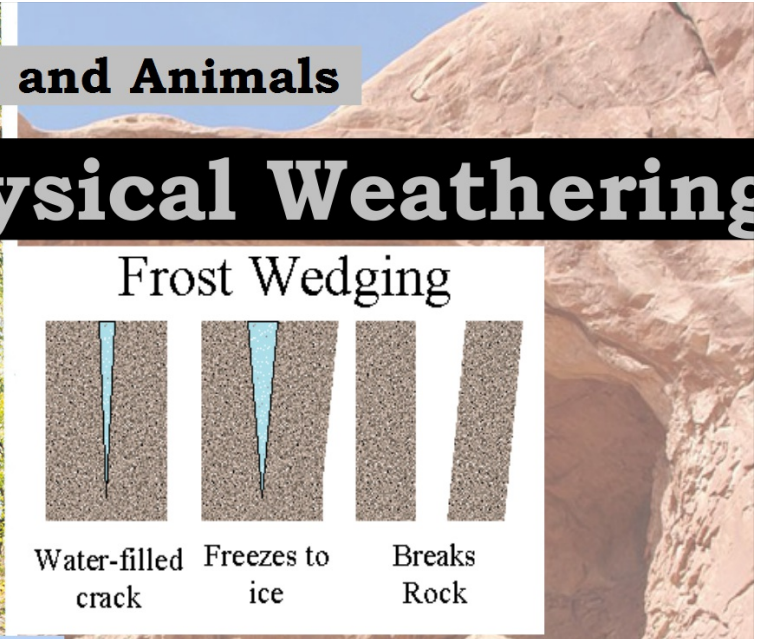
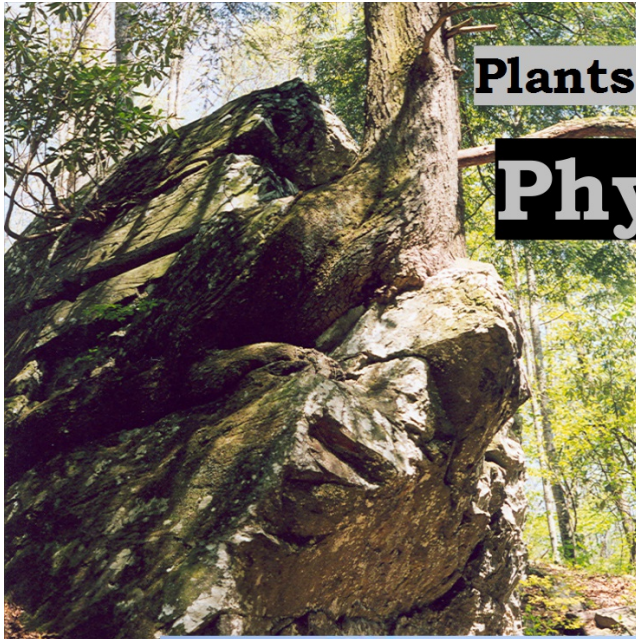
- characteristics of chemical weathering
- characteristics of physical weathering
- include minimum 3 terms: ice wedging, abrasion, oxidation, acid, dissolve

Image Bank:

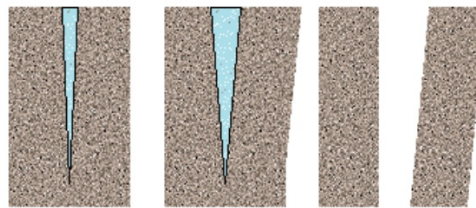


Plants and Animals

Physical Weathering



Frost Wedging



Water-filled crack Freezes to ice Breaks Rock



Ice Wedging

Hustvedt

Chemical Weathering

Limestone caves can be formed as limestone is dissolved by underground streams. This is a by-product of chemical weathering, because of acidic rain.



Day 5-6

Bellwork: Shake It Up!

In your ISN create this chart on the RIGHT side

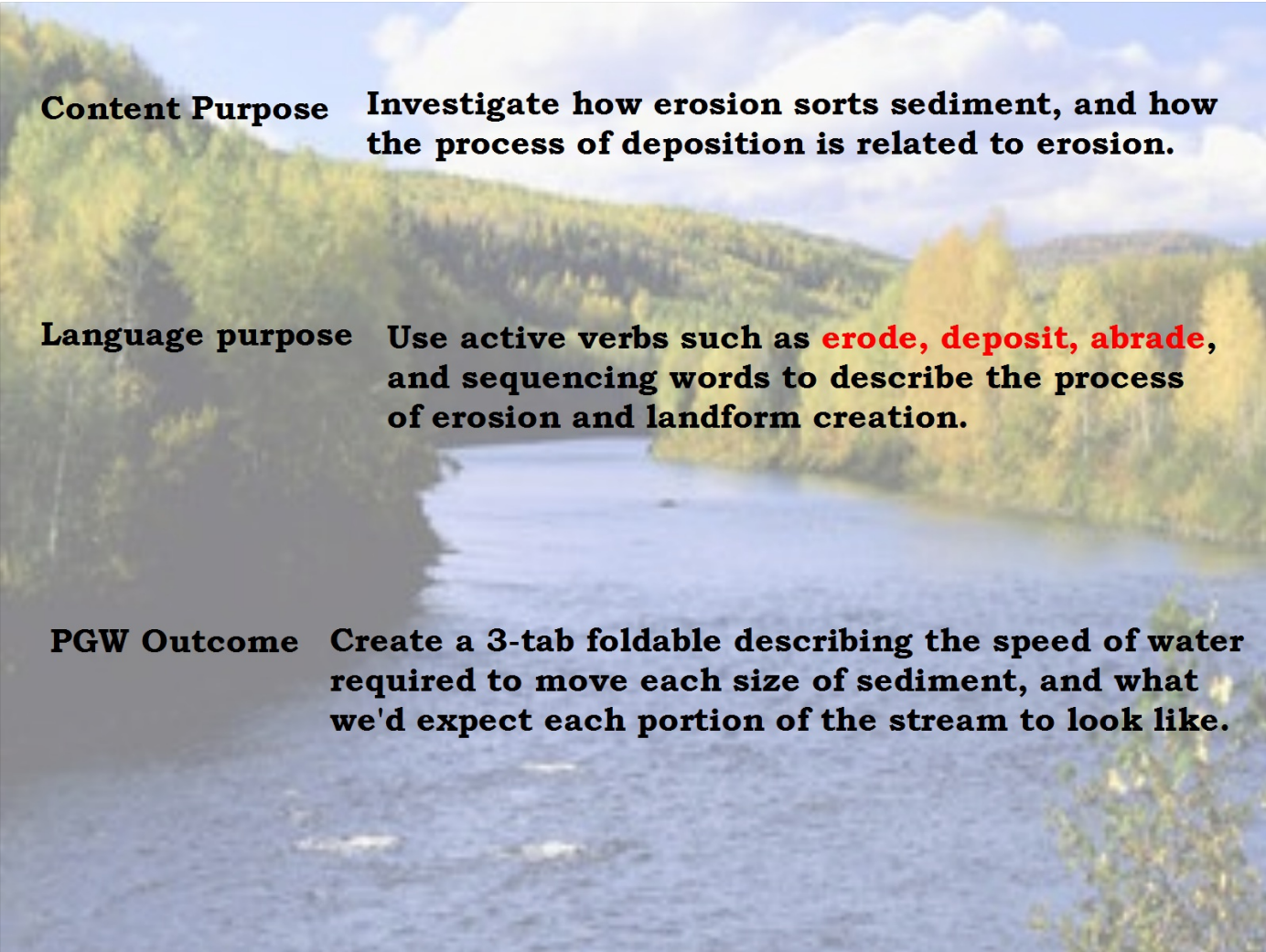
Initial Observations	Observations After 2 Minutes	Observations After 7 Minutes

Directions:

1. As a group, what do you see in your 2L bottle? Write a minimum of 3 observations.
2. Shake the bottle rigorously for 45 seconds
3. Place the bottle on its side on the red tray for the next 2 minutes, keep a running bullet point list: *what changes occur in the bottle?*

observe the settling of particles; what settles first?
second? last?

Is the water moving? How do you know? (whether
you answered yes, or no)



Content Purpose Investigate how erosion sorts sediment, and how the process of deposition is related to erosion.

Language purpose Use active verbs such as **erode, deposit, abrade,** and sequencing words to describe the process of erosion and landform creation.

PGW Outcome Create a 3-tab foldable describing the speed of water required to move each size of sediment, and what we'd expect each portion of the stream to look like.

Glaciers are large masses of ice that form on land and _____ across _____.

Alpine glaciers form in mountains and _____.

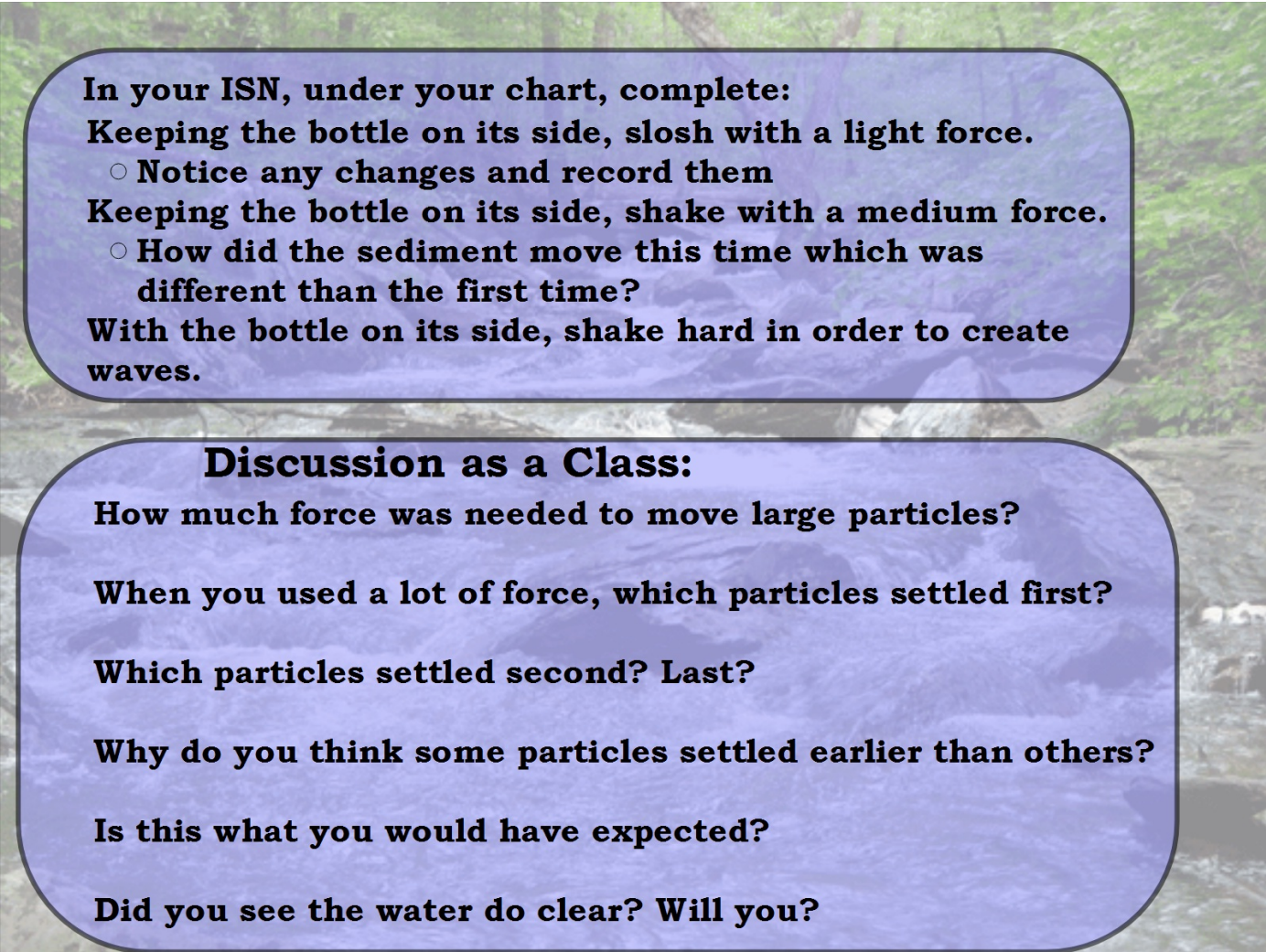
Continental ice sheets cover _____ and move outward from central locations.

Glaciers carve rock as they move over it.

Glaciers can _____ and _____.



Glaciers deposit _____ as they melt. Outwash is layered _____ formed by streams of water from a melting glacier.



In your ISN, under your chart, complete:

Keeping the bottle on its side, slosh with a light force.

- **Notice any changes and record them**

Keeping the bottle on its side, shake with a medium force.

- **How did the sediment move this time which was different than the first time?**

With the bottle on its side, shake hard in order to create waves.

Discussion as a Class:

How much force was needed to move large particles?

When you used a lot of force, which particles settled first?

Which particles settled second? Last?

Why do you think some particles settled earlier than others?

Is this what you would have expected?

Did you see the water do clear? Will you?



Deposition is a _____ where eroded material _____
out or is laid out and creates landforms

Water erodes and deposits sediment inland,
on coastlines and underground.

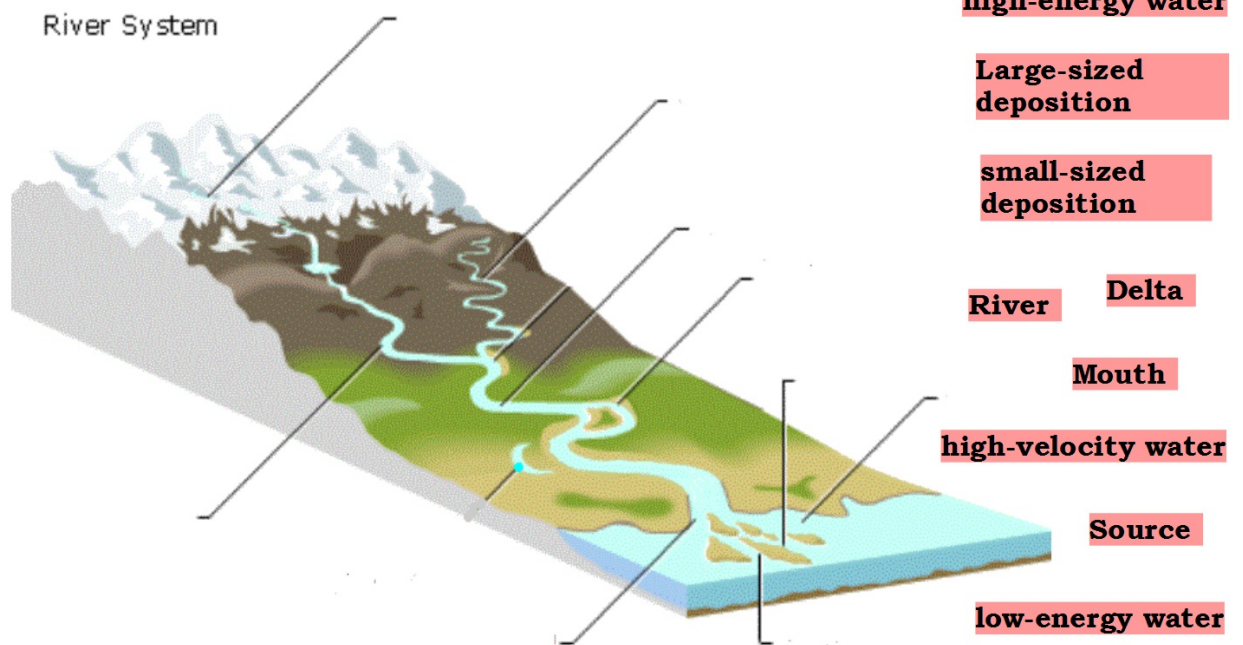
Streams erode land and transport sediment
_____.

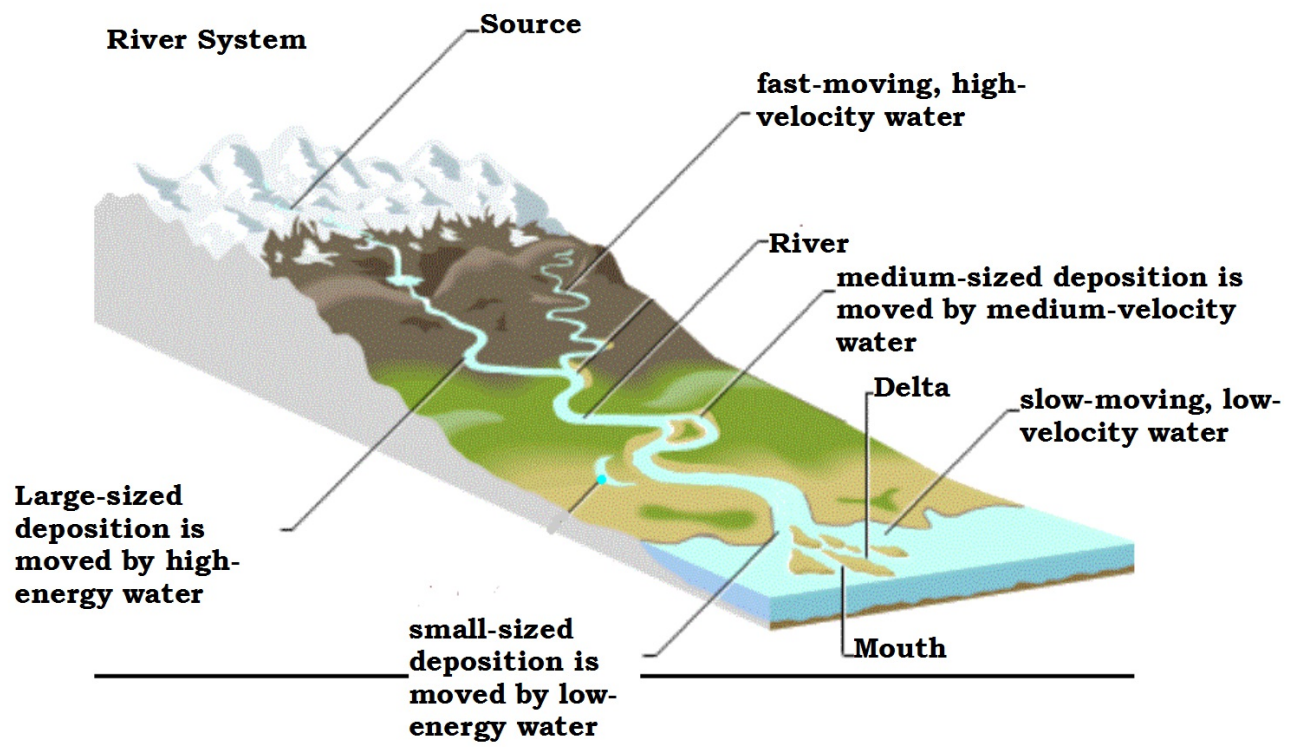
_____ of sediment tend to be deposited in _____
environments (meaning water is moving _____), and _____ are
deposited in _____ environments (meaning water is moving
_____).

Water and wind deposit sediment in depositional environments
such as **swamps, deltas, deserts** and **beaches**

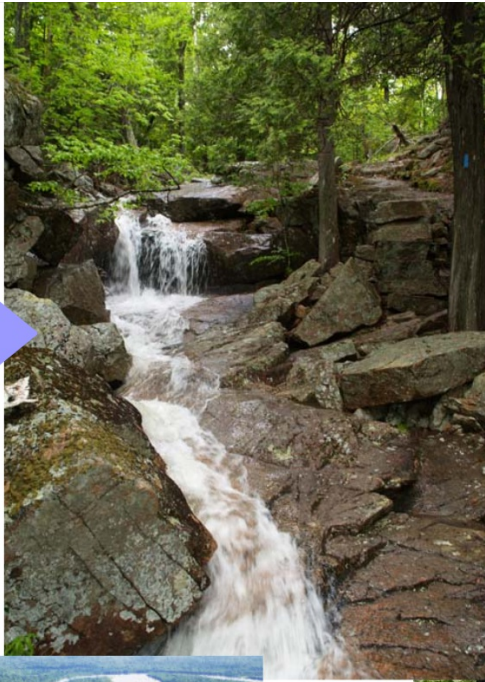
A **delta** is a large deposit of sediment that forms where a
_____.

Drag terms and descriptions on the right to the correct place in the diagram





Young Stream



Mature Stream



Old Stream



Create a 3-tab foldable

**include a picture of the stream
(either inside or outside)**

Young Stream	Mature Stream	Old Stream
---------------------	----------------------	-------------------

Describe speed of water, size of sediment, what we'd expect the stream to look like	Describe speed of water, size of sediment, what we'd expect the stream to look like	Describe speed of water, size of sediment, what we'd expect the stream to look like
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