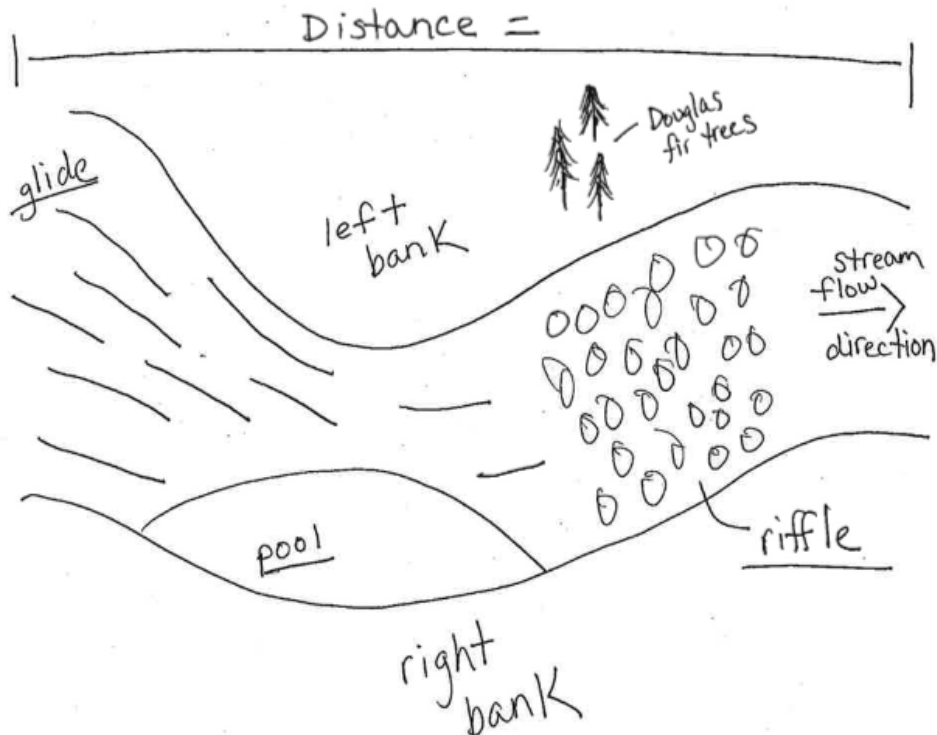


Stream Characteristics - Background

Stream Structure



Pools, riffles, and runs/ glides.....

create a mixture of flows and depths and provide a variety of habitats to support fish and other aquatic animals and plants. Pools are deep with slow water. Riffles are shallow with fast, turbulent water (whitewater) running over rocks. Runs/ glides are deep with fast water and little or no turbulence (whitewater).

- **Draw a diagram (see example above) of your stream sampling site (approximately 50-100 feet above and below where you collect your water samples). Describe the stream in terms of the presence of pools, riffles and runs/ glides.**
- **Add any other features like fallen trees in the stream, gravel bars, bank erosion – anything that might affect the flow of the stream.**

Credit: Maggie Bell McKinnon, biologist, Washington State Department of Ecology

Stream Structure

Substrate..... is the material on the stream bottom. Substrate types include:

- *Silt/clay/mud*
--This substrate has a sticky, cohesive feeling. The particles are fine. The spaces between the particles hold a lot of water, making the sediments behave like ooze.
- *Sand (up to 0.1 inch)*
--A sandy bottom is made up of tiny, gritty particles of rock that are smaller than gravel but coarser than silt (gritty, up to pea size).
- *Gravel (0.1-2 inches)*
--A gravel bottom is made up of stones ranging from tiny quarter-inch pebbles to rocks of about 2 inches (fine gravel - pea size to marble size; coarse gravel - marble to tennis ball size).
- *Cobbles (2-10 inches)*
--Most rocks on this type of stream bottom are between 2 and 10 inches (between a tennis ball and a basketball).
- *Boulders (greater than 10 inches)*
--Most of the rocks on the bottom are greater than 10 inches (between a basketball and a car in size).
- *Bedrock*
--is solid rock (or rocks bigger than a car).
- **Identify what substrate types are present in an area. Starting at the water's edge, lay down a frame, 2 X 2 feet in size, and record the different substrate types. Repeat this going out towards the middle of the stream to a safe depth.**
- **For older kids, estimate the percentage of each substrate type within the sampling frame and repeat once or twice at different streamside locations.**

Stream Structure Data Sheet

Pools, Riffles, Runs/ Glides

Draw a picture of your stream.....