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School: _____ Teacher: _____
 Date: _____ Time: _____ Weather: _____
 Stream/Site Name: _____

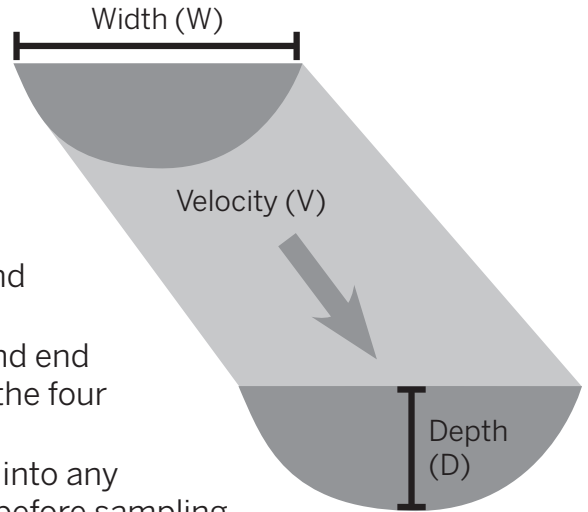
Measuring Stream Flow with Vernier

What You Need:

- Measuring staff
- Measuring tape
- LabQuest
- Flow Rate Sensor

Procedure:

1. Measure the Width (W) of the stream at your start and end points and get the average.
2. Measure the Depth (D) at two points for both the start and end points of your section of stream, and find the average of the four measurements.
3. Plug the Flow Sensor into the LabQuest right away (plug into any channel) to ensure a warm up time of at least 5 minutes before sampling. (This should be done as your next group is in transition to your station so while you are welcoming them and explaining the water quality station your probes are warming up).
4. Assemble Flow Rate Sensor by connecting the alternating black and white plastic rods together (two black rods, one with propeller and one without, as well as two white rods).
5. Submerge the entire propeller half way to the bed of the stream. Do not stick the rod so far in that the cords get wet. It is best to get a reading as close to the middle of the stream as possible, keep in mind the safety of the students and only take a sample that is no more than knee deep.
6. Using the stylus, change the unit of measurement by pressing the screen in the box providing the Velocity (V) reading (m/s and f/s), this will give you a drop down menu and allow you to change between units of measurement.
7. Once the reading has become steady and you have properly recorded data, carefully disassemble the pieces of the Flow Rate Sensor and you are ready for cleanup.



Width (W): _____ Depth (D): _____ Velocity (V): _____
 Width (ft) = _____ Depth (ft) = _____ Velocity (ft/s) = _____

Stream Flow (Q):

Stream Flow = $\frac{\text{_____}}{(Q)}$ (ft) x $\frac{\text{_____}}{(D)}$ (ft) x $\frac{\text{_____}}{(V)}$ (ft/s) = _____ cubic feet per second (cfs)