

Freshwater Monitoring – Clarity Tube

Aim: To investigate how clear the water is.

Equipment	Method	Things to discuss:
<ul style="list-style-type: none"> • clarity tube • tape measure • Stream Health Monitoring Data Recording Sheet 	<p>Use this method if visibility is less than 0.5m.</p> <ol style="list-style-type: none"> 1. Place the clarity tube upstream from you into the main stream flow – or collect 2L of water in a bucket. (Don't disturb the streambed.) Fill the tube. 2. Hold the tube horizontally while a second person holds the end of the tube. If there is a small bubble in the tube, make sure it is at the cap end rather than the viewer end. Look through the viewing end, down the length of the tube. 3. A third person slowly slides the magnet away from the viewing end until it is no longer visible. 4. Using the numbers on the outside of the tube, measure the distance from the viewing end of the tube to where the magnet has stopped. Record the number at the front end of the magnet as y_1 on the recording sheet. 5. Slowly move the magnet back toward the viewing end until it just reappears. Record the distance as y_2 on the recording sheet. $\text{Visual clarity} = \frac{y_1 + y_2}{2}$ <ol style="list-style-type: none"> 6. Visual clarity is the average of these two distances. Record the result on the recording sheet. 	<p>Things to discuss:</p> <ol style="list-style-type: none"> 1. Ask students to think about what the clarity tube might be used for. 2. Standing in the stream, disturb some sediment and discuss how this might happen in a stream. 3. Discuss why the sample needs to be taken from up stream. 4. Discuss what might make the water dirty and who would be affected by it. <i>Animals living in the stream such as the insect larvae need clean, clear running water. Clear water allows us to see the bottom of the stream if we want to go swimming.</i> <p>Reflect</p> <p>What was the difference between the two samples? Who or what do you think would be affected by water that has low clarity? What do you think might be causing a high or low clarity reading in your stream? What does this tell us about the water quality? Is there anything that could change to improve the water clarity?</p>

<p>Notes:</p> <p>When emptying the clarity tube, put the water back in the stream but hold your hand over the end and catch the magnet!</p> <p>Be careful with the end of the clarity tube so that the viewing screen does not get scratched.</p>	<p>Action</p> <p>Can students identify areas of the stream that could be improved through fencing or riparian planting?</p> <p>Students could develop an action plan for the management of the stream.</p>
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