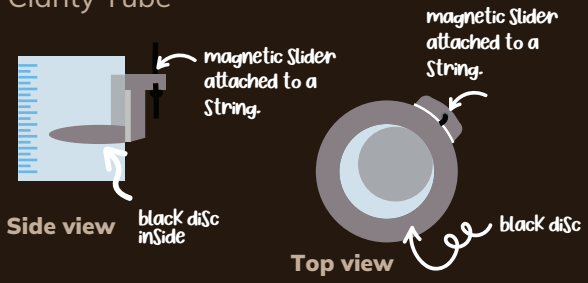
CLARITY TUBE

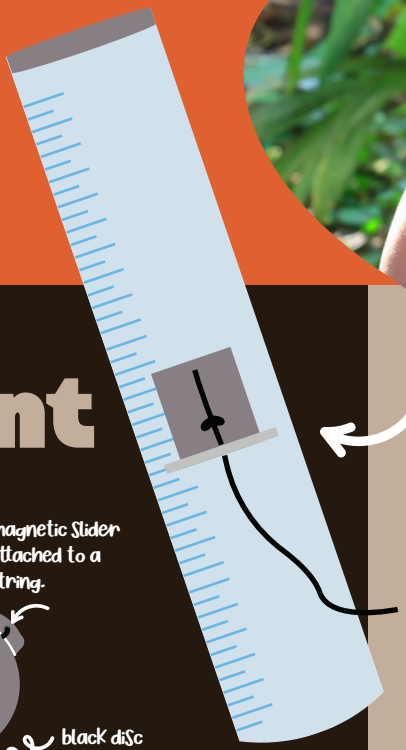
To measure river clarity



Equipment

Clarity Tube





What is the clarity tube? It is a transparent tube measuring 1 metre. The tube has a black disc (circular) inside and on the outside there is a magnetic slider attached to a string.

Why do we use it? It is used to assess the clarity of the river water (i.e. measure how clear the water is) by taking measurements.

01

Selecting the location. Decide which part of the river to take the measurement: lower / middle / upper.

Identify a spot where there is enough water to fill the clarity tube without too many sediments / other particles getting into the tube. **Record** river name, date, time, organisation, data collector's name. **Site description** e.g. near farm / house, deforestation. **Weather** e.g. sunny, cloudy. **Vegetation cover** e.g. full/50% cover.

River condition e.g. slow flow, rocky, sediment, pollution.

Teamwork. Ensure that there are a minimum of 2 persons to take the measurements.

02

Add water from the river



Fill the clarity tube with water. Submerge the tube in the water and fill it up till the water overflows from the tube. Use the tube's cap to continue filling the tube if the tube is not full. Ensure that there are no bubbles.

If the tube cannot be submerged due to the nature of the terrain, use a clean container to pour water into the tube. Seal the tube. Shake the tube to ensure that the water is sufficiently mixed.

03

Positioning the clarity tube. Hold the tube and position yourself with the sun on your back, to ensure that the tube is not positioned in direct sunlight but in an area with some light. Each person holds one end of the tube. The person holding the end with the cap, holds this side of the tube slightly higher.





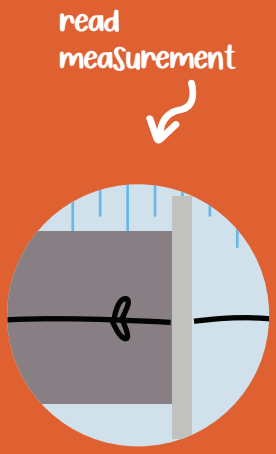
04

Observe the black disc. The person holding the transparent end of the tube, looks through the transparent end at the black disc inside the tube.

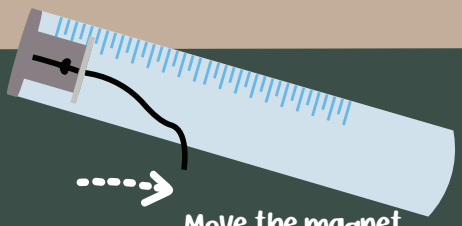
05

First measurement-disappear reading. Push the magnetic slider to observe the black disc. As soon as there is a change i.e. the black disc start to fade STOP pushing the magnetic slider.

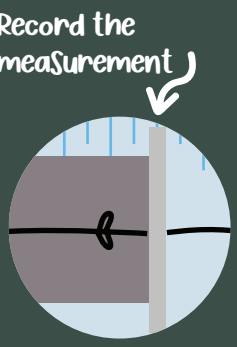
Taking measurement of the water clarity. Look on the surface of the tube where the magnetic slider has stopped, read the measurement.



06



Second measurement-reappear reading. Hold the string that is attached to the magnetic slider and pull the magnetic slider/the other person can push the magnet. As soon as the black disc becomes visible (i.e. start to reappear), STOP pulling the magnetic slider. Read the measurement. Record your second measurement.



07

Three sets of readings. One person takes the above reading- disappear and reappear readings 3 times.

Measurement	1St	2nd	3rd
Disappear	70	68	77
Reappear	76	71.5	73
Step 1: 70 + 76 + 68 + 71.5 + 77 + 73 = 435.5			
Step 2: : 435.5/6= 72.58 cm			
Clarity Score is 73 cm			

08

Interpret the results. Higher value of clarity depth is indicative of clearer water; lower value indicates more turbidity.

Future readings. Take readings at the same location to assess trends in water clarity or at different sites over time to compare water clarity at different sites.





09

Cleaning and storing the tube. Rinse the tube with clean water to prevent contamination. Ensure that all equipment parts are attached to the tube i.e. cap, magnetic slider and black disc. Store safely.

Clean Rivers, Healthy Lives

Refer to the River Health and Safety Training Manual by Gaea Seychelles

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