# Stream Scientist

## Instruction sheet

**Guidelines for Taking a Stream Scientist Session:**

**Introduction (5-10 min)**

- Explain to the students that the aim of the session is to have fun learning about a typical NZ stream, what lives in it and if it is a healthy environment.
- To start the session ask the children: What is a stream? Have them brainstorm on the paper provided. Encourage the children to think about where the water comes from (rain), what a catchment is, and where the water travels from to get to the stream.

**At the stream (5 min)**

- As a group, make observations and discuss the appearance of the stream.
  - Does it look healthy? *Why/why not?*
  - Consider: water level, how fast is it flowing, recent rain, clarity, etc.
  - Paper and pens/pencils will be provided to record your findings.

**Testing the health of the stream - temperature (5 min)**

- Take the air temperature. Will the water be warmer or cooler?
- Take the Water temperature:
  - Fill a bucket with stream water and hold the thermometer in the water for at least two minutes.
- If water temperature is colder than air, it's a sign it's healthy!

**Testing the health of the stream - Clarity**

- ***Please do this test on land, not in the stream*** – that way we don't lose/break parts of the clarity test equipment.
- Pour water from a bucket into clarity tube
- Place magnetic marble in tube and replace cap
- Hold the tube horizontally, and then one person looks through the end-cap to view the magnetic marble in the tube close to the viewing whole.
- Someone should then slide the magnetic handle to move the marble along inside the tube. Stop when the viewer can no longer see the marble due to the water clarity. Take note of the marbles' place on the scale.
- (You could tell a story to illustrate how an eel finds it difficult to see and catch food in the stream if it is cloudy/ full of sediment. Ask the child viewing the ball to imagine they are an hungry eel who has spotted a tasty small fish or bug( the magnetic ball) The eel swims faster to catch its prey but it is swimming away, on a fast escape, and soon it is lost out of sight. As you tell the story have another child slowly slide the magnetic marble (fish or bug) down the tube away from the viewer till the marble is out of sight.

# Stream Scientist

## Instruction sheet

**Invertebrate collecting**

- Remember, we want to keep everything alive, so if you catch something, keep it in a tray of water to observe and release it into the stream once you are done identifying.
- Using the nets, see if you can catch any fish or other invertebrates. The best way to do this is to swipe the nets quickly in the water, especially near the banks or under rocks *(creatures like to hide under the plants near the waters' edge)* and in deeper water.
- Turn over rocks and observe to see if any tiny creatures are living on the rocks. Hold the net down stream from the rock and gently brush the surface of the rock with your hand in the direction of the net.
- Empty the nets into the trays, carefully observing for signs of life in the material collected. Most stream life is well camouflaged & expert at hiding, so observe carefully!
- Use the magnifiers and charts to identify which stream creatures you have caught, and discuss what this means about the health in the stream.
- Discuss things that cause our water to become polluted and ways that we can help our streams stay healthy.
- Discuss why these streams and their tiny inhabitants are important to us! Why we should care for them?

**Important notes**

- Please ensure students are wearing the correct clothing and footwear for being around the stream. They will not be swimming, but will potentially get wet.
- As you are around water, please ensure there is adequate adult supervision.