

# Teacher's Guide

Activity length ~10 minutes

## What this activity is about

Students developing observation skills in the context of freshwater invertebrates.

This is a key skill for scientists and takes practice to make careful observations.

The questions are here to help guide the students as they observe.

The real answer is not as important as the discussion the students have about what they see and what they think it means.

This activity also helps clarify the difference between observation (i.e., what we see) and inference (i.e., what we think based on our observations).

## How it works

To small groups (3–4) of students give a page with one of the invertebrate photos on it.

Ask the student groups to describe what they see and discuss it in their groups.

They can use the observation questions as a guide for what they can look for, but they should also describe other things they notice.

They can then begin to discuss some of the inference questions, using the observations they made to hypothesize.

Emphasize the difference between the observation questions and the inference questions.

This activity will help guide their observations when they are trying to identify invertebrates from a stream.

## **Freshwater invertebrates used in the activity**



### **Green Stonefly (Stenoperla)**

- Predator
- Common in cold water, stony bottom streams
- Feeds in the rocks at the bottom of streams



### **Smooth cased Caddisfly (Olinga)**

- Carries a mobile case which covers a soft abdomen
- Herbivores that feed on fine organic matter and shred leaves
- Common in bush covered, cold water, stony streams



### **Dobsonfly or Toe biter (Archichauliodes)**

- Predator
- Common in hard bottomed streams and farmland areas
- Distinctive tentacle like gills along the abdomen



### **Single gill Mayfly (Deleatidium)**

- Herbivores that scrape algae and organic matter from rocks
- 3 tails



### **Mud Snail (Potamopyrgus)**

- Herbivores that scrape organic matter from submerged surfaces
- Common in most stream types
- Black, brown or pale shells



### **Oligochaete worms**

- Segmented worm
- Feed on the organic matter in sediments on the bottom of streams
- Common in all types of streams

*Photos Landcare Research & Angus McIntosh*

## Observe like a Scientist

# A look at freshwater invertebrates



Photo Landcare Research

### Observation Questions

What do you see? .....

Does it have legs? How many? .....

How many tails does it have? .....

Can you describe what its head looks like? .....

Does it have a case or shell? .....

What else do you see? .....

### Inference Questions

How does it move around? .....

What does it eat? .....

What part of the stream does it live in? .....

Do you think it is fast or slow? .....



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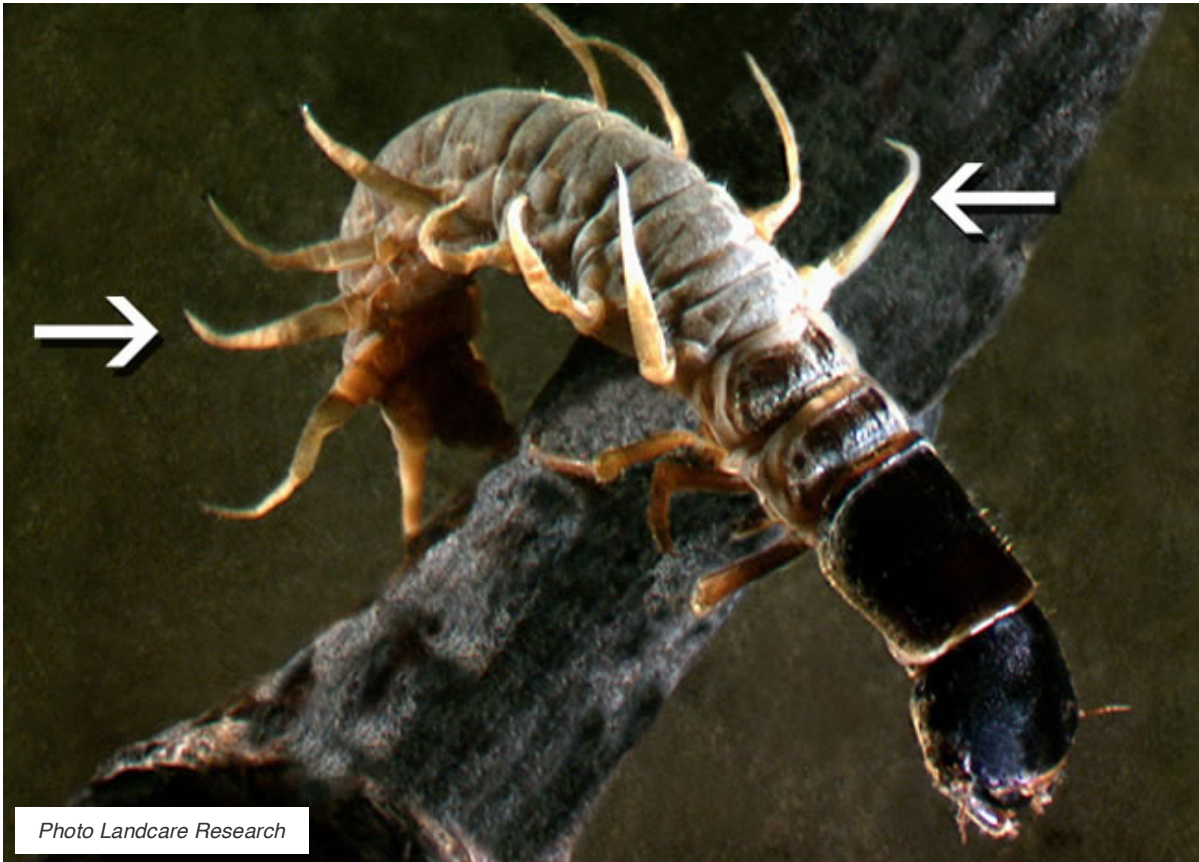
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