

This hands on activity allows your students to catch and analyse the distribution of aquatic invertebrates in one of the sanctuary wetlands.

Learning Intention	Success Criteria
Students will be able to catch a variety of aquatic invertebrates and identify them using a dissecting microscope. They will be able to produce a signal score based on their findings.	Students can identify different aquatic invertebrates. Students can produce a valid signal score to determine the health of the wetland.

Student Activity

Your students will be taken to one of the wetlands in the sanctuary, where they will use dip nets and a bucket to catch aquatic invertebrates. Two or three students will use waders to sample the middle of the wetland also. Older students will use standardised methods to sample the wetland. They will then bring their samples to the classroom, where they will identify what they have caught, after which they will count, or estimate how many of each species they have in their sample. Collating this data, they will work with the class to produce a signal score. From the score, they will determine the health of the wetland.

Learning Outcomes

Cognitive	Students will understand that the diversity of invertebrates in a wetland determines its health. They will learn how to produce a signal score based on the amount and type of invertebrates they have caught.
Affective	Students will enjoy catching the invertebrates, as well as seeing invertebrates up close and in more detail. Students will respect the invertebrates by handling them with care.
Observational Skills	Students will be able to sample the wetland with standardised movements. Students will be able to use and focus a microscope in order to identify invertebrates.



La Trobe University's Outdoor Laboratory

Critical Thinking



Communication



Collaboration



Creativity



Character



Citizenship



Curriculum Links

Year 7-8:

There are differences within and between groups of organisms; classification helps organise this diversity ([VCSSU091](#))
Interactions between organisms can be described in terms of food chains and food webs and can be affected by human activity ([VCSSU093](#))

In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task ([VCSIS109](#))
Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions ([VCSIS111](#))
Reflect on the method used to investigate a question or solve a problem, including evaluating the quality of the data collected, and identify improvements to the method ([VCSIS112](#))

Year 9-10:

Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems([VCSSU121](#))

Independently plan, select and use appropriate investigation types, including fieldwork and laboratory experimentation, to collect reliable data, assess risk and address ethical issues associated with these investigation types ([VCSIS135](#))


Select and use appropriate equipment and technologies to systematically collect and record accurate and reliable data, and use repeat trials to improve accuracy, precision and reliability ([VCSIS136](#))

Construct and use a range of representations, including graphs, keys, models and formulas, to record and summarise data from students' own investigations and secondary sources, to represent qualitative and quantitative patterns or relationships, and distinguish between discrete and continuous data ([VCSIS137](#))

Analyse patterns and trends in data, including describing relationships between variables, identifying inconsistencies in data and sources of uncertainty, and drawing conclusions that are consistent with evidence ([VCSIS138](#))

Summary

Throughout this engaging activity, students will begin to understand that the diversity of invertebrates in a wetland determines the health of a wetland. Students will learn how to accurately sample a wetland and identify the invertebrates living within it. Your students will investigate a wetland habitat, determining its health by producing a signal score based on what they have found within it. Furthermore, they will be able to question whether their results are accurate, and if they could improve in this area.



A New Pedagogy Deep Learning (NPDL)

The LTWS incorporates the work of Michael Fullan and Maria Langworthy into their activities and support resources.

Instructional Model and incorporate a range of activities designed to develop 21st Century Learning Skills.

The **Catch Me if You Can** activity provides an authentic link to a pedagogy for Meaning-Oriented (Deep) learning. The ticks below provide an indication of the skills this activity is designed to develop.

Support Materials

The LTWS have (and are) developing a range of support materials that provide additional resources for teachers to explore this NPDL framework.

Visit our Webpage – www.latrobe.edu.au/wildlife

Keep in touch via the sanctuaries Blog, Facebook and Youtube pages to discover more about the sanctuary and the opportunities your students can explore.

<http://bit.ly/1TdbMnN>
<http://on.fb.me/1WeQwfD>
<http://bit.ly/1V4yMTL>

