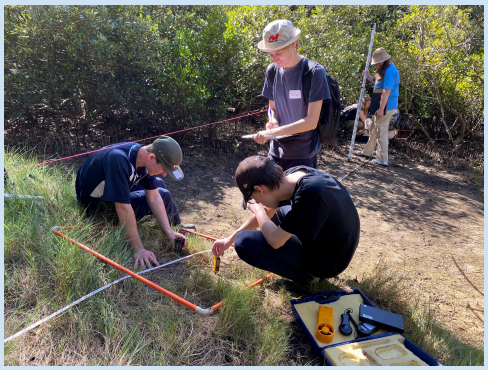
Biology Fieldwork

Year 11 Biology, Ecosystem dynamics

Ecosystem Dynamics

Location
Minnamurra River
Costs
$10 per student up to 90 students
$12 per student over 90 students
Drop off and pick up locations
Meet at Trevethan Reserve off Riverside Drive. Bus parking on Riverside Drive (opp).
Train transport options available



Inclement weather
If concerned please contact Nikki Bodel 0416210542 or Steve Leake 0401267103 at 6.45am on the day.

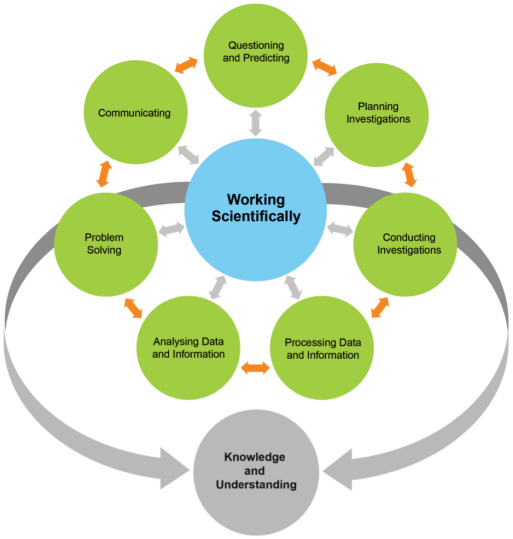
Teaching resources

Teachers are expected to complete the pre-visit lessons with their students to ensure that students are able to complete the fieldwork.

- The prerequisite lessons and post excursion lesson can be found on this Google Site.
- Fieldwork booklets will be printed and supplied by the IEEC on the day and can be viewed here.

Inquiry and focus questions

1. What effect can one species have on another species in a community?
2. What effect do abiotic factors have on the distribution and abundance of species?



Key syllabus outcomes

Biology Yr 11

Working Scientifically
This program focuses on all skills in the Working Scientifically process.

Knowledge and Understanding

Module 4 - Ecosystem Dynamics
BIO11-11 analyses ecosystem dynamics and the interrelationships of organisms within the ecosystem

Program overview

This series of lessons and corresponding fieldwork aims to assist students in acquiring Working Scientifically skills, including a practical fieldwork experience where students develop a question, plan and conduct an investigation in the plant communities along the Minnamurra River. Students continue working through the Working Scientifically skills by reporting on the results and conclusions they make.

Prerequisite lessons

Ecological Fieldwork
Background information on ecological fieldwork and techniques used to collect data.

Practical investigation - school ground weeds
A hands-on practical investigation on the weeds in the school grounds where students formulate an hypothesis after identifying variables and then use quadrat sampling methods to conduct an investigation. A simple report is completed after processing and analysing the data.

Fieldwork day preparation
Preparation for the fieldwork day involves developing an investigation in preparation for the day. Two relationships are presented; one is partially complete, while the other requires self-guided exploration. Students are expected to bring their prepared investigation with them on the day of the fieldwork.

Fieldwork day
Students conduct Quadrat surveys, practise the Mark/Capture/Recapture of animals, review their prepared hypotheses and conduct a Transect experiment and collect data on abiotic factors.

Post excursion lesson

Report Writing
Students analyse data collected on the excursion and prepare a report to communicate their findings.

Indicative Schedule

Time	Activity
9.30	Introduction & Acknowledgement of Country
9:45	Identify & describe physical features, preferred habitats & some adaptations of organisms on the river bank.
10:15	Model the Capture/Mark/Recapture of aquatic animals.
11.00	Recess
11.15	Conduct qualitative pilot study fieldwork investigation of distribution and abundance (Random Quadrats). Discuss use of variables, measuring equipment and methodology.
11.30	Conduct quantitative fieldwork investigations (Belted Transect) to measure distribution and abundance of organisms, and measure a variety of abiotic factors.
12.45	Lunch
1:15	Capture & observation of aquatic organisms using fishing rods, nets and pumps.