



*“..guided inquiry with  
the option of extending  
into a depth study”*



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**Module 4  
Ecosystem Dynamics**

*Stage 6*

**BIOLOGY**

**INSPIRED by FIELDWORK**





## Context

Students, just like scientists learn by doing. Camden Park Environmental Education Centre supports teachers and students with **Stage 6 Biology Module 4: Ecosystem Dynamics** in working scientifically to plan and conduct fieldwork to investigate the key inquiry question, **what effect can one species have on the other species?**

The investigation occurs within the threatened ecological community of Cumberland Plain Woodland. Our pre excursion resources examine recent research to inspire students' questions and hypotheses about biodiversity as indicators of the health of the community.

Unpacking each Working Scientifically outcome has informed our design of learning experiences to model a teacher guided inquiry with the **option of extending into a depth study**. Resources consist of seven "lessons" including a fieldwork journal for qualitative and quantitative data, supported by comprehensive pre and post excursion learning.

A sample formal assessment rubric provides criteria for assessment of a report that explains the working scientifically processes undertaken throughout the depth study. While offering a guided inquiry there exists an abundance of opportunities throughout the investigation for students to "go their own way" through negotiation with their teacher.

## Working Scientifically Lessons

- ◆ **Questioning and Predicting:** Background information; impact of abiotic and biotic factors; developing questions and generating hypotheses about the impact of Broad-leaf Privet upon the recruitment of mature hollow bearing trees and diversity of ground dwelling invertebrates.
- ◆ **Planning Investigations:** location; risk assessment; ethical considerations; qualitative data abiotic factors, species identification and abundance; collecting quantitative data; and identifying variables.
- ◆ **Conducting Investigations:** safety; abiotic factors; data collection using quadrat sampling, line intercept transects and pitfall traps.
- ◆ **Processing Data and Information:** process qualitative and quantitative data using pre formatted sample tables and charts in Google sheets.
- ◆ **Analysing Data and Information:** clarifies trends, patterns and relationships through a valid, accurate and reliable process.
- ◆ **Problem Solving:** models to explain cause and effect relationships; niche dynamics; applying research to conservation management.
- ◆ **Communicating:** a guide for the creation of a scientific report.



## Accessing Resources

Once a fieldwork day is booked teacher/s receive an email with a PDF serving as a hyperdoc with links to the lessons. Teachers copy and rename each file to store in their Google Drive. This method provides teachers with a variety of options for sharing, adapting and presenting lessons.