



Program Overview

Students will undertake a variety of scientific investigations to develop an understanding of ecosystems. Further investigations will assist them to understand the health of the estuary at Bobbin Head and the techniques scientists use when monitoring the environment and the human impacts on it.

Syllabus Inquiry Questions

1. What are some of the plants and animals that live in the ecosystems at Bobbin Head?
2. What features are adaptations for survival?
3. How do human impacts on these ecosystems?

Learning Experiences

Aboriginal Perspectives

Students will visit Aboriginal cultural sites to develop an understanding of Aboriginal use of native plants and the sustainable practices used in managing ecosystems.

Plant Identification and Adaptations

Students will conduct a practical investigation to identify, examine and compare the adaptations of plants in both the Mangrove and Dry Sclerophyll ecosystems.

Crab Biotic Investigation (tide/season dependent)

Students will use scientific techniques to identify crab species and use observation to predict their adaptations. They will then use scientific equipment and survey techniques to sample crab population size

Water Quality Analysis

Students will use scientific equipment to test the quality of the water at Bobbin Head and use the results and observations to determine human impacts on water and mangrove ecosystems.

Mangrove Food Chains and Food Webs

Students will observe and record the trophic level of different species of plants and animals during the day. They will use this information to complete food chains and food webs and predict changes in populations due to possible human impacts.

Key Syllabus Outcomes and Content Outcomes

> relates the structure and function of living things to their classification, survival and reproduction SC4-14LW

Content

LW1 There are differences within and between groups of organisms; classification helps organise this diversity (ACSSU111)

Students:

- b. Classify a variety of living things based on similarities and differences in structural features
- c. Use simple keys to identify a range of plants and animals
- e. Outline the structural features used to group living things, including plants and animals

f. Explain how the features of some Australian plants and animals have adaptations for survival and reproduction in their environment.

LW5 Science and technology contribute to finding solutions to conserving and managing sustainable ecosystems.

Students:

- a. Construct and interpret food chains and food webs, including examples from Australian ecosystems
- b. Describe interactions between organisms in food chains and food webs, including producers, consumers and decomposers (ACSSU112)
- d. Predict how human activities can affect interactions in food chains and food webs, including examples from Australian land or marine ecosystems (ACSSU112)