



*“Empowering Extraordinary Minds”*

# Overview

## Adaptation Agents

## Year 5 Program

Adaptation Agents is an engaging biology program that allows students to explore specific plant and animal adaptations in two different ecosystems.

Starting at Lion’s Park, Boyne Island, the students are sent on a mission to explore the Mangroves and the Freshwater Pond.

**Mangroves Session** – Students are taken on a muddy journey to explore the three key mangrove species of the local area. The interactive experience allows them to learn about specific adaptations to survive in the harsh, salty conditions as well as connect with the organisms that live in the habitat. A hose is provided at the end of the session to wash away excess mud.

**Freshwater Pond** – This interactive activity allows students to determine the water quality of the pond based on the water bugs present in the water. After collecting bug samples from the pond, students use microscopes, iPads and a dichotomous key to identify the species of bug based on its features. Once identified, students research the water sensitivity level of the bug to determine the quality of the water as well as discover the many adaptations the waterbug has to survive.

*\*This program depends on favourable tides and may not be available on your preferred days. BIEEC staff will guide you for suitable times.*

## Curriculum Intent

### Science

#### Science Understanding

##### *Biological sciences*

- Living things have structural features and adaptations that help them to survive in their environment ([ACSSU043](#))

#### Science as a Human Endeavour

##### *Nature and development of science*

- Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena (ACSHE081)

#### Science Inquiry Skills

##### *Questioning and predicting*

- With guidance, pose clarifying questions and make predictions about scientific investigations (ACSIS231)

##### *Planning and conducting*

- Identify, plan and apply the elements of scientific investigations to answer questions and solve problems using equipment and materials safely and identifying potential risks (ACSIS086)

##### *Processing and analysing data and information*

- Compare data with predictions and use as evidence in developing explanations (ACSIS218)

##### *Communicating*

- Communicate ideas, explanations and processes using scientific representations in a variety of ways (ACSIS093)

## General capabilities

- Literacy
- Numeracy
- Critical and Creative Thinking
- Information and Communication Technology (ICT) Capability

## Cross-curriculum priorities

### Aboriginal and Torres Strait Islander Histories and Cultures

#### Country/Place

- **OI.2** Aboriginal and Torres Strait Islander communities maintain a special connection to and responsibility for Country/Place.
- **OI.5** World views are formed by experiences at personal, local, national and global levels, and are linked to individual and community actions for sustainability.

#### Culture

- **OI.5** Aboriginal and Torres Strait Islander Peoples' ways of life are uniquely expressed through ways of being, knowing, thinking and doing.

# Itinerary

## Learning Intentions:

### WHAT... are we learning?

- Living things have structural features and adaptations that help them to survive in their environment

### WHY ... are we learning this?

- Science explains the world around us. By understanding how the environment that we live within works, how the living things survive with an ecosystem, we can learn to respect our living and be considerate of our impact as humans.

### HOW ... will you know you're successful?

- Identify and describe structural features of living things in 2 different environments (Mangroves and Freshwater pond)
- Explain how the adaptations of living things allows them to survive in different habitats
- Explore the relationships between plants and animals within an ecosystem

## \*Suggested Timetable of the day

EMPOWERING EXTRAORDINARY	TIME	ACTIVITIES
	9.00	Welcome & Induction Australian Curriculum focus: WHAT WHY HOW Goal Setting & Pre-test data collection
	9.45	Call to action – students are provided with their mission for the day's activities.
	10.00	Mangrove Session
	11.20	Lunch(+)
	12.00	Walk to Freshwater pond
	12.15	Freshwater Pond Session
	1.45	Toilet break (+)
	2.00	Revisit Australian Curriculum focus: WHAT WHY HOW Review Goal Setting & complete Post-test BIEEC feedback
	2.30	Students depart (+)
*Denotes – activity taken by BIEEC staff with visiting school staff support # Denotes – activity taken by visiting school staff with BIEEC staff support + Denotes – activity taken by visiting school staff		

\*Suggested timetable only and subject to change