Adaptation Agents

Year 5 Day Visit Program

This immersive, curriculum-aligned program invites Year 5 students to take on the role of field biologists as they investigate how living things are adapted to survive in two contrasting environments: mangroves and freshwater wetlands. Guided by a narrative framework featuring the fictional “Professor Richard,” students respond to a series of calls to action that drive purposeful exploration and scientific inquiry.

In the mangrove environment, students use field guides, cameras, and observation tools to identify a range of organisms and examine their structural and behavioural adaptations. Working in small teams, they move between high and low tide zones, collect data on species abundance, and consider how environmental factors shape adaptation.

The inquiry then extends to a freshwater setting, where students respond to a second mission requiring navigation using maps, collection of a field kit, and hands-on investigation of macroinvertebrates. Using microscopes, iPads, and classification resources, they study physical features and draw conclusions about how these organisms meet the challenges of life in aquatic environments.

Throughout the day, students engage in rich, experiential learning supported by collaborative tasks, scientific observation, critical thinking, and reflection. The program builds a deep understanding of biological adaptation, reinforces science inquiry skills, and encourages curiosity and environmental awareness.

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

Curriculum Links

SCIENCE

Science Understanding – Biological Sciences

AC9S5U01: Examine how particular structural features and behaviours of living things enable their survival in specific habitats.

Science as a Human Endeavour

Integrated throughout the experience via real-world scientific exploration and collaboration.

Science Inquiry Skills

AC9S5I01: Pose investigable questions to identify patterns and test relationships; make reasoned predictions.

AC9S5I02: Plan and conduct repeatable investigations, identifying variables, risks, and safety considerations.

AC9S5I03: Use equipment to observe, measure, and record data with reasonable precision.

AC9S5I04: Organise and process data using representations like tables and sketches to describe patterns.

AC9S5I05: Compare findings, identify possible errors, and use evidence to draw conclusions.

AC9S5I06: Communicate ideas and findings for specific purposes and audiences using digital tools.

General Capabilities

Science Understanding – Biological Sciences

AC9S5U01 – Examine how particular structural features and behaviours of living things enable their survival in specific habitats

- Investigate how plants and animals’ features and behaviours help them live in mangrove and freshwater wetland environments
- Explore examples of adaptations that support survival in these contrasting habitats

Science as a Human Endeavour

Integrated throughout the experience via real-world scientific exploration and collaboration

- Engage students in authentic scientific inquiry connected to real-life habitats and organisms
- Encourage teamwork and communication during investigations and problem-solving

Science Inquiry Skills

AC9S5I01 – Pose investigable questions to identify patterns and test relationships; make reasoned predictions

- Develop questions about how living things survive and interact with their environments
- Predict outcomes based on observations and prior knowledge

AC9S5I02 – Plan and conduct repeatable investigations, identifying variables, risks, and safety considerations

- Guide students to design investigations with clear steps and controls
- Teach students to recognise and manage potential risks during experiments

AC9S5I03 – Use equipment to observe, measure, and record data with reasonable precision

- Use field guides, cameras, microscopes, and digital tools to collect accurate observations and measurements
- Record data systematically for analysis

AC9S5I04 – Organise and process data using representations like tables and sketches to describe patterns

- Help students organise data into tables or drawings to identify trends and relationships
- Use visual representations to explain findings clearly

AC9S5I05 – Compare findings, identify possible errors, and use evidence to draw conclusions

- Discuss results with peers to evaluate accuracy and fairness of investigations
- Encourage reflection on errors and how evidence supports conclusions

AC9S5I06 – Communicate ideas and findings for specific purposes and audiences using digital tools

- Support students in presenting their research and conclusions clearly using digital media such as iPads
- Tailor communication to different audiences with appropriate language and formats

CARA's

- Handling marine organisms
- Animal observation
- science experiment
- Walking on uneven surfaces

Learning Intentions

WHAT... **are we learning?**

- Investigate two unique environments: mangrove forests and freshwater ponds
- Identify structural and behavioural adaptations of living things
- Collect and record data on abundance and features using scientific tools
- Analyse how these features help organisms survive in their habitats

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

BIEEC PEDAGOGY

Our student-centred learning approach focuses on hands-on, interactive activities that engage students and encourage exploration. By allowing students to take ownership of their learning and set personal goals, they develop independence and critical thinking skills. Teachers act as mentors, supporting students by asking questions throughout their learning journey to assist with building a lifelong love of learning.

SAMPLE ITINERARY

Please Note: This is a SAMPLE itinerary and your Program Manager will forward your individual program shortly.

" Empowering extraordinary minds"

TIME	ACTIVITIES
Welcome	Welcome & Induction Australian Curriculum focus: WHAT WHY HOW
Morning Session	Call to action – students are provided with their mission for the day's activities.
	Mangrove Session
Lunch	**Lunch(+)**
Afternoon Session	Walk to Freshwater pond
	Freshwater Pond Session
	Toilet break (+)
	Revisit Australian Curriculum focus: WHAT WHY HOW BIEEC feedback
Farewell	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

Students and adults will need:

- Closed in shoes
- Another pair of closed in wet shoes (for mangroves)
- Sun-safe clothing and hat
- Sunscreen and insect repellent already applied
- Water bottle
- Morning tea and lunch (litter-free)

Litter-free Lunch: We encourage students and staff to pack a litter-free lunch. Everything in it can be re-used, composted or recycled. Drinks are brought in refillable bottles.