

SEA LIFE Sydney Aquarium

Penguin Expedition Self-Guided Resource Kit

Secondary 7-10



Introduction

The following material has been developed by the SEA LIFE Sydney Aquarium Education **Team to support our new Penguin Expedition. This resource kit is so that teachers can** integrate the Penguin Expedition excursion into their Antarctica Unit of Work.

This resource provides an overview of the content of the experience and how teachers may use it for their classes, prior to a visit.

This guide provides information for teachers and activities for students around different key learning areas. Within this section there are sheets for students to use as conversation starters and areas of inquiry, plus additional material for classroom activities.

For more information about Penguin Expedition please visit our website www.sealifesydney.com.au



The Expedition Ride

Background Information

Be the first school to experience Penguin Expedition at SEA LIFE Sydney Aquarium! This world-first ride-through penguin experience transports explorers on a sensory journey through the sub-Antarctic to meet spectacular King and Gentoo penguins. This new amazing discovery aims to educate students on conservation threats facing the penguins' habitat on Macquarie Island. Penguin Expedition highlights the impacts of plastic pollution and habitat destruction affecting these majestic birds.

Penguin Expedition has been designed to replicate Macquarie Island which is a part of the sub-Antarctic group of islands. There are over 26 island groups in the sub-Antarctic region, most uninhabited even by researchers. Many have unique ecologies and a wealth of wildlife. Macquarie Island, described by Sir Douglas Mawson in 1919 as 'one of the wonder spots of the world', is the only place on earth where mid-oceanic crustal rocks, all formed on or below the sea-bed, are exposed on the surface. In geological terms this happened very recently, less than 700,000 years ago. It is primarily for these geological reasons that the island was declared a World Heritage Area in 1997. It has been SEA LIFE Sydney Aquarium's goal to highlight the beauty of this island and showcase the amazing penguin species King and Gentoo Penguins that call Macquarie Island home. This one-of-a-kind experience will allow you and your students to discover a unique part of the world that so many of us will not get to see in real life.

What to See

- King and Gentoo Penguin colonies
- Snow, snow flurries and cold temperatures
- Mawson's Hut
- Teachers and students can board a boat ride around the island for a closer viewing experience or instead can go to the viewing platform.
- Plastic pollution impacts on this region
- Introduced pests threatening the region

Penguin Expedition provides a unique opportunity to engage and inspire students in the world of learning. This resource kit covers elements of the natural and physical sciences, social sciences, history and humanities; SEA LIFE Sydney Aquarium is an ideal setting for



cross curriculum studies.

Talk Times

Antarctic Penguin Talk & Feed at 11: 30am and 3pm daily
(Please note that these times are subject to change)

How to Book

For information on how to book your school excursion or you would like to know more about Penguin Expedition, visit www.sealifesydney.com.au or phone 1800 199 657 to speak to one of our Education Call Centre booking agents.



Self-Guided Topics

The following is a list of Educational Programs for self-guided excursions that teachers can select to choose while visiting Penguin Expedition at SEA LIFE Sydney Aquarium.

Topic	Stage
Antarctic Penguins	Stage 1
How Cold is Cold?	Stage 2
Antarctic Animals	Stage 3
Life in Antarctica	Stage 3
Macquarie Island	Stage 4

Please note that whilst the suggested year level is indicated for the themes above, teachers are encouraged to look at, and adapt, resources from other year levels.



Macquarie Island

Activity Sequence

In this activity sequence students will learn about the sub-Antarctic environment with a particular focus on Macquarie Island. Students will compare and contrast this to Antarctica's environment.

1. Climate of Macquarie Island

Macquarie Island has a permanent meteorological station on the island which allows the island to track and monitor the climate.

Get students to research and use climate data from Macquarie Island and compare it to the climate of Davis, Antarctica. Students are to fill in the worksheet 1 and compare the data.

As a whole group discuss the following key points:-

- What the data suggests about the climate of each location and any patterns observed.
- Ways in which climate might influence the types of vegetation at each location. What do plants need to survive? What factors might limit their ability to grow?

2. How was Macquarie Island Formed?

Provide students with time to look and read the information about the evolution of Macquarie Island. Information can be found at <http://www.parks.tas.gov.au/index.aspx?base=620>

Provide students with the following questions to find information on:

- How was Macquarie Island formed?
- What type of land form can be found on the island?
- What processes have been thought to have shaped the island?
- How is the Macquarie Island landscape different from the other sub-Antarctic islands?



3. Penguin Paradise

Plan an excursion and bring students to visit SEA LIFE Sydney Aquarium to discover Penguin Expedition. Through exploring the experience, students will learn why Macquarie Island is home to King and Gentoo Penguins and how they survive living on the island. Not only that students will embark on a world's first ride-through penguin experience boat ride which will allow students the opportunity to be up close to the penguins, see snow and experience "cool" temperatures. Take part in the penguin keeper talks which will happen daily at 11:30am and 3pm. (Please note these times are subject to change.)

4. Macquarie Island- A World Heritage Site

In groups of 4, students are to work together to create a Podcast/Advertising Brochure or a Wiki page about why Macquarie Island should be conserved and remain protected by UNESCO as a World Heritage site.

In their research project students should cover:

- History and culture of the Island
- Fauna and Flora found on the Island
- Potential threats to the Island
- Current projects to protect the Island
- Who lives on the Island?
- Why is it important for Macquarie Island to be a World Heritage site?
- What role can individuals play at home to help protect the Island?

5. Play your Part in Protecting Macquarie Island - Take the SEA LIFE Trust Pledge!

After visiting SEA LIFE Sydney Aquarium and seeing the effect plastic pollution is having on Antarctica and the sub- Antarctic islands get students to visit Conservation Quay and get them to take a Pledge!

Choose from one of our pledges to either use reusable drink bottles, use your own bags when grocery shopping, pick up ten pieces of rubbish a day, don't use straws or only to buy sustainable fish products.



Post your students pledge photo to #SLTPledge. Take this pledge back to your school and get your whole school involved. Monitor your students and schools progress each week and report back to us on your progress! Ask your principal to participate in Plastic Free July and get your school to take the challenge.

As a class develop a Plastic Free Zone in your school and develop a reward system to encourage students to help protect the environment.

For more information visit www.sealifetrust.org.au



Worksheet 1: Climate Macquarie vs Davis Station

Research and fill in the table to find the Max and Min temperatures for these two locations:

Macquarie Island	January	February	March	April	May
Maximum					
Minimum					
Davis	January	February	March	April	May
Maximum					
Minimum					

Answer the following questions based on the data you have collected:

1. What does the data suggest about the climate of each location? What patterns do you observe?

2. How might climate have an influence on the types of vegetation and landscape at each location?

3. How might this data be useful to those wanting to live in these locations?

4. What other factors may influence the climate on Macquarie Island?

