

SEA LIFE Sydney Aquarium

Penguin Expedition Self-Guided Resource Kit

Primary 4-6



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.



Antarctic Animals

Activity Sequence

In this learning activity sequence students will learn about key features of Antarctic animal needs in order to survive the harsh polar conditions.

1. Guess Who??

Play a guessing game with the students by giving them clues about particular features of animals that live in Antarctica. If you have toy replicas of the animals bring them out of the bag once the students have guessed them correctly.

For example, clues for penguins could be Clue: "I live on land, but I am a very good swimmer and the females lay eggs!" Who am I?? Answer: Penguin

2. Fur, Fins or Flips and Why?

Choose an Antarctic animal to research. Take the students to the library to find books about this animal or use the computers to research. Ask students to find out what special features it has and how it uses them to live. Does it help the animal move, catch its prey, eat, escape from a predator, keep warm or have young?

Get students to draw a large poster diagram of the animal, labelling the animal's features and explain what each is used for.

3. King Penguins

Bring students to visit SEA LIFE Sydney Aquarium to experience the Penguin Expedition. Get students to listen to the Penguin Keeper Talk at 11:30am or 3pm (subject to change) and get them to ask questions about this species. An example question they could ask is why do penguins need both land and water to survive?

Ask students to compare how King Penguins are different to Gentoo Penguins who also live in this display.

Back at school; get students to draw a Venn diagram to show similarities and differences



between King and Gentoo Penguins. What features do they have in common? Which features are different? Where do they live? What do they feed on?

4. Do We Belong Together?

Play a quick game with students to highlight how students in the class have similar features but belong to different families. For example get students to sit together if they have the same colour hair.

After playing the game, discuss the term species and what students think it means. Use a simple explanation for students.

Split students into groups and let students to explore and find out more about differences between species, give each group a different type of penguin species to research. Different penguin species include:

- King
- Gentoo
- Emperor
- Little
- Adelie
- Royal

Once students have collected their research they report back to the rest of the class their findings about the particular species of penguin they have researched.



Life in Antarctica

Activity Sequence

In these learning activities, students will discover the challenges of living in the driest and windiest continent on Earth. Investigate daily life and what impact this may have on the environment.

1. Antarctica Conditions!

Ask students to locate on the map where they think Antarctica is located in the world.

Ask students to brainstorm what they think it would be like to live in Antarctica for a year?

After students have finished creating a mind map on the whiteboard, mention to students that Antarctica is known as the driest and windiest continent, It also has winters with a period of no or limited hours of daylight. It has summers with long hours of daylight. Ask students to think about if they could handle not seeing the sun for 6 months or trying to go to sleep while it still sunny outside?

2. Would You Live in Antarctica?

Show students this introductory video “Living in Antarctica: the coldest and most isolated part of the world.” Found at <http://www.abc.net.au/news/2016-04-26/layla-watson-lives-and-work-in-antarctica/7358932> or alternatively you can show an episode David Attenborough “Life in the Freezer”

After watching the video split students into groups to research using the internet a particular topic area about things people would need to consider if they were to move there for a year.

Topic areas include:

- Food- how much food you eat
- Water- how much water you use
- Energy- what energy requirements you have and how many hours of electricity and gas you use



- Waste/Garbage- the types of waste you produce.
- Work- what type of skills do you need to work in Antarctica? What type of jobs do people have here?
- Accommodation - where do you would live if you moved to Antarctica? Do you have to share with other people? Or would you live in a house? What are the buildings be made from?
- Lifestyle - what can you do in Antarctica if when you're not working? How do people relax and enjoy life when it is so cold and windy outside?
- Cost- what would be the cost of living there? Where would you spend your money? Would you save money if you lived here?
- Travel- how would you get to Antarctica? During what time of the year would you move there?? How much would this cost you? What transportation would be used in Antarctica? What would be the easiest and safest way to get around?

Students will collect information and make a PowerPoint presentation sharing the information with the rest of the class. Each group needs to print out a copy of their PowerPoint to give to the rest of the students to add to their notes.

3. Excursion Time!

Bring your students to visit SEA LIFE Sydney Aquarium to explore the Penguin Expedition. Here the students will embark on a world's first ride-through penguin experience. They will experience cool temperatures, see snow and snow flurries, Explore Mawson's hut and get up close to King and Gentoo Penguins. Students will get to imagine what it would be like to live in the sub-Antarctica.

4. Antarctica and its Environment- 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

