

Teacher Notes

1. Lesson Outline

During their voyages in the oceans around Antarctica both Dame Ellen MacArthur and the crew of *HMS Endurance* frequently encounter albatrosses. These magnificent birds are masters of gliding on the air currents above the oceans and can remain aloft for months on end without having to land.

Of the 22 known albatross species, 19 are now threatened with extinction.

In this lesson pupils are asked to research some of the behaviour and life cycle of the albatross. They will then work in five groups. Each group will be assigned a particular part of the albatross life cycle to write about and at the end of the lesson the parts will be combined to form complete stories.

This lesson can be taught on a stand alone basis or would make a good precursor to *Lesson 13 - Dance Like an Albatross* and *Lesson 14 - Save the Albatross*.

2. Learning Objectives

By the end of the lesson, pupils should be able to:

- Work effectively within a small group/team.
- Discuss within a group/team.
- Communicate effectively with others.
- Understand how human activities in the environment can put pressure on animals and other organisms.
- Appreciate that the life cycle of an albatross has certain similarities and differences to the human life cycle.

3. Age Group

Years 4, 5 and 6.

4. Timing

This lesson should take approximately two hours to complete.

5. Curriculum Links

England (National Curriculum)

Key Stage 2 Science

- Sc2: 1b, 5a,b

England (QCA Schemes of Work)

- Unit 4B: Habitats
- Unit 5B: Life cycles
- Unit 6A: Interdependence and adaptation

Scotland (5-14 National Guidelines)

Environmental Studies: Science

- The processes of life: Level A,B,C
- Interaction of living things with their environment: Level A,B,C

Wales

Key Stage 2 Science

- Life Processes and Living Things: 1.1; 4.1, 4.2

Northern Ireland

Key Stage 2 Science and Technology

- Living Things: Animals and Plants a - d, f

6. Keywords

The following is a list of keywords that will be used in this lesson:

- *colony* - in this sense, a large group of birds of the same species living together in one particular place.
- *crustacean* - creatures with shells. They are usually sea creatures such as crabs and shellfish.
- *digest* - to convert swallowed food into a form that can be absorbed into the body.
- *fledgling* - a bird which has just fledged.
- *fledging* - a bird has fledged when it has grown its feathers and first leaves the nest.
- *forage* - to look for food.
- *unique* - one of a kind, no others like it.

7. Equipment & Materials

Very little in the way of resources are required for this lesson. Pupils will need a copy of *Resource Sheet 12.1 - The Life Cycle of an Albatross* as background information.

Teacher Resources

- A large globe and/or world map.
- Pictures of Dame Ellen MacArthur *HMS Endurance* from the Resource Gallery either printed out or displaying on the class whiteboard.
- Albatross pictures from the Resource Gallery either printed out or for displaying on the class whiteboard.

8. Lesson Structure

Introduction

- I. Explain the role of *HMS Endurance*. You may want to use some of the images included in the Resource Gallery on this website to help illustrate this part of the lesson. You may also want to use a globe or map to show pupils where Antarctica is in relation to the UK. Explain also who Dame Ellen MacArthur is and that she has spent a lot of time sailing the oceans around Antarctica during her racing. Explain that her racing yachts are very different in design and purpose to *HMS Endurance*.
- II. Ask pupils to spend one minute in pairs writing down as many different animals as possible that they think that Dame Ellen MacArthur and the crew of *HMS Endurance* might see during a trip to the Antarctic.
- III. Show pupils an image of an albatross from the Resource Gallery and ask them if they know what it is.
 - Explain that albatrosses are among the world's largest flying birds. An adult wandering albatross can have a wingspan of over 3 metres and live for more than 60 years. You could ask pupils to measure out a length of 3 metres on the floor so that pupils can then compare this to their own height. You may also wish to show pupils pictures of other birds and animals to compare.
 - Explain that albatrosses are being endangered by human activities; such as long line fishing and scientists estimate that over 100 000 birds are being killed each year. Because albatrosses are very long lived it takes them a long time to reproduce and they simply cannot breed fast enough to replace these losses.

As a result 19 out of 22 albatross species are endangered and unless urgent action is taken several may have completely disappeared in the next few decades.

Main Activities

- I. Go through *Resource Sheet 12.1 - The Life Cycle of an Albatross* with pupils.
- II. Ask pupils if they can see any similarities and differences between the albatross life cycle and the human life cycle.
 - If time allows show pupils a clip of an albatross dance. Some good quality clips can be found at www.arkive.org/. Just type 'albatross' into the movie search box and select from the numerous clips available.

III. Pupils will need to work in five groups, preferably at separate tables. Each table will need to produce five story parts so some pupils will probably need to work individually and some in pairs. Each table will then be assigned one of the following sections of the albatross's life cycle:

- Chapter 1 - Birth to fledging
- Chapter 2 - Fledging to return to a colony
- Chapter 3 - Return to a colony to finding a mate
- Chapter 4 - Finding a mate to having a chick
- Chapter 5 - Old age and death

- Each pupil (or pair) within the group will write their own story based on that section of the albatrosses life.
- Go through the story writing process with pupils to ensure that they know what they have to do. If time allows pupils could do some independent research for their stories.
- When the stories are complete number the pupils (or pairs) on each table from 1 to 5. Then get all the 1's to sit at one table, all the 2's to sit at another table etc.
- The result should be that each table now has the story parts to put together to form a complete life story for the albatross.
- To make sure that the story parts fit together properly there will need to be some rules:
 - The whole class must agree on a name for the albatross, its chick and its mate
 - The albatross cannot die before the end of the story
 - The whole class must decide where the albatross lives
- The story parts can be physically bound together into five different books and one story can be read each day for a week.

Conclusion

Summarise key points ie;

- The albatross has a complex life cycle, which has certain similarities to the human life cycle.
- For albatrosses, dancing is a form of communication which they use to select a mate.
- Albatrosses are very long lived so reproduction is a slow process.

9. Differentiation

- Adapt discussion sessions to suit ability and age group.
- Provide extra support during group activities for those pupils who require it.
- If pupils are required to work in pairs it may be useful to pair more able children with less confident writers.

10. Extension Work

- Pupils could illustrate their stories.
- Pupils could turn their stories into a play.

11. Risk assessment

Some safety advice is included in this lesson plan, however, it is the responsibility of the supervising teacher to carry out all risk assessments with regard to this activity and to make sure that any such risk assessment complies with the requirements of the particular institution in which it is being conducted.

12. Find Out More

Teachers

www.visitandlearn.co.uk and www.royalnavy.mod.uk

Lots of information about HMS Endurance and its work in Antarctica.

www.ellenmacarthur.com/

Find out what Dame Ellen MacArthur has been up to recently.

www.antarctica.ac.uk/about_antarctica/wildlife/birds/albatross.php

An outline of the problems facing the albatross.

www.savethealbatross.net/

Lots of information about albatrosses and the problems that human activities are causing them.

<http://en.wikipedia.org/wiki/Albatross>

Detailed information about the albatross lifecycle and taxonomy.

www.rspb.org.uk/supporting/campaigns/albatross/support.asp

Details of how to support the RSPB *Save the Albatross* campaign

www.youtube.com/watch?v=MBm3oqMnWyo&NR=1

Just one of many dancing albatross clips on You Tube.

www.arkive.org/species/GES/birds/Phoebastria_albatrus/Phoebastria_albatrus_09.html?movietype=rpMed

A good quality clip of an albatross dance.

Pupils

www.ellenmacarthur.com/

Find out what Dame Ellen MacArthur has been up to recently.

www.antarctica.ac.uk/about_antarctica/wildlife/birds/albatross.php

An outline of the problems facing the albatross.

www.savethealbatross.net/

Lots of information about albatrosses and the problems that human activities are causing them.

www.kcc.org.nz/birds/albatross.asp

Interesting albatross factsheet on a childrens' conservation website.

Albatrosses are some of the world's biggest flying birds. Their wing spans can reach up to 3.5 metres.

They can be found in every ocean except the Arctic, but 19 out of the 22 species of this magnificent bird are endangered.

Albatrosses have very long lives for birds. Scientists think that some albatrosses can live more than 60 years and possibly as long as 80 years.

Hatching to fledging

Albatrosses spend most of their lives flying far out in the oceans, when they do return to land they live in large *colonies* with hundred or thousands of other albatrosses.

When an albatross egg is laid both parents will take it in turns to *incubate* it.

It can take 70 to 80 days for an albatross egg to hatch.

After hatching the parents will guard the chick for three weeks, until it is big enough to protect itself against predators and keep itself warm.

The parents will take it in turns to fly off to collect food for their chick. These *foraging* trips can cover thousands of kilometres.

The parent will catch fish, squid and *crustaceans*. It will *digest* these and produce a smelly oil. The oil is fed to the chick along with some fresh food as well.

It can take up to 280 days for an albatross chick to *fledge*. When an albatross chick fledges it leaves the nest without any help from its parents.



A black - browed albatross chick

Fledging to returning home

Once an albatross has fledged it will fly out to sea and might not return back to the land for up to five years.



A black-browed albatross in flight

During this time an albatross will fly many thousands of kilometres by gliding on the wind currents above the ocean. They very rarely need to flap their wings.

This is also the time when they will first come across human hazards such as long line fishing hooks which can catch in their beaks and cause them to drown.

They are also attracted to bright pieces of plastic floating in the sea. These can be swallowed and catch in their stomachs, causing them to starve to death.

Returning home and finding a mate

When an albatross returns from its wandering it will generally go back to its home colony, to a place probably no more than a few metres from where it was born.

It will now begin to learn to dance. This may take several years.

At first the albatross will dance with lots of different birds but as time goes on, the number of different dance partners drops until only one partner remains. This pair will then bond for life.



A pair of black-browed albatrosses

Having a chick

Once an albatross has found its partner they will continue to dance and will produce their own *unique* dance moves.



A black-browed albatross chick

Albatrosses will mate and lay their first egg at about 7 to 10 years old.

An albatross pair will only lay one egg in a breeding season.

Keeping an egg warm is quite a tiring job and the albatross parents can lose about 80 g of their body weight each day.

Albatross parents don't seem to realise that their chick will eventually leave the nest. When the chick

fledges and flies off to sea the parents will often keep looking for it around their nest.

Old age and death

Albatrosses will lay eggs once every couple of years, but will spend most of the rest of their time soaring above the oceans.

Albatrosses can live to a fine old age. It is reckoned that some birds might reach 70 years old. Unfortunately, because they now face so many hazards from humans it is rare for them to die a natural death.



An albatross skull with fishing line wrapped around its beak