

KS1 Topic Resources

# Oceans and seas



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## Introduction

In the three videos in this collection Naomi Wilkinson and her young helpers find out about the salt water areas of the Earth

- identifying the five oceans
- discovering the key characteristics of fish and other marine animals
- considering the threat posed to them, and humans, by plastic pollution in the ocean.

Each of the films combines live action and animation to explore the topic in a clear, age-appropriate manner.

The live action filming includes children exploring the marine environment near their homes; the animations include labelled diagrams demonstrating the different parts of a fish and their functions and also the means by which plastic waste can reach the sea.

## Curriculum links

The topic *Oceans and seas* is rooted in the KS1 Geography curriculum, which requires pupils to name and locate the world's oceans. It also has cross-curricular links to a variety of other objectives, including:

### *Science*

- identify and name a number of common animals including fish
- describe and compare the structure of a variety of common animals
- describe the simple physical properties of everyday materials, including...plastic

### *Citizenship*

- understanding simple environmental issues
- making choices

### *English*

- writing poems

There are also strong opportunities to extend the topic into Music, Art & Design and DT.

It's a fun topic that will appeal to KS1 pupils' love of animals and their growing awareness of environmental issues and the part each of us has to play in reducing pollution and preserving habitats.

# 1: The oceans of the world

This resource explores the five oceans of the world, where they can be found and highlights that the majority of Earth's surface is made up of salt water.

Some features of each ocean are explored in turn. The Atlantic Ocean is the second largest ocean and its waters have large differences in temperature. The Pacific Ocean borders three continents - Asia, North / South America and Oceania - and includes the deepest water, called the Mariana Trench. The Arctic Ocean is the smallest and one of the coldest oceans. In contrast, the Indian Ocean has some of the warmest waters. The Southern Ocean surrounds Antarctica and, like the Arctic Ocean, is very cold.

The *Nature Explorers* continue their exploration by visiting the Irish Sea.

## Points for discussion:

- How many oceans are there?
- Which is the largest and smallest ocean?
- Which ocean is the coldest?
- What type of water can be found in our oceans?
- What do you think life is like for animals living around the Arctic and Southern Oceans?
- How do you think animals here have adapted?

## Suggested activities:

Pupils could work to label a world map, showing the locations of the five oceans and could carry out research to find the approximate size of each, ranking these from largest to smallest.

Pupils could explore the wildlife which can be found in each ocean. Is there a theme or common set of features - eg insulation for animals living in the Arctic or Southern Oceans?

To explore scale and size, pupils can use cubes to make scale models of the height of things, such as the Burj Khalifa, Mount Everest and other tall features of the planet.

Following this, pupils can use cubes to make a comparison with how deep the Mariana Trench is. How many of the 'tall' features they have made would fit into the Mariana Trench?

Can pupils carry out an investigation to change salt water to fresh water, separating the salt from the water? (The activity requires hot water, so will need to be supervised). There are videos online that demonstrate the process.

Discuss the challenges humans face because the majority - nearly 96% - of the water on the planet is salt water.



Pacific  
Ocean

Atlantic  
Ocean

Arctic Ocean

Pacific  
Ocean

Indian  
Ocean

Southern Ocean

## THE OCEANS

**ATLANTIC  
OCEAN**

North Sea

Irish  
Sea

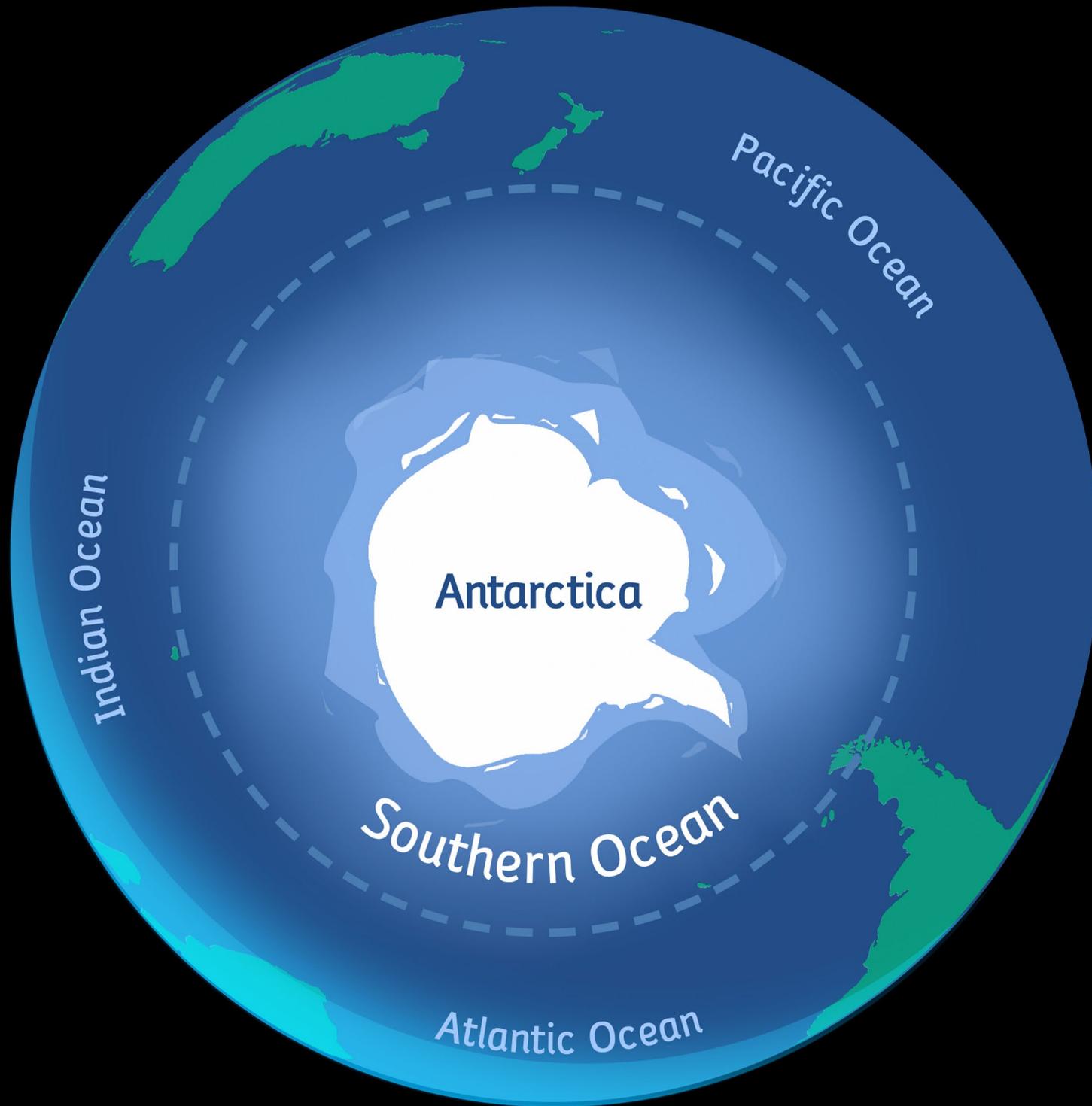
Celtic Sea

The English Channel





Arctic  
Ocean



**Antarctica**

Indian Ocean

Pacific Ocean

Southern Ocean

Atlantic Ocean

# 2: Life beneath the waves

This short film takes us to the beach and an aquarium to explore the vast array of life that exists beneath the seas and oceans! It starts with the stimulus of a poem, to explore the diversity of marine life.

The key features of the body of a fish are identified and the function of each of them is explored. There is a closer focus on rays, including the fact that rays have no bones and that some species migrate. Finally there is a focus on seals and how they have adapted to ensure they can live successfully in challenging climates.

## Points for discussion:

- How do fish and other marine animals adapt to life underwater?
- What are the key things fish have to allow them to breathe underwater?
- Why are rays so flexible?
- Why can some rays be dangerous? What makes them dangerous to humans?
- Which animal migrated the furthest and how far did it travel?
- How have seals adapted to living in more extreme climates?

## Suggested activities:

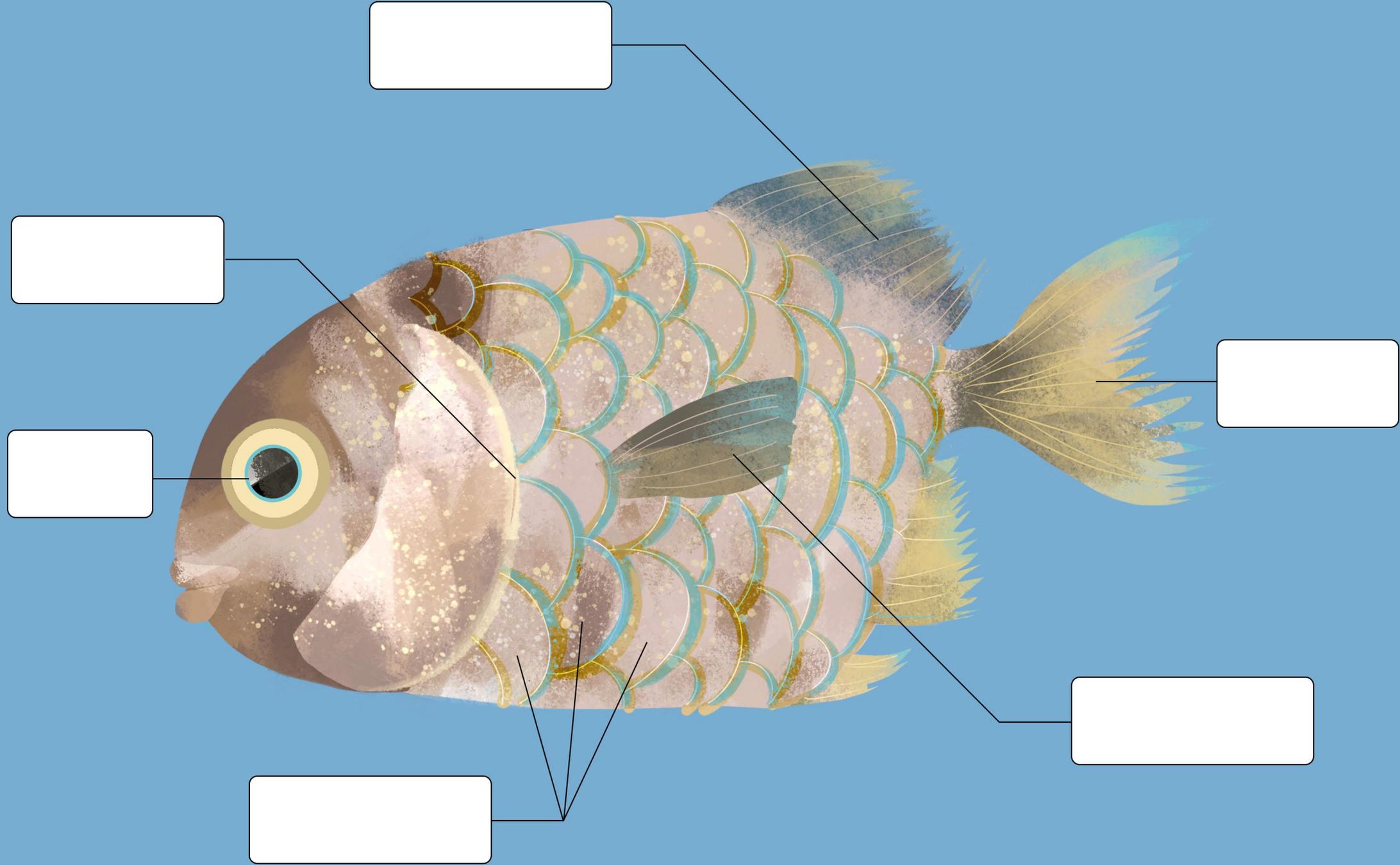
Pupils could create their own poetry based on life under the waves, exploring the colours, sounds, thoughts and feelings linked to the video.

Label the parts of the fish opposite (with 'eye', 'gills', 'fin', 'tail', 'scales').

Pupils could explore a soundscape with musical instruments to show what life in different parts of the ocean could sound like. How would life in the deepest parts of the ocean differ to life in the cold Arctic Ocean?

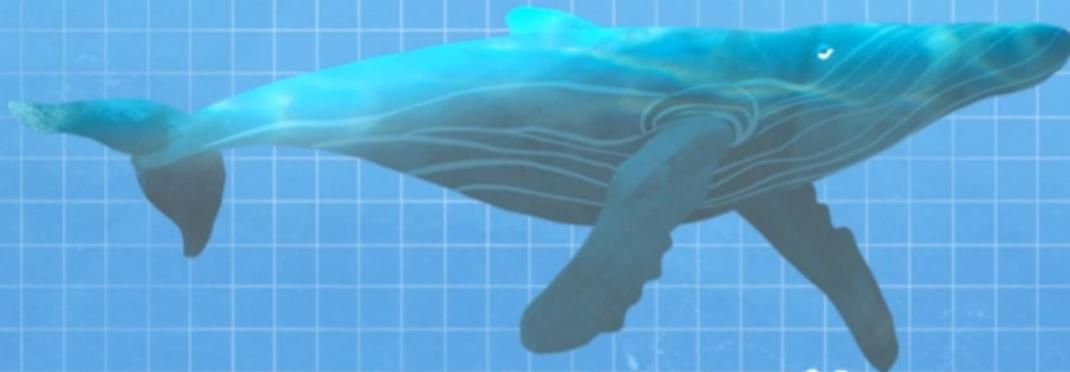
Pupils could use maps, carry out further research and plot migration routes for animals such as rays or whales. Can they find out how far these animals travel and then think of reasons for their migration?

Pupils could undertake their own school visit to a local aquarium to find out more about conservation activities. They could consider what they could do within their lives to help support the conservation of our oceans and seas.



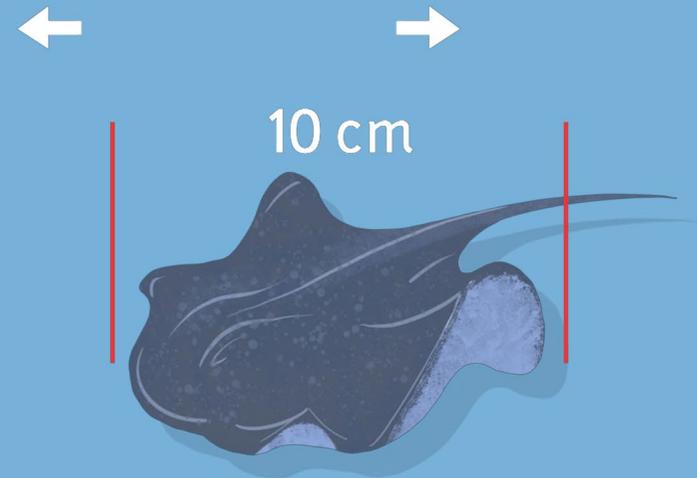
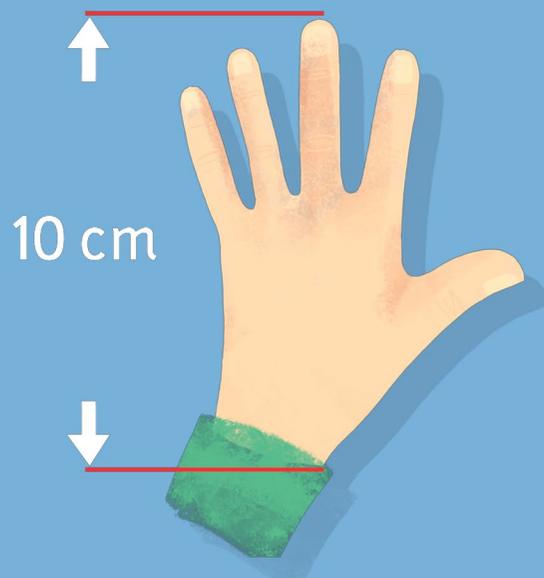
# The record-breaking migration of Varvara

22,511 km



14,000 miles

# Rays can be big...or small



# 3: The plastic problem

This resource explores plastic waste and the problem it is causing the oceans. The film joins a group of children taking part in a litter-pick on their local beach and reveals just how much plastic waste can be found in our local areas.

The film explores how plastic waste can find its way into the oceans - through being washed down drains and also through toilets. In the ocean the plastic breaks down into smaller and smaller parts, which can be eaten by fish and thus enter the food chain. So it is a problem not just for marine animals but also for humans.

One of the young Nature Explorers goes on a litter-pick in a town near her to collect and dispose of rubbish responsibly.

## Points for discussion:

- What is a plastic?
- How can plastics end up in our rivers and seas?
- How do plastics affect food chains?
- How can plastic waste end up in places that humans do not live, like Henderson Island?
- How can you help to reduce the amount of plastic that ends up in our rivers, seas and oceans?
- What exciting things have scientists found or invented to help solve the plastic problem?

## Suggested activities:

Following exploring the plastic problem in more detail, pupils could undertake a local litter-pick. Ensure appropriate clothing and equipment is used to keep everyone safe. Pupils could explore the varying types of litter collected, and then find out which could be recycled and how they could group the litter collected.

Pupils could work to write a letter to a local Member of Parliament or local business to ask for their support in reducing plastic waste and increasing opportunities to recycle. They could use any knowledge gained from the video, or their own research, to support their writing.

Over the course of a week, pupils could keep a diary showing every time they use plastic as part of their daily lives. Once the information has been collected, consider as a class what changes could be made to use less plastic. What could the plastic items used be replaced with?

Pupils could plan and carry out a science investigation to explore how long different materials take to decompose. Consider things such as paper, plants, plastic. Monitor over a period of time how quickly each decomposes and use the results to illustrate the impact of the plastic problem on the wider sustainability of the Earth.

