

TREATING JAGUARS  
LIKE PEOPLE COULD  
**STOP THEM FROM**  
**DYING OUT**



THERE ARE MORE  
PIECES OF  
**PLASTIC**  
IN THE OCEANS  
THAN STARS IN THE  
MILKY WAY




SOME SHARKS  
DON'T GROW UP  
FOR 150 YEARS



# LOVE YOUR PLANET



A VOLCANO ONCE CAUSED  
A YEAR WITHOUT A SUMMER



EARTH IS  
SMELLIER  
AFTER A RAINSTORM



SCIENTISTS KNIT  
SWEATERS  
TO SAVE PENGUINS

# LOVE YOUR PLANET

## Introduction

Notes for Key Stage Two teachers

Suitable for 8+

**Subject Checklist:** Science • Literacy • Geography • Citizenship

**Explore Themes of:** Celebrating the Planet • Biodiversity • Plants and Animals • Ocean Life • Habitats and Ecosystems • Threats to the Planet • Protecting the Planet

## About the books



Did you know that rain sometimes falls red? Or that the equivalent of one truckload of plastic is dumped in our oceans every minute?



Do fish wear pyjamas? What's the sound of an iceberg melting? Which is faster – a tsunami or a bullet train?



How could plastic-eating bacteria help reduce waste? How do woolly sweaters help penguins in peril? Can a river be given human rights?

Each of these visually stunning books is filled with 100 mind-blowing facts, bright, infographic illustrations, and information on ways we can help look after our amazing planet.

## Usborne Quicklinks

For links to carefully chosen websites to discover more about our amazing planet, learn how to build a hotel for bees, watch deep-sea creatures glowing in the dark and much more, go to [usborne.com/LoveOurPlanetQuicklinks](https://www.usborne.com/LoveOurPlanetQuicklinks)

At Usborne Quicklinks, you'll find links to websites with videos, quizzes and activities specially selected to support the information in Usborne books.



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# Contents

## Theme 1 – What a Wonderful World

**Activity:** Create a collage to celebrate the diversity of life on Earth.

**Objectives:** Define the terms ‘megadiversity’, ‘biodiversity’, ‘ecosystem’ and ‘biosphere’; identify megadiverse countries on Earth; understand why it is important to celebrate life on our planet.

## Theme 2 – A Trip Around the World

**Activity:** Become a mapmaker and create a world map!

**Objective:** Identify the world’s continents and oceans and describe the differences between them; discuss the problems faced by mapmakers.

## Theme 3 – The Ocean Observer

**Activity:** Complete an underwater gallery of sea creatures complete with fascinating facts.

**Objective:** Research facts for six new underwater creatures; create a job application for The Ocean Observer newspaper.

## Theme 4 – Saving the Planet

**Activity:** Design a jigsaw of threats to the planet.

**Objective:** Understand and explain the threats to the planet; identify everyday actions and solutions to help save the planet; create a list of ten classroom pledges.



## Theme 1: What a Wonderful World

Look at the extract on the following page, and then consider the following discussion questions.

### Discussion Questions:

- How many countries are there in the world?
- In how many of these countries is most of the planet's life found?
- How many species live in Brazil, for example? Which of these species are you interested in or want to learn more about?
- Take a closer look at the map on page 8. What percentage of land on Earth is made up of the 17 'megadiverse' countries? What percentage of the Earth's biodiversity do these countries hold?
- Can you define the words 'megadiverse' and 'biodiversity'?
- What are the criteria for a country being defined as 'megadiverse'?
- Why is it important to protect natural habitats in these megadiverse countries?
- Have you been to any of the countries on the megadiverse list? Where would you most like to go? Why?

### Activity 1: Celebrating life on Earth

Create a collage of pictures and ideas to celebrate the diversity of life on Earth. You might want to split your collage into different sections: e.g. Mountains, Desert, Rainforest, Polar Regions, Rivers, Oceans. You might also want to include images of trees, plants and animals. Can you think of any more ways to organise your collage? Use clippings and text from newspapers and magazines, or draw your own images and use colours and crafting materials to show the different things you love about our natural world.

**Extra challenge:** Read page 23 of *100 Things to Know About Saving the Planet*. What is an ecosystem? What is a biosphere? Can you think of any examples of biospheres that have been turned into protected nature reserves in the UK? Imagine you worked for an international organization like the United Nations. Write a plan or draw a diagram like the one on page 23 to present some ideas for a nature reserve of your own.



# 1 Most of the planet's life... is found in just 17 countries.

There are around 200 countries in the world, but just 17 of them hold most of the Earth's **biodiversity** – its great variety of different species of plants, animals and other living things. These countries are known as **megadiverse**.

**Brazil**, for example, home of the Amazon Rainforest, contains an estimated **4 million** species. Here are a few of them...

Harpy eagle

To count as megadiverse, a country needs a huge range of species, including at least 5,000 plant species that exist nowhere else on Earth.

Tamarin monkey

Maned sloth

Protecting natural habitats in these countries is **CRUCIAL**. It can ensure the survival of a large proportion of the Earth's species. Many of the megadiverse countries work together to do just this.

Anaconda

Morpho butterfly

Armadillo

Pink dolphin

Princess flower

Bromeliad

Brazil nut tree

Jaguar

Heliconia

Vines

Cacao tree

Squirrel monkey

Barrigona palm

Piranha

Caiman

Poison dart frog

Strangler fig

Hummingbird

Giant leaf frog

## The megadiverse countries are:

- Australia
- Brazil
- China
- Colombia
- Democratic Republic of Congo
- Ecuador
- India
- Indonesia
- Madagascar
- Malaysia
- Mexico
- Papua New Guinea
- Peru
- Philippines
- South Africa
- United States
- Venezuela



## Theme 2: A Trip Around the World

Look at the extract on the following page, and then consider the following discussion questions.

### Discussion Questions:

- What was different about the continent of Antarctica 100 million years ago compared to today?
- How do scientists know what life was like on Antarctica 100 million years ago? What are they still interested to find out?
- What is photosynthesis? Why is this process difficult in a place like Antarctica?
- When did Antarctica freeze? Why did this happen?
- What are tectonic plates? Why were they important in the formation of Antarctica?
- Why do scientists think the planet cooled by 8°C and entered an ice age? Try to explain the process.
- What if life like on Antarctica today? What is the climate? What wildlife lives there?



## 48 Antarctica was covered in forest...

100 million years ago.

Today, Antarctica is covered in ice, but fossils show that 100 million years ago it was a lush forest. Trees need sunlight to grow, but the region is completely dark for many months of the year, so scientists are interested in how these forests survived.

Plants use sunlight to create the energy they need to survive – a process called **photosynthesis**. But during the dark winter months the Antarctic forests would have been starved of light.

Antarctica, 100 million years ago

Scientists think the trees made huge stores of energy in the summer, when the Sun shines 24 hours a day.

These stores kept the plants alive during the dark winter months.

## 49 Antarctica froze...

after the Himalayan mountains rose.

About 34 million years ago, the tectonic plates forming Earth's outer layers collided under southern Asia. As a result, the Himalayan mountains rose up, with surprising consequences...

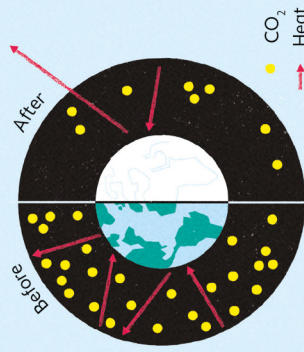
Southern Asia, 34 million years ago

Plates pushed against each other, forcing the **Himalayan mountains** further upwards.

Moving plates

Lots more rock became exposed to wind and rain. All this additional rock absorbed carbon dioxide from the atmosphere...

Carbon dioxide (CO<sub>2</sub>) in the air traps heat inside Earth's atmosphere.



With more CO<sub>2</sub> absorbed by the rock and less in the atmosphere, more heat was able to escape. Scientists think it could be as a result of this, that the planet cooled by 8°C (46°F) and entered an ice age.

13,000km (8,000 miles) from the Himalayas

During the cold snap Antarctica froze over, and it has been covered in a permanent ice sheet ever since.



Antarctica, today

## Activity 1: Mapping the World

The world is a very big place, jam-packed with amazing natural wonders, wildlife, and habitats. Get to know the Earth and everything in it a little better. Match the continent cards to the right area of the map on the next page. Stick them down when you are happy they are in the right position.

CONTINENTS	ANTARCTIC	ASIA	EUROPE
NORTH AMERICA	SOUTH AMERICA	AUSTRALIA	AFRICA

What else can you add to your map? Swimming the world's oceans . . .

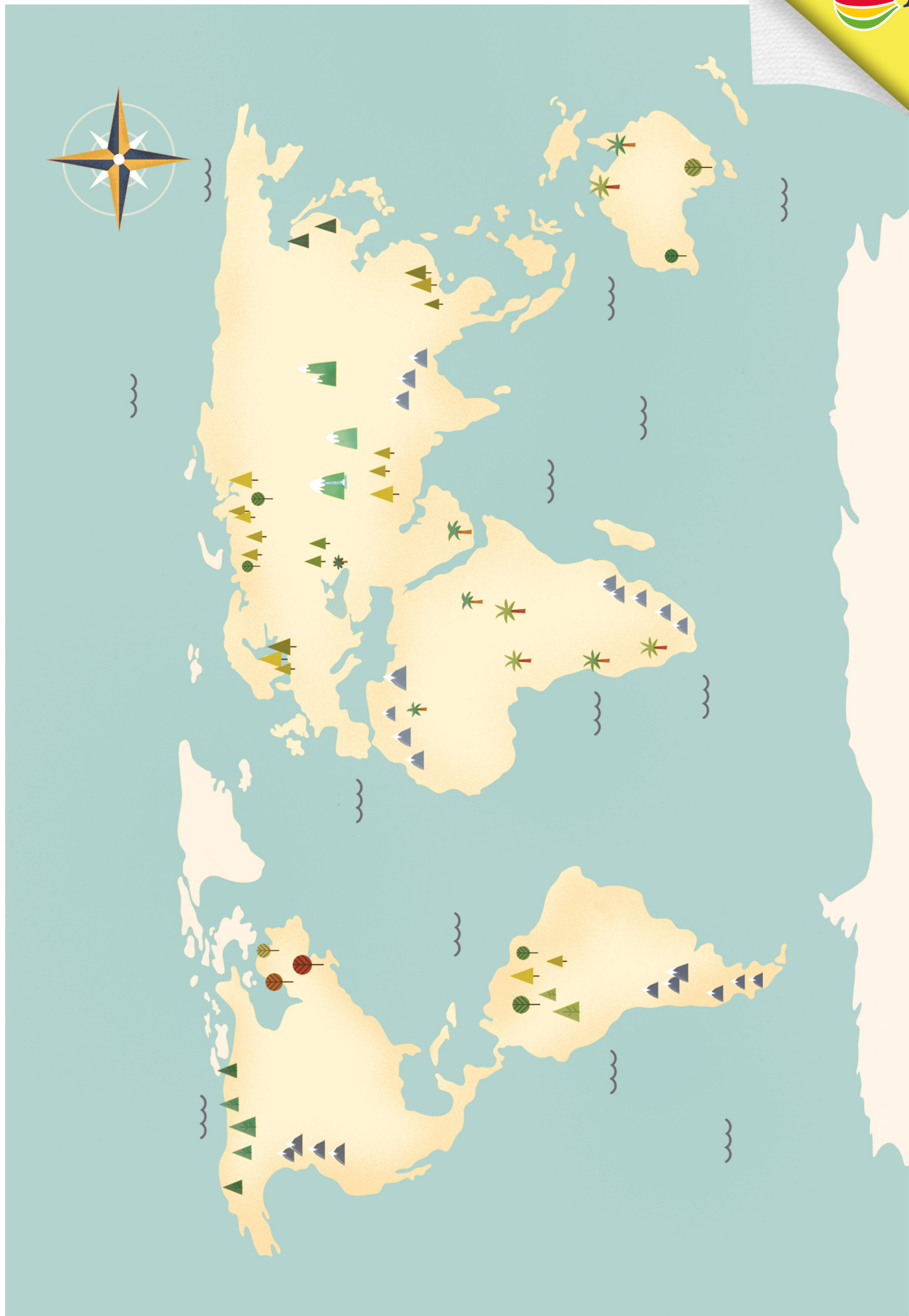
Five oceans connect the continents. These oceans are brimming with their own incredible animals and plants. You can read all about them in *100 Things to Know About the Oceans*. Using the same world map from the previous exercise, see if you can label the oceans listed below.



When you have labelled the oceans, annotate your map with animals or plants that you may find in that ocean or sea. You might want to become a mapmaker and create your very own world map — you can add illustrations too if you like!

**Extra challenge:** Read pages 4–5 of *100 Things to Know About Planet Earth*. What tricky problems do mapmakers face when they try to show the Earth, which is ball-shaped, as a flat map on paper? Carry out some research into the different ways of stretching and squashing maps to make them flat, known as ‘projections’. What is the difference between the ‘**Mercator projection**’ and the ‘**Gall-Peters projection**’? See if you can explain these differences to a friend or a family member.





## Theme 3: The Ocean Observer

Look at the extract on the following page, and then consider the following discussion questions.

### Discussion Questions:

- Which creature has the biggest eye in the animal kingdom? What object is it compared to?
- How old is the oldest living animal? Where does it live?
- How much louder is a sperm whale than a human?
- What would humans be able to do if they could ‘throw a punch at just a tenth of the mantis shrimp’s speed’?
- What is interesting or surprising about the Mariana snailfish?
- What is strange about the appearance of Sloane’s viperfish?
- Which is your favourite fact? Why? Which fact shocks you the most?
- What do you think about the variety of life on Earth and in the oceans, just from looking at these pages?

### Activity 3: Create your own gallery of underwater creatures!

Use pages 16–17 of *100 Things to Know About the Oceans* to create your own gallery of weird and wonderful underwater creatures. You can choose any six creatures you like. You might want to stick to the six creatures listed on these pages, research six new creatures, or create a mix! Remember to include some fascinating facts about the creatures that you choose, whether it’s the size of their teeth, their length, weight — or something else entirely. You might want to start with the ‘gloomy octopus’ (see pages 84–85) or the ‘parrotfish’ (see page 61)!

**Extra challenge:** Take a look at The Ocean Observer newspaper on page 60 of *100 Things to Know About the Oceans*. Respond to one of the adverts in the jobs pages of newspaper. Consider each job listed: Nursery Space, Cleaner, Coastguard or Security Guard. Who or what would be best at each of these jobs? Why? Write a letter applying for the role as your chosen applicant. Remember, you don’t have to be a human! Use the example of the Mangrove Tree to help you structure your response. Begin with the words: Dear Ocean Observer . . .



## 12 Biggest, fastest, longest... oldest, loudest, deepest.

### Biggest... eyeball

27cm (11in) across

The colossal squid has the biggest eye in the animal kingdom. Each one is roughly the size of a bowling ball.

### Oldest... living animal

11,000 years (approximately)

*Monorhaphis chuni* is a deep-sea glass sponge found in the China Sea and the Indian Ocean. It is the oldest living creature discovered so far. Humans were still in the Stone Age at the start of its life.

### Loudest... voice

236 decibels

Sperm whales are the loudest animals on the planet. Human speech typically reaches around 60 decibels. The clicks and clicks sperm whales make are almost as loud as an atomic bomb exploding.

### Fastest... punch

23m (75ft) per second

The mantis shrimp strikes its prey with the fastest and most powerful punch of any animal. If humans could throw a punch at just a tenth of the mantis shrimp's speed, we'd be able to throw a baseball into orbit.

### Longest... teeth

Just over 1cm (0.4in)

It may sound small, but Sloane's viperfish has the longest teeth of any animal relative to the size of its head. Just imagine your teeth being half the size of your head.

### Deepest... fish

8,178m (26,830ft)

The Mariana snailfish is the ocean's deepest swimming fish. It is one of the few creatures that can withstand the crushing water pressure at the Mariana Trench, the oceans' deepest point – roughly equivalent to 1,600 elephants standing on its head.

## Weird and wonderful underwater creatures

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Fascinating Facts:

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Fascinating Facts:

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Fascinating Facts:

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## Theme 4: Saving the Planet

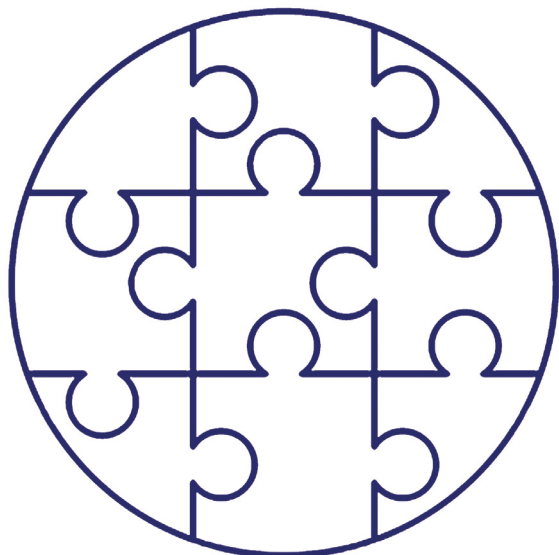
Look at the extract on the following page, and then consider the following discussion questions.

### Discussion Questions:

- Before reading these pages, discuss with a partner: why do you think the planet needs saving?
- What are greenhouse gases? What causes these gases to be released into the atmosphere?
- What is the effect of more greenhouse gases in the atmosphere?
- What do we mean by the phrase 'climate crisis'?
- Can you define the word 'ecosystem'? What is important to remember about ecosystems?
- What connections can you make between polar regions like Antarctica, coral reefs and life on land?
- Can you find two more ways that humans are 'making things worse'?

### Activity 4: A jigsaw environment issues

Create a circular jigsaw in the shape of our planet, like the example below. On each jigsaw piece, write down one of the threats to the planet. You can use pages 4–5 to help you or carry out some research of your own. On the back of each jigsaw piece, write down one way that we can overcome the threat by offering a solution to the problem. When you have finished designing and decorating your jigsaw, cut out your pieces and ask a friend or classmate to put it together again. What did you learn during this activity? Has anyone else included threats or solutions that you didn't think of? Record all of your ideas!



**Extra challenge:** Read pages 122–123 of *100 Things to Know About Saving the Planet*. Rank the list of '10 everyday actions' in order from 1–10 based on which actions are the easiest to implement (where 1 is the easiest and 10 is the hardest). Give reasons for your choices. Then, for the actions that you have identified as being harder to implement, consider how you can make them easier. For example, you could ask a friend or a family member to help you. Or you could start a campaign in your school. Turn your 10 everyday actions into 10 classroom pledges. Begin each pledge with the words: We will help save the planet by . . .

# Why does the planet need saving?

Planet Earth is our home – and the home of *all* known living things. But over the centuries, some human activity has done increasing harm to the planet.

The Earth is wrapped in a layer of air called the **atmosphere**. Like the roof of a greenhouse, it lets in sunlight and traps heat, keeping the planet warm.

But for the last two hundred years, people have been burning lots of **fossil fuels** (coal, oil and gas) to heat homes, generate electricity, power factories and run cars.

Burning fossil fuels pumps out **carbon dioxide** (CO<sub>2</sub>) and **methane gas** – known as **greenhouse gases**.

The more greenhouse gases are released into the atmosphere, the more **HEAT** the atmosphere traps.

People have known about this **greenhouse effect** for decades – but have kept on using fossil fuels. And so the Earth is getting hotter. In fact, it's becoming too hot to function as it should.

This is what scientists call the **CLIMATE CRISIS**.



The Earth is made up of many different **ecosystems** – groups of living things and their natural environment. These ecosystems are connected. They depend on each other. If rising temperatures cause damage to one part, then that will affect **ALL** the rest.

In polar regions, animals are struggling to find food because the heat means the sea ice is melting.



In the oceans, coral reefs are dying as the temperature of the water rises.



On land, wildfires, heatwaves, droughts, floods and storms are becoming more common.



To make matters worse, humans are also destroying animals' homes by cutting down forests to grow food and build roads.



On top of that, humans are dumping waste and spilling harmful chemicals, choking the natural world with pollution.



So the planet needs saving. But how? Turn the page to find out.