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Opening extract from
The Big Green Book

Written by
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Published by
**Eden Project Children's
Books**

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Earth is Just Right

Our planet, the Earth, is one of eight in our solar system, but the Earth is the only one that is home to living things. Why? Because the other planets are either too hot or too cold.



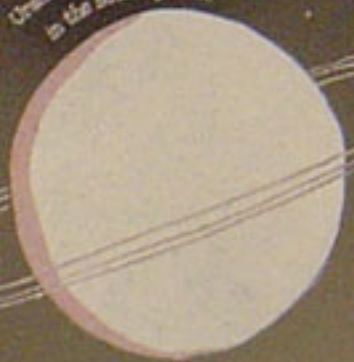
Mercury has a thin atmosphere,



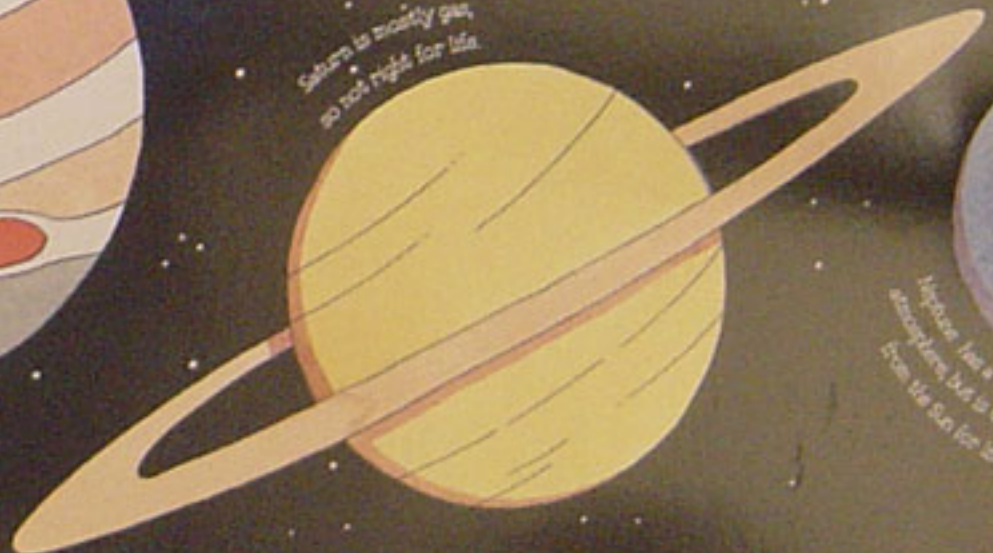
and that means it's too cold for life.

Some people call Earth the "Goldilocks planet", because like the porridge in the story of Goldilocks and the Three Bears, its temperature is "just right". This is why there has been life on Earth for a billion years.

Uranus is the coldest planet in the solar system.



Saturn is mostly gas, so not right for life.



Jupiter has a thick, windy atmosphere, but is too distant from the Sun for life.



Jupiter is a giant mass of clouds, nothing lives here.

The Earth is just the right distance from the heat of the Sun, which keeps us warm (but not too warm). But there is something else - wrapped round our planet is an invisible blanket of gases that we call the atmosphere. It contains gases like carbon dioxide that trap the sun's heat. Just enough. Like the blankets on a bed, these gases keep the air warm enough for us and the rest of nature to survive - even at night, when the Sun isn't shining.

Mercury is so close to the Sun it is too hot for life.



Venus's thick atmosphere traps the Sun's heat so it is too hot to live on.



Sun



How Hot Do You Like It?



1 billion years ago



The Earth is five billion years old. For billions of years, the only living things were tiny bugs and plants floating in oceans.

600 million years ago



At one point, the Earth was covered in ice. It was extremely cold and life was almost impossible.

400 million years ago



But plants and animals survived by the time of the dinosaurs the planet was extremely hot. Another time, the planet was almost too hot for life.

1 million years ago



After the dinosaurs, the climate got much better. Not too hot and not too cold - just perfect for humans. The species appeared, including humans.

200 years ago



Human beings began to appear. Humans started to build cities and invent things. The world was becoming more and more like the world we live in today.

Today



Today, the world is a beautiful place. It is home to billions of people and many different animals. The world is just the way it should be.

Earth is Just Right

Our planet, the Earth, is one of eight in our solar system, but the Earth is the only one that is home to living things. Why? Because the other planets are either too hot or too cold.

How come we have just the right number of blankets? It turns out that the living things on Earth – like the trees in the forests, the bugs in the soil and the creatures in the oceans – make these gases and control how hot our planet is. They keep the temperature "just right" for life itself.

The Earth is just the right distance from the heat of the Sun, which keeps us warm (but not too warm). But there is something else – wrapped round our planet is an invisible blanket of gases that we call the atmosphere. It contains gases like carbon dioxide that trap the sun's heat. Just enough. Like the blankets on a bed, these gases keep the air warm enough for us and the rest of nature to survive – even at night, when the Sun isn't shining.

People call Earth the "Goldilocks planet", like the porridge in the story of the Three Bears, its temperature is just right. This is why there has been life on Earth for a billion years.

Uranus is the coldest planet in the solar system.

Saturn is mostly gas, so not right for life.

Jupiter is a giant mass of clouds, nothing lives here.

Neptune has a thick, windy atmosphere, but is too distant from the Sun for life.

Mercury is so close to the Sun it is too hot for life.

Venus's thick atmosphere traps the Sun's heat so it is too hot to live on.

How Hot Do You Like It?



Turning up the Heat

Our planet is getting hotter! Humans are filling the atmosphere with gases – called greenhouse gases – that trap the Sun's heat and stop it escaping into space. Pollution, rainforest destruction and burning too much coal, oil and gas are making our planet's heat-trapping blanket get thicker. Nature spent millions of years getting the temperature "just right", but now humans are messing it up.



OUR FUTURE GREENHOUSE WORLD



TEMPERATURE RISES SINCE 1880



SOME LIKE IT HOT



HOW BIG IS YOUR "CARBON FOOTPRINT"? What can you do to help stop climate change?

- Do you go to school?
 - in a car with just your family?
 - in a car with other students?
 - by bus or train?
 - on foot or on a bike?
- When you get cold or hot, do you:
 - stay cool?
 - put on a sweater?
 - turn on the thermostat?
- When you go on holiday, do you:
 - fly?
 - drive?
 - go by train or coach?
- When you leave your room, do you:
 - turn everything off, including the light?
 - leave everything on?
- When you go shopping, do you:
 - always go to the shops?
 - occasionally go to the shops?
 - always take things to the shops?
- For food, do you:
 - grow your own?
 - buy fresh or local?
 - buy packaged and processed?
- When you are thirsty, do you ask for:
 - a cup of tea?
 - a glass of milk?
 - tap water?
- At your birthday, do you have:
 - more than two regular sized bottles?
 - one regular sized or several one energy bottles?
 - one low energy bottle?
- Do you or your family have:
 - a TV kept on most of the time?
 - a PC kept on most of the time?
 - a laptop computer or more at all?
- Do you mostly dry your washing by:
 - using a tumble dryer?
 - just a line and then hanging it up to dry?
 - hand wash and hang it up to dry?

Add up your scores.

Results:

Under 5
You are a climate hero!

Over 5
You are a climate warrior!

Over 10
You are a climate warrior!

Over 15
You are a climate warrior!

Over 20
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Tun

Our planet is called green space. Pollution is making the air thicker. Not "just right"

There are three main man-made gases in the heat-trapping blanket. Carbon dioxide exists naturally but it is also made when we burn fuels to make energy. We all use this energy, so we all contribute to the increase in carbon dioxide in the atmosphere.

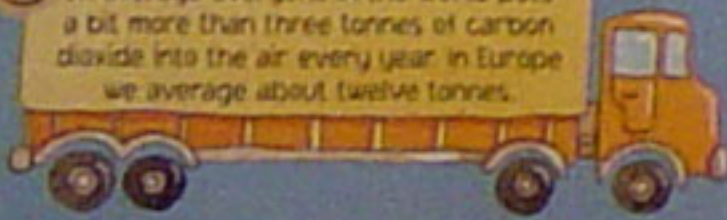
carbon dioxide

methane

nitrous oxide

Where does the carbon come from?

On average everyone in the world puts a bit more than three tonnes of carbon dioxide into the air every year. In Europe we average about twelve tonnes.



READY

STEADY

GO GREEN!

Heat

OUR FUTURE GREENHOUSE WORLD

Pull

Where have all the water gone?

Pull

Pull

How we really are the shape of the desert!

What have we done!

These were green fields when I was born.

Deserts are spreading onto farmland. People and animals are leaving to find water and food.

Rainforests are being chopped up for timber and burned down for farmland. Their soil turns to dust in the heat.

The sea is getting too warm for living coral reefs to survive.

Pull

TEMPERATURE RISES SINCE 1880



SOME LIKE IT HOT



But most animals don't...

HOW BIG IS YOUR "CARBON FOOTPRINT"?

What can you do to help stop climate change?

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 - in a car with other students?
 - by bus or train?
 - on foot or on a bike?
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 - stay cold?
 - put on a duvet?
 - turn up the thermostat?
- When you go on holiday, do you:
 - fly?
 - drive?
 - go by train or coach?
- When you leave your room, do you:
 - turn everything off, including stand-by?
 - turn off the lights only?
 - leave everything on?
- When you go shopping, do you:
 - always re-use bags?
 - occasionally re-use?
 - always take plastic bags to shops?
- For food, do you:
 - grow your own?
 - buy fresh or local?
 - buy packaged and processed?
- When you are thirsty, do you ask for:
 - a can or bottle?
 - squash or milk?
 - tap water?
- In your bedroom, do you have:
 - more than two regular light bulbs?
 - one regular bulb or several low-energy bulbs?
 - one low-energy bulb?
- Do you or your family have:
 - a PC kept on most of the time?
 - a PC only on some of the time?
 - a laptop computer or none at all?
- Do you usually dry your washing by:
 - using a tumble dryer?
 - just a spin and then hang it up to dry?
 - hand wash and hang it up to dry?

Add up your scores.

Results:

Under 5	Over 30
Get well!	Good job! But could you do more?
You are a climate champion!	
Over 5	30
Get well!	Good job! But could you do more?
Doing the planet isn't so hard!	You are a climate warrior!
Over 10	
Get well!	
You are doing well!	

Put the tab to see how you can cut your carbon footprint!



Pull