



KS2 RESOURCES

THE BIG PICTURE

OUR WORLD, OUR FUTURE

West End
in Schools



“But I’ve learned you are never too small to make a difference. And if a few children can get headlines all over the world just by not going to school, then imagine what we could all do together if we really wanted to.”

- Greta Thunberg

PREPARING FOR YOUR VISIT - A CHECKLIST

- Please confirm your schedule with West End in Schools and share it with all class teachers participating in the day.
- Share this resource pack with all teachers.
- For in person visits, check that the projector and sound system are set up and ready to go before the first workshop.
- Have a wonderful day and share your experience with us:

You can tweet us
[@WestEndInSchool](https://twitter.com/WestEndInSchool)

or find us on Facebook [@WestEndInSchools](https://www.facebook.com/WestEndInSchools)

HOW TO USE THIS PACK

This pack has been divided into three sections to guide you through your unit on Climate Change and the Environment:

- **Background information.**

We have compiled some fact sheets, videos and reading lists that you may find helpful for building knowledge.

- **Pre-Workshop Plans**

There are a series of activities we recommend for before your visit. The aim of these activities is to build background knowledge and engage children in the big issues around climate change and the environment.

- **Post-Workshop Plans**

We also have a range of activities for your class to enjoy after their visit from West End in Schools. The post-workshop activities focus on consolidating what they have learned and taking action.

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BACKGROUND INFORMATION

WHAT IS THE GREENHOUSE EFFECT?

The greenhouse effect is an entirely natural process whereby specific gases - greenhouse gases - trap the sun's heat within the Earth's atmosphere. Without this the planet would be too cold for anything to survive.

However, humans have caused a huge increase in the production of greenhouse gases. This has caused the Earth's atmosphere to trap more heat, like a blanket around the earth that is getting tighter. As a result, the Earth's temperature is increasing to a dangerous level.

WHAT ARE GREENHOUSE GASES AND WHERE DO THEY COME FROM?

Carbon Dioxide is widely described as the most prevalent and dangerous greenhouse gas. Burning fossil fuels, such as oil and coal, releases carbon dioxide into our atmosphere. The majority of our transportation, electricity and building machines are powered by burning fossil fuels.

WHAT DOES DEFORESTATION HAVE TO DO WITH IT?

Plants and trees breathe in carbon and breathe out oxygen. The Ocean and the earth do a similar thing. They are called Carbon Sinks, absorbing and removing carbon from our atmosphere.

When we cut down trees several things happen: we reduce the planet's potential to clean carbon from the air, we release more carbon in the process and we destroy homes for both humans and animals.

THE DECLINE IN BIODIVERSITY AND WHAT IT MEANS.

Biodiversity is the huge variety of plants, animals and habitats on Earth. Biodiversity provides us with essentials for living such as food, clean water and medicine.

However, as habitats are destroyed and species threatened, the biodiversity we need to survive is challenged. Removing one plant or animal from a food chain can have disastrous consequences.

HOW WE CAN MAKE CHANGE

As individuals and communities we can make lifestyle choices that can have an impact on the planet:

- Reduce waste.
- Travel responsibly.
- Eat sustainably.

But for wider change we need to use more sustainable sources of energy. Those in power need to make changes to stop burning fossil fuels and fund more sustainable methods of producing power.

READ MORE ON THE BIG ISSUES FACING OUR PLANET:



**NATIONAL
GEOGRAPHIC**

<https://www.nationalgeographic.com/environment/global-warming/global-warming-effects/>



WWF

<https://www.wwf.org.uk/what-we-do/area-of-work/climate-change-and-energy>



<https://www.ourplanet.com/en/>



**Friends of
the Earth**

<https://friendsoftheearth.uk>

PICTURE BOOKS AND YOUNGER READERS

A Hole in the Bottom of the Sea by Jessica Law
Compost Stew by Mary McKenna Siddals
Dear Greenpeace by Simon James
Dinosaurs and All That Rubbish by Michael Foreman
Flotsam By David Wiesner
George Saves the World by Lunchtime by Jo Readman
I Can Save the Earth! by Alison Inches
Litterbug Doug by Ellie Bethel
Michael Recycle by Ellie Bethel
One World by Michael Foreman
The Day the Ocean Went Away by Sam Haynes & Volvo
The Great Green Forest by Paul Geraghty
The Great Kapok Tree by Lynne Cherry
The Promise by Nicola Davies
The Snail and the Whale by Julia Donaldson
The Tin Forest by Helen Ward
Varmints by Helen Ward
Where the Forest Meets the Sea by Jeannie Baker
Where's the Elephant? by Barroux
Window by Jeannie Baker
World Without Fish by Mark Kurlansky

BOOKS FOR OLDER STUDENTS AND MORE ADVANCED READERS

Exodus by Julie Bertagna
One Plastic Bag by Miranda Paul
The Adventures of a Plastic Bottle by Alison Inches
The Flower by John Light
The Green Mother Goose by David Davis and Jan Peck
The Lorax by Dr. Seuss
The Wild Series by Piers Torday
There's a Rang-Tan in My Bedroom by James Sellick
This Morning I Met a Whale by Michael Morpurgo
Under the Weather by Tony Bradman
What a Waste by Jess French
White Dolphin by Gill Lewis

TEACHER'S GUIDE

PRE-WORKSHOP ACTIVITIES

1. KWL Chart on Climate Change

Materials:

One copy of the KWL chart (Page 8) for the class to complete together.

Aim:

To establish shared learning goals and to allow children to guide their learning by creating their own goals.

Process:

- As a class discuss what you already know, or believe to be true, about issues facing the planet today. This could range from detailed ideas about single use plastics and the impact of non-recyclable material to broader more general ideas about global warming.
- Next, ask the class to come up with a list of questions or ideas they want to discover more about. From this you may generate ideas for experiments or for individual research projects your class want to undertake.
- Finally, once you have completed your unit of study on the environment and climate change, ask your class to collate some of the facts and ideas they have discovered. They can also revisit their initial responses to the topic to see if they have learned everything that they had hoped to, or if any of their previous ideas have changed.

2. Pre-existing knowledge: Key Vocabulary

Materials:

Key words chart (Page 9) and comprehension sheet (Page 10), one per person.

Aim:

To engage children in some of the key terminology surrounding this unit.

Process:

- This is designed to be an individual activity, but depending on your classes preferred learning style you may wish for them to do this as a whole class or in small groups.
- Lower KS2: Ask the children, without using research tools, to try to match the key terms with their definitions.
- Answers: A-4, B-6, C-5, D-1, E-3, F-2.

- Upper KS2: Ask children to try to write their own definitions for the list of key terms.
- Either as a class or individually, read the comprehension passage and ask the children to complete the questions which follow.
- To help expand on the information in the comprehension sheet you may also find it helpful point to share an informative video with the class.
- Having read about climate change and the big environmental issues facing the planet, ask the children to revisit their definitions and see if there are any they would like to change.

3. The Green House Effect - Science Experiment

Materials:

Two thermometers, 2 cups, a clear jar with screw lid and one record sheet (Page 12) per student.

Aim:

To discover first-hand what happens when the sun's energy is trapped inside the earth's atmosphere.

Process:

- Make a note of the thermometers' starting temperature (they should both be the same).
- Place one thermometer in a cup and put it on the window sill (or another warm area of your classroom).
- Place the second thermometer in a cup and seal that cup inside the jar and screw the lid on.
- Ask your class to make predictions on their worksheet about what will happen to each thermometer.
- Check the thermometer after a few hours. Has anything changed?
- Leave the thermometers overnight and check again the next day. Do you notice a change?
- The thermometer inside the glass jar will show a higher temperature. This is because the sun warms up the air in the jar but that air has no way of escaping from the jar and cannot mix with surrounding cooler air. This is similar to what happens when greenhouse gasses trap the sun's heat in the earth's atmosphere - the temperature of the planet increases.
- Following this experiment it may be useful to discuss what impact the rising temperatures could have on the Earth.

4. A Written Response - Newspaper Report

Materials:

Writing news reports checklist (Page 13 & 14)

Aim:

For children to combine their knowledge of climate change with their writing skills to create an informative newspaper article on an environmental topic of their choice.

Process:

- Depending on your class' knowledge of newspaper writing you may find it helpful to look at a few examples of this style and highlight key features.
- Use the planning chart on page 14 to recap structural and stylistic features of an article.
- Allow the children time to plan and research the facts which they require for their article.
- Ask the class to write individual newspaper articles which explains what climate change is and what is causing it. Alternatively, they can pick a sub-topic that they are interested in, such as recycling, and write on that.

POST-WORKSHOP ACTIVITIES

1. What I can do and what we can do

Materials:

My promise to the planet sheet (Page 15)

Aim:

To consolidate what the children have learned about issues facing our planet into clear actions that they can take.

Process:

- As a class discuss what actions you could take, both as individuals and as a class.
- If you are setting goals as a class you may wish to create one promise poster, or individuals can design their own.
- Examples of promises they might want to think about: 'I promise to always organise my rubbish into recyclable and non-recyclable items', 'I promise to walk to school instead of taking a car' or 'I promise to make sure that when I am finished with technology I will turn it off and not leave it on standby'.
- Encourage the children to think about why they are making these promises and what impact they could have.

2. What 'you' should do

Materials:

Letter template (page 17), persuasive writing checklist (Page 16)

Aim:

To write a persuasive letter to those in positions of power to encourage change in the wider world.

Process:

- Discuss who might be in a position of power to make decisions that impact the environment. This could be the school principal, your local mayor or MP, or even the Prime Minister.
- Consider what you are going to ask them to do - is it to look at ways to reduce emissions from public transport? Or perhaps to fund more initiatives for renewable energy? You may wish to research what other young people are doing and saying. You can find some examples on Letters to the President:
<https://letters2president.org/letters?issue=climate+change+>
- Discuss persuasive writing techniques that would be helpful for the children to use when making their point.
- Depending on your children's writing level they may find it helpful to use the letter template (Page 17).
- **Take action - send the letters to the addressees and ask for a response to allow your class to continue their dialogue.**

3. Creative writing - A Poetry response

Materials:

Environmental poetry worksheet (Page 18)

Aim:

To use creative writing to express feelings and thoughts on the issues facing the planet.

Process:

- Read through the poetry extracts on page 18 & 19.
- Discuss what techniques the poets use and what impact the poetry has on the reader.
- Either using their own title or one of the titles suggested on the bottom of the worksheet, ask the class to create their own poetry response to the environmental issues they have learned about in this unit of study.

KWL CHART

What is climate change? What problems is it causing? How can you help?

K

What I know
about Climate
Change

Before Workshop

W

What I want to
know about
Climate Change

Before Workshop

L

What I have
learned about
Climate
Change

After Workshop

KEY WORDS

Lots of the words in the chart below may be familiar to you, but how many of them can you define? Have a go at as many of them as you can - we will come back to these later!

A. CLIMATE

1. The amount of carbon dioxide one human releases into the environment in a year.

B. GLOBAL WARMING

2. The warming of Earth's surface and the air above it. It is caused by gases in the air that trap energy from the Sun.

C. CARBON DIOXIDE

3. Coal, oil, and natural gas, which come from the breakdown of ancient plants and animals over millions of years.

D. CARBON FOOTPRINT

4. The average pattern of weather conditions over a long period of time. Climate isn't weather—weather changes daily.

E. FOSSIL FUELS

5. A gas released by the burning of coal, natural gas, oil, and wood which traps heat in the atmosphere.

F. GREEN HOUSE EFFECT

6. The increase in Earth's average temperature over a long period of time.

WHAT'S THE BIG IDEA?

Climate Change Comprehension

Over the past century the Earth has warmed up on average by 1°C. It may sound like a very small increase, but it is having a huge impact! What is causing climate change?

Firstly, fossil fuels - we've all heard of them but what are they and what have they got to do with climate change?

Over millions of years as plants and animals broke down into the earth they created natural sources of energy such as coal and oil. When we burn fossil fuels (which we do a lot, about 40% of our electricity comes from burning fossil fuels), we release gases into the Earth's atmosphere. These gases create a blanket around the planet which traps the heat from the sun and causes the temperature to increase. This is called the 'Greenhouse Effect'.

Next, let's think farming. Farmers raise cattle so that humans can eat beef and consume dairy products. The problem here is that during their digestion process cows release a gas called methane. Methane is a greenhouse gas, like the ones we discussed above, but it's even more dangerous - especially if it's being released by over 1.5 billion cows!

The final big issue causing climate change is deforestation. Forests and trees are brilliant at cleaning the air. They breathe in the harmful greenhouse gas carbon dioxide and breathe out oxygen. But we are cutting down trees and rainforests for palm oil, land to build on, and for mines. We are losing 18.7 million acres of forest every year!

What are the effects of climate change?

We talked about the planet getting hotter, but unfortunately that doesn't just mean a longer summer!

Global warming has led to more unpredictable and dangerous weather conditions - floods, droughts and storms. It also means that the ice on our planet is melting and as the ice melts into the sea the sea levels are rising.

So what does all this mean for animals? Well, as the ice melts the polar animals are losing their homes! Around 9% of arctic sea ice is melting every decade. This sea ice is essential for arctic animals to survive.

And it's not just the arctic animals that are in trouble. What happens to apes and orangutans as we cut down the forests? Or when the increase in temperatures cause forest fires which burn down their homes?

Habitats are changing in so many ways. Do you know what Koalas eat? They love eucalyptus, in fact that's all they eat! But as the climate changes, less edible eucalyptus is growing. So, Koalas are having to climb down from their trees and trek across new terrain in search of food. It's not just starvation that is a threat; leaving their trees also makes Koalas more vulnerable to predators.

Climate change also poses a threat to us humans as well. Rising temperatures make it tougher for crops to grow and unexpected floods wash away people's homes. The natural world and the man made world are feeling the devastating impact of climate change.

- 1.** What do you think the author means when they describe the Green House Effect as a 'blanket' around the Earth?
- 2.** Why is it a problem to be cutting down the rainforests?
- 3.** What are some of the problems caused by the planet's temperature increasing?
- 4.** Describe the effects of climate change on one animal.
- 5.** Why do you think 'floods, drought and storms' might cause problems for humans?

THE GREENHOUSE EFFECT

Thermometer One	Thermometer Two
Temperature at the start:	Temperature at the start:
My prediction:	My prediction:
Temperature after two hours:	Temperature after two hours:
Temperature after a day:	Temperature after a day:
Was your prediction correct? Why did the thermometers change in the way they did?	

READ ALL ABOUT IT!

NEWSPAPER ARTICLES

Create an informative newspaper article explaining what climate change is, what causes it and what impact it is having on the planet.

You may need to think about features of a news article:

- Make your headline short and snappy.
- In the first sentence sum up what the story is about.
- Write your report in the third person and the past tense.
- Split your newspaper report up into paragraphs to help the reader clearly understand the information.
- If you use quotes to make your report more interesting, don't forget to use speech marks!
- Use a photo with a caption to give the reader more information.
- Fill your newspaper report with both facts and opinions. Facts give the reader all of the information they need by using the 5 W's.

To help you do this you may need to do some more research. Take a look at the following sites for some key information:

<https://www.natgeokids.com/uk/discover/geography/general-geography/what-is-climate-change/>

<https://climatekids.nasa.gov>

<https://www.climaterealityproject.org/blog/just-kids-what-climate-change-and-what-can-i-do>

READ ALL ABOUT IT!

Use this page to help plan your newspaper article

Headline. Try to think of something short and snappy, can you use alliteration? e.g. Climate Change Creates Crisis!	
Big Idea. The 5 W's of your article, Who? What? When? Where? Why?	
Paragraph One e.g. What is causing climate change?	
Paragraph Two e.g. What are the problems created by climate change?	
Picture	
Conclusion	
Check, have you used...	
Facts and statistics?	A quote from an expert?
Interesting vocabulary?	Your best handwriting?
Compound sentences?	Correct spelling and grammar?
Subheadings?	

MY PROMISE TO THE PLANET...

[illegible]

I'M TALKING TO YOU!

Use this page to help plan a letter to someone in a position of power explaining to them what the problem is and what action they need to take.

WHO?

Who are you going to address your letter to? If you want to generate action in your local area you may want to write to your school principal or your local mayor. If you want to think about changes that need to be made all over the country you can find out who your local Member of Parliament is and address your letter to them.

WHY ARE YOU WRITING?

What has moved you to write this letter? What problem do you want them to try to solve?

WHAT DO THEY NEED TO DO?

Think about some of the solutions proposed in your 'Our World, Our Future' workshop to help you:

- You must create a new, more sustainable system.
- You must ban the use of pesticides that hurt our bee friends.
- You must ban single use plastic.
- You must be part of preventing further deforestation and help to rebuild the rainforests.
- You need to support renewable energy solutions for transportation.
- You must make renewables our prime source of energy.

WHAT WILL HAPPEN IF THEY DON'T TAKE ACTION

You may want to consider what the world might look like in the future if we don't start to make big changes. What will the consequences of inaction be?

PERSUASIVE WRITING TECHNIQUES

To add impact to your letter you may want to add in some persuasive writing techniques such as:

- Addressing the reader using second person 'You'.
- Rhetorical questions.
- Lists of Three.
- Superlatives.
- Repetition.
- Varied and interesting sentence structure.
- Evidence, quotes or statistics.
- Vivid imagery to bring the issues alive.

Dear _____,

I am writing today because our planet is in danger and we need your help.

Using too many single use plastics, burning fossil fuels and cutting down trees is destroying the Earth. Did you know that _____

_____?

To help the planet I have promised to _____
_____.

But we need grown-ups, like you, to take action as well.

If you care about our beautiful planet, as I'm sure you do, then you need to help. To make a change you need to _____

_____.

It is not too late, we can still save Earth. If we don't start to make changes now then _____

_____.

I want to protect our planet and you should too,

Sincerely,

ENVIRONMENTAL POETRY

EXTRACT FROM 'MAKING THE CHANGE' BY ROGER MCGOUGH

This is truth not science fiction
Related by women, daughters and wives
Change is needed, for the climate is changing,
Changing the world and changing our lives

Everything touches, a planet in pain
For the sake of the children repeat the refrain:
Join in the chorus, let's make a difference
Together we can make the change
Join in the chorus, let's make a difference
Together we can make the change.

- What is the effect of repeating the word 'change'?
- What effect does the plosive alliteration 'planet in pain' have? What is the other device being used in this line?
- What person is the poem written in and why do you think the poet made that decision?

EXTRACT FROM 'INHERITANCE' BY JOHN AGARD

If we, the children of the meek,
should inherit an earth
where the grass goes nostalgic
at the mere mention of green
and the sky looks out of its depth
when reminded of blue

If we, the children of the meek,
should inherit such an earth,
then we ask of the future
one question: Should we dance
or break into gnashing of teeth
at the news of our inheritance?

- What is the effect of repeating the two line refrain at the start of both stanzas?
- What is the effect of ending on a question? Why is the question addressed to 'the future'?
- What person is the poem written in and why do you think the poet made that decision?

EXTRACT FROM 'A CLIMATE OF CHANGE' BY GEORGE THE POET

You remember science from school, an essential subject?
Let's consider its standing with the general public:
Our scientists are in a position to advise us on some of our biggest decisions and it's
Probably in our interest to listen, but
Also to invite others to witness the vision.

The first way to do that is to be the vision.
Through your lifestyle choices you can lead the mission. Bring the
Future to your present when it seems a bit distant: The
Cleanest existence is green and efficient.

- What is the effect using the second person address to the reader?
- Who do you think the poet is speaking to?
- What do you think 'the vision' is that the poet is referring to?

NOW IT'S YOUR TURN...

Have a go at writing your own poem in response to what you've learnt.
You may want to think about whether you want to address your poem to a specific group of people or even to the planet? Think about what poetic techniques you know that you can include in your poem.

Use one of the titles below to get started or you can create your own!

- I'm Sorry Mother Earth
- What Comes Next?
- Heating Up
- The Vanishing Green
- We Can Make a Difference
- I Promise to...

OUR MISSION

Every child's imagination should be inspired by the arts. Our shows and workshops are highly creative cultural experiences - which children will remember for ever.

WORLD BOOK DAY

<https://westendinschools.org.uk/world-book-day>

Celebrate World Book Day with our online or in person literacy workshops exploring popular children's books, fairytales, or Shakespeare.



DANCE WORKSHOPS

<https://westendinschools.org.uk/dance>

From popular children's books and poetry to cultural celebrations, mini musicals and themes such as friendship and teamwork, our dance workshops encourage children to use their imaginations while engaging with the topic from a new, active perspective.



DRAMA WORKSHOPS

<https://westendinschools.org.uk/drama>

Bring learning to life with the highest quality drama available in schools today. With the guidance of an expert drama facilitator the children develop their feelings and thoughts about your chosen story or topic.

