



Lesson 2: What is Climate Change?

Aim

- To understand what climate change is, the causes of it and why it is happening.

Lesson Objectives

- To learn about the greenhouse effect and how it is causing global warming and climate change.
- To be aware of how the global temperature has changed over time.
- To learn about the human activities that are causing climate change.

Assumed Prior Knowledge

- To understand the difference between weather and climate.
- To be aware of the different climate zones on Earth.
- To be aware of the terms climate change and global warming.
- To have basic understanding that climate change is causing the Earth to heat up.

Resources

- BBC – History KS1/KS2: Industrialisation video - <https://www.bbc.co.uk/teach/class-clips-video/history-ks1--ks2-explain-this-industrialisation/zmmx6v4>
- BBC What's New / Actu Jeunes – 'What is Global Warming?' - <https://www.youtube.com/watch?v=YJrKgBUDGYc>
- Worksheet - the Greenhouse Effect.
- Deforestation YouTube video by Christie Todd - <https://www.youtube.com/watch?v=Nc7f5563azs>
- Climate change - We are the PROBLEM & the SOLUTION (Animated Infographic) YouTube video by Matt Miltonberger - https://www.youtube.com/watch?v=-D_Np-3dVBQ&t=359s
- Climate Change Wordsearch.

Assessment

- Homework tasks (pupils to choose one):
 - Create a poster about climate change on one of these topics:
 - a. Climate change and the greenhouse effect.
 - b. The causes of climate change.
 - Write a newspaper article about climate change and the causes of it.

Lesson Outcomes

- To confidently define climate change.
- To understand what the following are: climate change, global warming, greenhouse gases and the greenhouse effect.
- To name the causes of climate change.



Lesson 2: What is Climate Change?

All the blank worksheets for this lesson can be found as a separate download on the Lesson 1 page of the KS2 Climate Change Lessons. The answers for the worksheets can be found at the end of this document.



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Notes for each slide – The teacher is to decide what is copied down in their workbooks.

Slide 3 – Introductory slide - What is Climate Change?

- Run through the aim and objectives with the class.

Slide 4 - Recap

- Talk through the definitions of weather and climate with the class as a quick reminder of what they are.
- If this is the first lesson that the pupils are being taught in the series, these definitions can be copied down into their workbooks.

Slide 5 - What is Climate Change?

- This slide aims to generate thoughts and discussions amongst the class around what they think climate change is.
- As a teacher, you could ask the pupils to discuss in pairs and write down thoughts in their workbooks or they could do this individually.
- Then, have a class discussion where pupils tell the rest of the class what they think climate change is.

Slide 6 - Climate Change

- This slide reveals the definition of climate change to the pupils.
- Ask pupils to write this down in their workbooks.

Slide 7 - Definitions

- This slide highlights four key words which will be used throughout this lesson pack. It is important that pupils understand these terms and therefore should write these into their workbooks.
- These words will be referred to for the rest of this lesson and in other lessons.

Slides 8 – 15 – Definitions match up game

- Once the pupils have written the definitions in their workbooks, ask them to close them. The following slides are a definition match up game that should take around 5 minutes.
- A definition will appear on the screen and the teacher should ask the pupils which word the definition matches with.
- This game should be done as a whole class with the teacher asking pupils to raise their hands if they would like to match the word with the definition that is on screen.
- As you click through the slides, the definition will appear.
- Slide 10 reveals the definitions and answers again.



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Slide 16 – Climate Change and Global Warming

- This slide brings context to the previous definitions.
- Teachers to talk through this slide with the class and bring attention to the graph. The graph shows how global temperature has varied over time, showing a sharp increase in temperature at the time of the Industrial Revolution.
- The teachers can ask the pupils to copy this information down in their books.
- The Industrial Revolution is explained in the next slide.

Slide 17 – The Industrial Revolution

- Teacher to talk through the slide with the class and ask the pupils to copy the information down in their workbooks.
- Pupils to watch video on industrialisation which happened as part of the Industrial Revolution.
- Depending on the pupils ages, the teacher could ask the class to write some notes on the video.

Slide 18 – Greenhouse gases and the Greenhouse Effect (GHE)

- Teacher to talk through the slide with the class and ask pupils to write down both the information and different greenhouse gases into their workbooks.

Slide 19 – Global Warming and the Greenhouse Effect (GHE)

- Pupils to watch video on the global warming and the greenhouse effect.
- Depending on the pupils ages, the teacher could ask the class to write some notes on the video.

Slide 20 – Greenhouse Effect (GHE)

- This slide explains and illustrates the greenhouse effect. Teachers should mention the following:
 - Heat enters the atmosphere from the sun.
 - The atmosphere absorbs some of the heat to keep Earth warm and the rest of the heat leaves Earth and some goes back out to space.
 - Greenhouse gases emitted by factories, deforestation and vehicles etc, trap some of the sun's heat in the atmosphere which causes global warming.

Slide 21 – Greenhouse Effect (GHE)

- This exercise can be done as a class or individually as a worksheet.
- To complete this exercise, the list of words and sentences provided in the worksheets download should be either:
 - Read to the class one at once by the teacher with a copy of the labelled worksheet handed out in class to stick in their workbooks; or,
 - The labels should be printed out and handed to the pupils, along with the blank copy of the 'Greenhouse Effect' worksheet to cut and stick into their workbooks.

Slides 21 - 24 – What is causing Climate Change?

- Teacher to run through these slides with the class and pupils should copy down the information in their workbooks.
- Slide 19 contains a video of the effect of deforestation on the climate – watch this until 2 minutes 11.



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Slide 25 – Climate Change Video

- YouTube Video to show to the class about climate change and what has been covered in this lesson – the first three minutes of the video should be shown.

Slide 26 – Climate Change Wordsearch

- Hand out the wordsearch worksheet to the class, a copy of the solved wordsearch is within the 'Lesson 2 – Worksheets' download.

Slide 27 – Homework

- The teacher or pupils can choose which homework task to do, the options are:
 - Create a poster about climate change on one of the following topics:
 - Climate change and the greenhouse effect.
 - Causes of climate change.
 - Write a newspaper article about climate change and the causes of it.

Sources used for Lesson 2

- BBC Bitesize
- BBC Teach
- Britannica Kids
- NASA Climate Kids
- Nat Geo Kids
- Oxfam
- Twinkl
- WWF
- YouTube

The Greenhouse Effect

FT Q C08

Some heat becomes
trapped in the atmosphere
by greenhouse gases and
causes global warming.

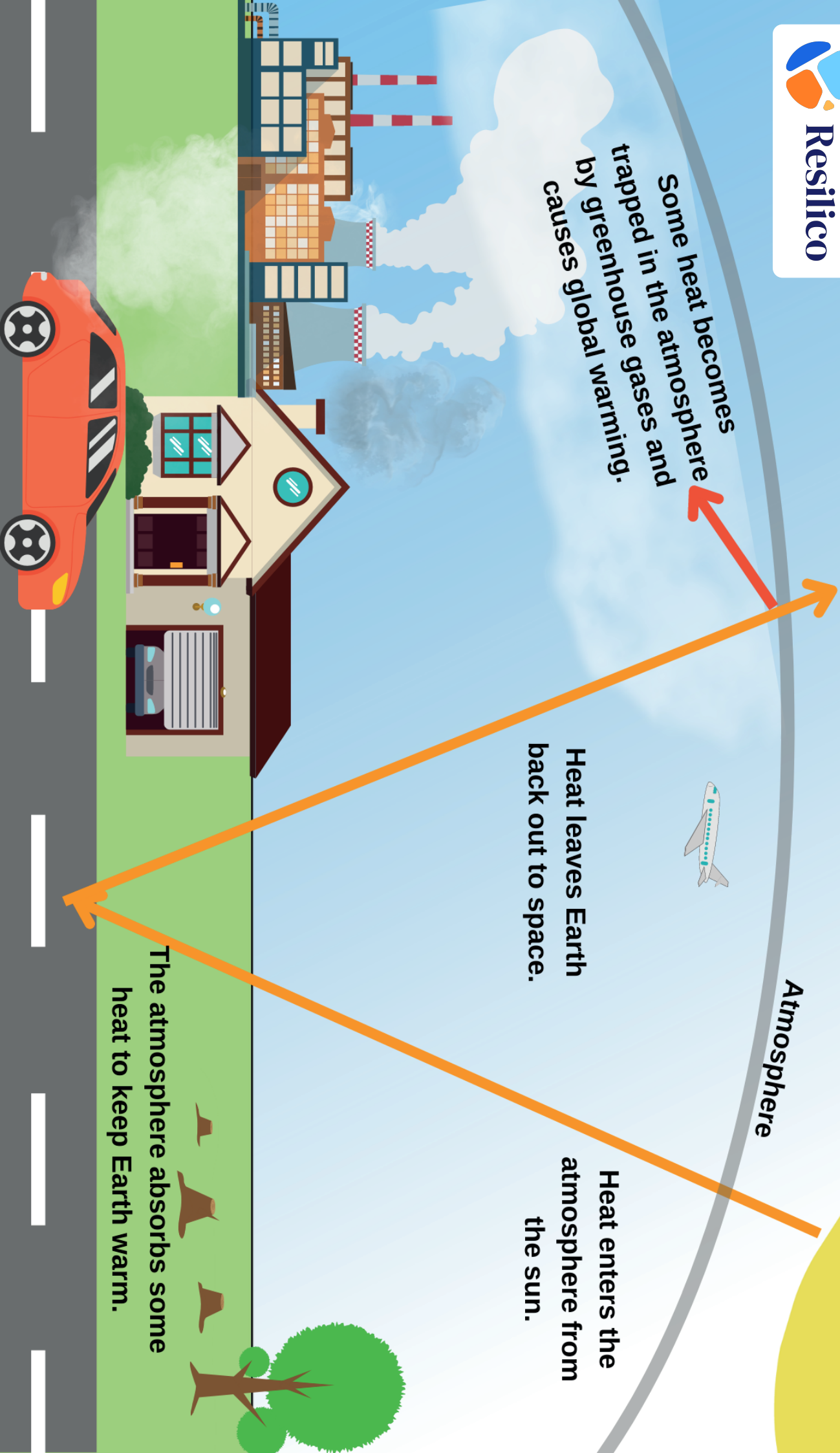
Heat leaves Earth
back out to space.

Heat enters the
atmosphere from
the sun.

Atmosphere

Sun

The atmosphere absorbs some
heat to keep Earth warm.





Wordsearch

C	G	U	S	D	O	R	E	H	T	A	E	W
L	A	D	X	T	B	G	N	P	Q	E	K	F
I	S	R	A	F	O	R	Y	O	V	T	B	O
M	E	H	B	L	U	R	O	L	U	A	K	S
A	L	L	T	O	P	S	M	L	O	M	W	S
T	I	M	E	O	N	M	C	U	R	I	T	I
E	M	U	K	D	R	D	X	T	O	L	H	L
C	D	A	W	I	H	A	I	I	U	C	G	F
H	O	L	K	N	X	Q	J	O	F	E	U	U
A	O	J	V	G	P	A	H	N	X	O	O	E
N	F	A	R	M	I	N	G	U	U	I	R	L
G	K	Z	L	O	T	Q	A	A	Y	Z	D	S
E	S	E	A	L	E	V	E	L	R	I	S	E
S	A	G	E	S	U	O	H	N	E	E	R	G

CARBON DIOXIDE
CLIMATE
CLIMATE CHANGE
DROUGHT
FARMING

FLOODING
FOOD MILES
FOSSIL FUELS
GREENHOUSE GAS
POLLUTION

SEA-LEVEL RISE
STORM
WEATHER