

Secondary School Lesson Plan — Key Stage 4 — (14-16 Years)

Lesson 2: Human causes of climate change

Background:

WaterAid is an international not-for-profit organisation, determined to make clean water, decent toilets and good hygiene normal for everyone, everywhere within a generation. As our climate changes we feel the effects more and more through extreme weather, rising temperatures and ice melting leading to issues around too much or too little water. This makes the climate crisis a water crisis, as hundreds of millions of people across the world struggle to get clean water, pushing them further into disease and poverty.



Context:

This is the second lesson in a series of six that explain the causes, impacts and ways of managing climate change. This lesson introduces the human causes of climate change and the greenhouse effect.

Notes for teachers / educators

The activity timings should act as a guide only. Teachers should adjust timings and adapt activities according to the lesson time available and the ability of the learners.

Learning Question:

- How are humans worsening/enhancing the greenhouse effect?

Learning Objectives:

- I can explain the human causes of climate change.
- I can judge the evidence of human made climate change.

Key words:

- Climate change • Fossil fuels • Deforestation • Agriculture

Curriculum link: The curriculum links are not exhaustive but offer a guide

- **Science:** Earth and atmospheric science; Energy
- **Geography:** Physical geography: processes and change; People and environment: processes and interactions.

Resources:

- YouTube Video: What is climate change? – <https://youtu.be/y66KFJtmUuk>
- Resource 1 - Lesson Slides
- Resource 2 - Human causes of climate change worksheet
- Resource 3 - Human causes information packs.

Key Question	Activity	Resource	Timing
Recap	<ul style="list-style-type: none"> • Display slide 1 and explain to the students that they will be learning about the human causes of climate change. • Display slide 2 - Ask the students to recap what was learnt in the previous lesson by writing four sentences explaining the greenhouse effect. This could be step by step, or it could be a paragraph. Encourage them to use the diagram on slide 2 as a reminder. • As an extra challenge, ask students to recall some natural causes of climate change from the previous lesson and draw 5 images to depict them. 	Resource 1 - Lesson slides	5 mins
What are the human causes of climate change?	<ul style="list-style-type: none"> • Display slide 3 - Replay the film shown in the previous lesson or begin at 3:12. • Once the film has finished ask students what the human causes of climate change are. Why should we be concerned about the increase in greenhouse gases? • Display slide 4 - Read students the information from the slide which reinforces the importance of the greenhouse effect and the issue of too many greenhouse gases. 	Film — https://youtu.be/y66KFJtmUuk	10 mins
What activities cause these changes?	<ul style="list-style-type: none"> • Display slide 5 - Split the class into pairs. Give each student a human causes worksheet (Resource 2) and provide each pair with one of the information sheets from the pack (information pack sheets can also be seen on the hidden slides 6-9). • Explain to students that they are going to examine the human causes of climate change. Each pair has a sheet explaining a different cause. They will become experts in the cause they have been given and then teach the rest of the class about their particular cause. • Explain to the students that they should read through their information sheet and fill in their worksheet with the information they have learnt. • Once students have filled the correct column in, they should move around the classroom to the other student pairs to learn about the other causes from their classmates and fill in the remaining columns. They should also explain their own cause and fill in the columns for each of the causes. Students should continue until they have completed their sheet. • Once they have finished, ask a selection of students to explain each of the human causes of climate change. 	Resource 2 - Human causes worksheet Resource 3 - Human causes information pack	20 mins

Key Question	Activity	Resource	Timing
Which are the most significant causes?	<ul style="list-style-type: none"> • Display slide 10 – Ask students which of the causes of climate change they believe are the most significant? After having a few responses from some of the students ask which of the causes they think are the easiest to solve and why. Ask students if they agree / disagree and to explain their thoughts. Now ask which of the causes will be the hardest to resolve and why. • Following the discussion, students should write their own answers to the three questions on the slide explaining their opinion and justifying the answers with facts when they can. 		10 mins
How can we resolve the problem?	<ul style="list-style-type: none"> • Display slide 11 — Ask students to select (or allocate) one of the human causes of climate change. • Give the students 2 minutes to create a list of all the activities they can think of related to their cause, that contribute to greenhouse gas emissions. • Once they have completed their lists, ask students to suggest changes that need to happen to reduce the effects of climate change. • For an extra challenge, ask students to make a second list linking any other similar causes together and what this means about how the problem of climate change can be solved. They should spot that lots of changes need to happen as they interlink and relate to each other and require everyone to come together and make changes. 		5 mins
What is my impact?	<ul style="list-style-type: none"> • Display slide 12 – This slide contains links to carbon footprint calculators so that individuals can work out their own, or their household’s impact on the climate. • Students should visit the page of their choice to calculate their carbon footprint. The links on the slide are available as clickable links by clicking the logos on the slide or in the notes section as copyable links. • Once students have worked out their carbon footprint, they should write a pledge of what they will do to lower their impact. These should be shared with the class. 		10 mins