

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

Lesson 5: Managing the impacts 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 fifth lesson in a series of six that explain the causes, impacts and ways of managing climate change. This lesson introduces how we can manage the impacts of climate change and what it will mean for society and the environment.

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 can we deal with the changes caused by climate change?

Learning Objectives:

- I can explain the methods of managing climate change.
- I can evaluate the best methods for managing climate change.

Key words:

- Climate change
- Mitigation
- Renewable energy
- Carbon capture
- Afforestation
- Adaptation
- Agricultural Practices
- Economy

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:

- WaterAid climate change video <https://youtu.be/qpchgGUDS7Y>
- Resource 1 – Lesson slides
- Resource 2 - Managing climate change task sheet
- Resource 3 - Managing climate change activity sheet
- Resource 4 - Climate responses game (cut out event cards and action cards prior to game)
- 1 Dice

Key Question	Activity	Resource	Timing
How can we manage climate change?	<ul style="list-style-type: none"> ● Display slide 1 - Explain to students that you will be following on from the previous two lessons on climate change. This lesson is going to help them to understand how we can manage and limit the changes climate change will make in the world. Ask to discuss in pairs some of the impacts of climate change they learned in the previous lesson. Have students feedback the impacts they have discussed. Examples could be; ice melting, sea level rise, temperature increase, extreme weather or changes to water supply. ● Display slide 2 - Ask students to think about what might happen if nothing is done about climate change. In pairs they should answer the questions on the slide about the impacts of climate change on the environment, economy and people. Once students have developed some answers to these questions survey the class for some of their answers. If students are unsure of the definition of economy explain it is the system of money, how people make and spend it in a place. ● Ask students if any of them know of ways that climate change can be managed or limited? What types of changes can be made by individuals, communities and governments that can slow down the negative impacts of climate change? Examples they may give could be; use less fuel, build wind turbines, plant trees. ● Gather some responses to gauge prior knowledge and to encourage a short discussion between yourself and the class. This should help dispel any misconceptions that may need to be tackled throughout the lesson. 		5 mins
What are the methods for managing climate change?	<ul style="list-style-type: none"> ● Display slide 4 - this shows the definitions of mitigation and adaptation. Check if the student's definitions match with those on the slide. Explain that you will be looking at how mitigation and adaptation can help with the impacts of climate change. ● Ask the students "How can we mitigate the effects of climate change?". Gather some ideas and display slide 5. Read through the options listed. ● Ask the students "How can we adapt to the effects of climate change?" Gather some ideas and display slide 6. Read through the options listed. 	Film — https://youtu.be/qpchgGUDS7Y	10 mins

Key Question	Activity	Resource	Timing
What are the methods for managing climate change? - continued	<ul style="list-style-type: none"> • Display slide 4 – this shows the definitions of mitigation and adaptation. Check if the student’s definitions match with those on the slide. Explain that you will be looking at how mitigation and adaptation can help with the impacts of climate change. • Ask the students “How can we mitigate the effects of climate change?”. Gather some ideas and display slide 5. Read through the options listed. • Ask the students “How can we adapt to the effects of climate change?” Gather some ideas and display slide 6. Read through the options listed. 		
How do these methods work?	<ul style="list-style-type: none"> • Display slide 7 – Split the class into pairs. Provide each student with a copy of the task sheets, and each pair with a set of information sheets (also available to view as hidden slides 8-15). • Explain to students that the sheets explain the different methods of managing climate change. They should read through the information sheets together to understand these management methods. • Once they have read through the information sheets tell them that for each management method, they are to draw an image that summarises the information they have of how this works. This should be done on the task sheets. Their images should summarise the information they have read. They can be a collection of lots of little images or one large image with a limit of five words per method. • Once they have finished their drawings, explain that they will need to write a paragraph in the box below their image which summarises each management method using only their drawings and memory. • This activity is best done with a timer to limit drawing time (2-3 mins drawing time per information sheet). • Once they have finished filling in their sheets, play Pictionary with the class. Ask for a volunteer to draw one of the management techniques on the whiteboard, as they did on their sheets. The rest of the students should try and guess which of the management techniques they are drawing. This could be repeated until all the techniques have been covered. 	Resource 2 - Task sheet Resource 3 – Information sheets	20 mins

Key Question	Activity	Resource	Timing
How will these techniques impact on the environment and the economy?	<ul style="list-style-type: none"> ● Display slide 16 – Split the class into small groups and explain that they will be playing a game about managing climate change. Ensure that each group of students has one game board, one set of action cards, one set of event cards and a dice. These should be cut out prior to the lesson. ● Each student will also need their own task sheet. ● Explain that the aim of the game is to get as high an environmental score as they can, and a low economic score. Students begin the game with 25 economic and 25 environmental points. They should roll the dice when it's their turn to make their way round the board, collecting event and action cards when they land on those spaces. As they go round the board, they will gain and lose points, using the event and action cards. Each student needs to keep track of their points and the events that happen to them during the game by recording them on their task sheet. ● They should continue to play until the time allocated for the game is up. By the end of the game students should have a record of all the events that happened to them and an environmental and economic score on their task sheet. 	Resource 4 – Climate change responses game (action cards, event cards, task sheet, instructions and board).	15 mins
Which are the best responses to climate change?	<ul style="list-style-type: none"> ● Ask some of the students to explain what happened to them during their game. You could use these questions to help; “What events happened to you?” “What was the cost of these events?” “What actions did you have to take?” “What did you gain from these actions?” “Did any of the actions help you?” ● Display slide 15 — Following this analysis discussion of the game ask the students to answer the questions displayed on the slide in their books or verbally to the class as a discussion. ● Finish the lesson by asking students to choose their favourite technique, for tackling climate change. or the one they believe is the most effective. Use a show of hands to gather their thoughts. 		10 mins