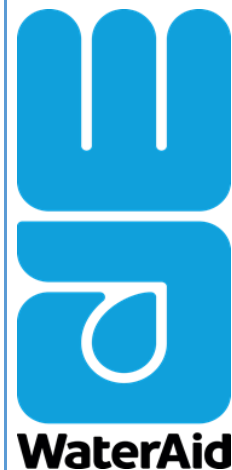


Secondary School Lesson Plan — Key Stage 4 — (14-16 Years)

Lesson 6: Climate change and water

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 sixth lesson in a series of six that explain the causes, impacts and ways of managing climate change. This lesson introduces how to manage the impacts of climate change on water and offers a decision-making challenge to students.

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:

- What is the link between climate change and water?

Learning Objectives:

- I can investigate the best methods for solving water access issues.
- I can select and defend the best solution to solve a water access problem.

Key words:

- Climate change
- Groundwater
- Boreholes
- Spring source
- Gravity-fed system

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/rpqtEe8BGQg>
- Resource 1 – Lesson slides
- Resource 2 - Technologies information pack
- Resource 3 - Location cards
- Resource 4 - Solving the problem of clean water worksheet
- Resource 5 - Writing a proposal help sheet

Key Question	Activity	Resource	Timing
Why is water important?	<ul style="list-style-type: none"> ● Display slide 1 and explain to students that you will be following on from the previous three lessons on climate change. This lesson is going to help them understand how we can manage the impact of climate change on water. ● Ask students to recap ways that climate change can impact the world? What types of changes will help reduce or avoid these impacts? Can they name any ways that climate change will impact on water? ● Gather some responses to gauge prior understanding and to encourage a small discussion between yourself and the class. This should introduce any misconceptions that may need to be tackled throughout the lesson. ● Display slide 2 — Ask students to write down all the ways in which they have used water both directly and indirectly since they woke up. ● Display the definitions of 'directly' and 'indirectly' to ensure that all students are clear of what is meant by these terms. ● Emphasise to students that water is essential to our lives in ways that we often don't realise. For example, growing our food and making the products we use. 	Resource 1 – Lesson slides	5 mins
How does climate change affect our water supplies?	<ul style="list-style-type: none"> ● Display slide 3 – Introduce the film “Climate change and water” embedded on slide 3 (or follow the link in the notes section or button in the right-hand corner of the screen). This film outlines the ways in which water is impacted by climate change and provides a case study from Burkina Faso. As they watch the film, students should note the methods used to manage water. ● Before displaying slide 4, ask students to explain how climate change will impact our water supply. Ask students for some of the methods for managing the impact of climate change on water. ● Display slide 4 - read through the information on the slide to reiterate the impact of climate change on water. Then read through slides 4 and 5 to explain why managing the impact of climate change on water is important. ● Display slide 5 – explain to students that flooding and droughts caused by climate change causes will threaten even more people's water supply. This will reverse progress that has been made to provide everyone with clean water. 	Film - https://youtu.be/rpqtEe8BGQg	10 mins

Key Question	Activity	Resource	Timing
How can we protect our water supplies?	<ul style="list-style-type: none"> • Display slide 6 — This activity can be completed in groups of 2-4 or can be done individually to stretch and challenge students. • Give each group one of the three location cards, a copy of the solving the problem worksheet and a copy of the technology's information pack. Explain that they will be doing a problem-solving activity to decide how to get water to their location. • Students should read their location cards. (Location cards can be seen in the lesson slides as slides 7-9). Once they understand the situation described on their card, they should outline their locations situation and problem by filling out the first side of their worksheet titled "assessing the situation". • They then need to look at the water technologies information pack and assess which ones could be suitable for solving their location's water issues • Once they have read through the options the students will need to agree on and select their top two solutions for their location. They should then complete the next section of the worksheet titled "finding a solution". • To further challenge students provide them with more than one location, providing a new worksheet for each location. 	<p>Resource 2 - Technologies information pack</p> <p>Resource 3 - Location cards</p> <p>Resource 4 - Solving the problem worksheet</p>	20 mins
What are the problems with water?	<ul style="list-style-type: none"> • Display slide 10 – Provide each student with a proposal writing help sheet. Explain to students that they will be using the information they have gathered on their worksheets to write a proposal for WaterAid explaining the water problems in their location and the reasons for their chosen solution. • Students should follow the help sheet to ensure that their proposal is well written. They will need to include a summary, recommendations and justifications for their chosen solutions. • To further challenge students ask if they can think of any other climate management techniques from the previous lesson that would be good in their location. 	Resource 5 - Writing a proposal help sheet	10 mins

Key Question	Activity	Resource	Timing
What did WaterAid do?	<ul style="list-style-type: none"> • Display slide 11 – Explain that these are real case studies from WaterAid showing what was used to overcome water issues in communities around the world. • Display slide 12 - Read through slides 12-14 to show students how WaterAid solved the water issues of each place., This will allow students to compare their answers with what WaterAid did in reality. Ask the students for their thoughts on the case studies and the changes to people's lives as a result of the solutions that were installed. They should imagine that their solutions from the decision-making activity have now been approved. Ask then to write a paragraph explaining how the lives of the people in their communities have changed as a result of their solutions. 		10 mins

[Book a free WaterAid Speaker for your learners](https://wateraid.org/uk/speaker-network) - wateraid.org/uk/speaker-network

Inspire, engage and educate your learners about WaterAid's work with a trained speaker. WaterAid Speakers visit schools and groups across the UK to deliver educational talks and workshops on topics such as climate change, the water cycle, periods and more. We also offer online talks and workshops, including for international audiences.