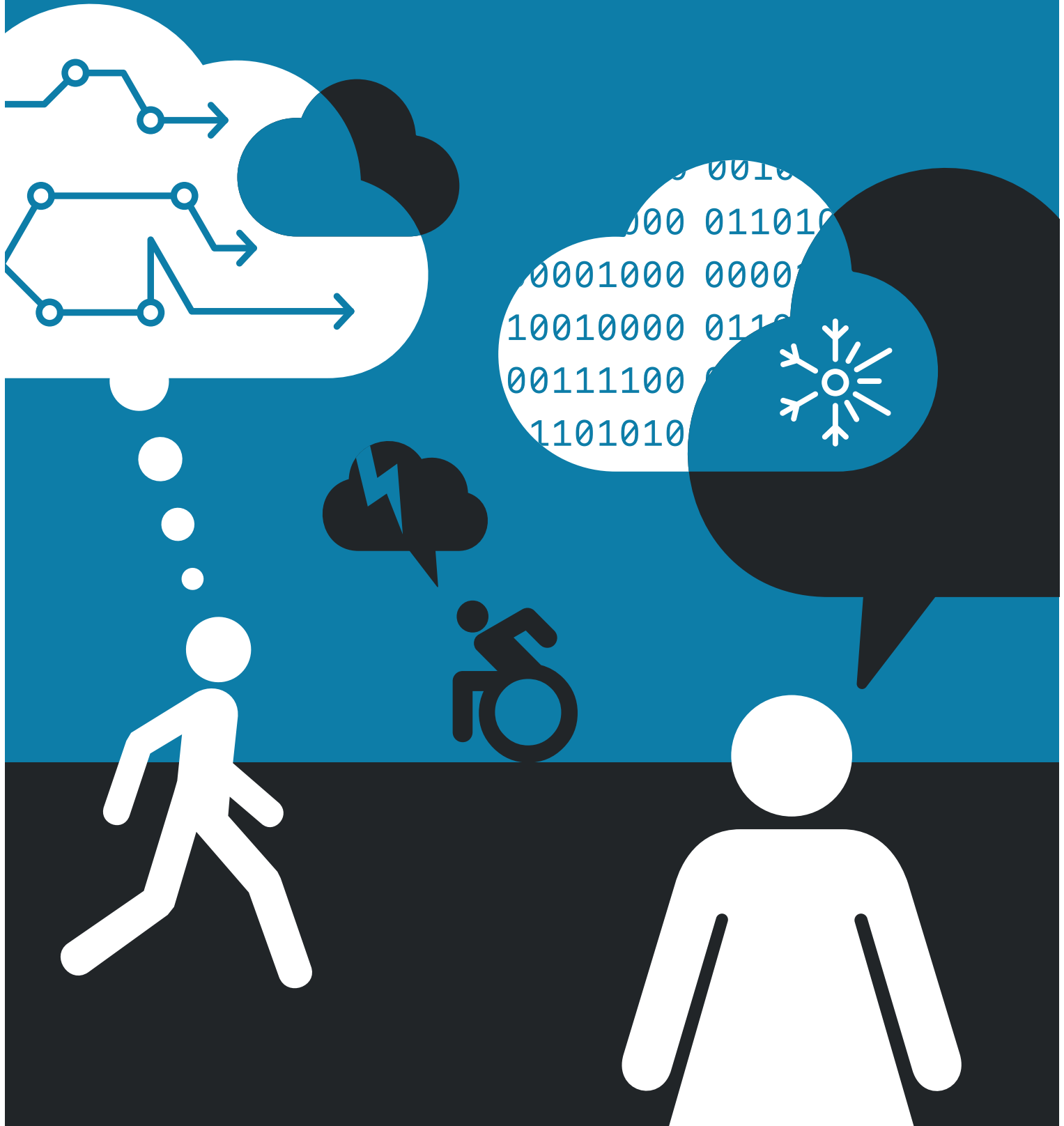




Exploring climate impacts



Introduction

Overview

This lesson explores climate change and its impacts around the world. Your pupils will step into the shoes of people in other countries, finding out about their ways of life and how climate change is having an impact today, and into the future.



Time required

60 minutes



Materials required

- Exploring climate impacts slides
- Exploring climate impacts world map
- Exploring climate impacts quiz

Learning objectives

- Describe the difference between weather and climate
- Be able to locate a chosen place on a map
- Understand some of the key impacts of climate change
- Explore and develop the skills to make a creative response, based on their understanding of the impacts of climate change on different communities around the world

Curriculum Links

- **English literacy and language** – written and verbal communication, comprehension and analysis
- **Science/sciences and technology** – prediction, methodology and evidence
- **Geography/social studies/the world around us** – weather, climate change, environment
- **Art and design/expressive arts** – storytelling, creative thinking

Activity steps



01

Ask the students what do they know about weather and climate, is there a difference? What is the difference?

Weather describes the conditions of the atmosphere over hourly or daily measurements such as temperature, rainfall, cloudiness, sunshine, and wind speeds.

Climate, on the other hand, is the average of these conditions over longer time periods ranging from years to decades to hundreds of years.

The Met Office investigates both weather and climate, using its supercomputer to run simulations for the future. Alongside producing the weather forecast for tomorrow it makes predictions about what our climate will be like in years to come. This helps people and organisations around the world plan for the future.



5 minutes



Slides 2

Activity steps

02

Now that we know the difference between weather and climate, what about climate change?

In pairs or small groups, ask the students to discuss the phrase climate change. Some prompt questions could include:

- What is climate change?
- What does it make you think of?
- What are some of the impacts of climate change?
- How might climate change affect other people around the world?

Once they have had some time to discuss, come back together as a group and get each pair to share one or more of their thoughts with the class.

Explain that since the Industrial Revolution, the average temperature of the planet has risen by around 1°C, refer to slide 4. This might not sound very much, but this is a rapid change in terms of our global climate system. Previously, natural global changes are understood to have happened over much longer periods of time. It is also important to remember that the world is not warming evenly, so the temperature increase is higher than 1°C in some countries.

The UK has also seen a rise in temperatures with the 5 warmest years occurring since 2006. Refer to slide 5. Cooler years are blue, while warmer years are red. For more information on UK figures: <https://www.metoffice.gov.uk/about-us/press-office/news/weather-and-climate/2019/state-of-the-uk-climate-2018>

Human activity – from releasing greenhouse gases and aerosols (small particles) into the atmosphere, to changing the use of land – is the main driver of climate change. Climate change is having a range of impacts on the climate system, ecosystems, and people. Our sea levels are rising, extreme weather events are becoming more frequent and intense, and plant, animal and human health are all being affected. Your pupils might have mentioned some of these in their discussions. To help support your discussion, we have a briefing note available for you on extreme weather and climate change. You can find this [here](#).



10 minutes



Slides 3-5

Activity steps

03

Show your class the world map on side 5 and tell them that they are going to think about the lives of children and their families in the six different locations and explore how climate change might impact them in the future.

To begin, working in pairs or small groups, give the students the Climate Impacts Quiz. They will use this to find out a little bit about each country and how climate change might affect it by the year 2050. For each country, they should match up the fact about the country with a projected change in its climate, a possible impact of that change, and a suggestion about what could be done to help manage the impacts. There is one right combination for each country.

You can print out the student Climate Impacts Quiz worksheet and cut it up in advance, so that the students can move the answers around to make the right combinations.

Once they've completed the quiz, you might want to talk through each country and consider what else could be done to manage the impacts of climate change described.



15 minutes



Slides 6-7



Groupwork

Activity steps

04 Allocate each pair or small group one of the six locations. Ask the students to research that location to create a case study, using what they learned in the quiz and online resources.

Their facts could include population and economic statistics, information about the location's climate, and projections about how the climate might change in that location through the rest of the 21st century. They could also research what is being done now in that location to adapt to the changes in climate we're already seeing, as well as the climate change we expect in the future.

Invite each group to share their case study with the class. They could present this case study in the form of a classroom presentation, TV report or poster. To add a competitive element, ask teams to vote for their favourite presentations. The group(s) receiving the most votes can then present to their year group in an assembly or to members of the SLT.

05 Bring the lesson to a close by coming together as a class to discuss how we can reduce the impacts of climate change – both on ourselves and other people around the world.

Encourage your students to think about both mitigation – that's reducing our greenhouse gas emissions – and also adaptation – that's changing the way we live to help us manage the impacts. Based on the case studies, you could explore how the impacts of climate change are likely to be different in different regions – rich compared to poor? How wealthy a country is influences how well it can adapt to a changing climate?

Tell the students that the most crucial step to limit the negative impacts of climate change is to make big and quick reductions in global greenhouse gas emissions. There are many different ways this can be done and governments, businesses, organisations and individuals around the world can all contribute. We can fly less, drive less, use less energy and even eat a bit less meat and dairy. We can help develop new technologies and ways of living and working to adapt to the extremes of weather today and the changes we will see in the future. Are there any other things that we can ask our ourselves and our community to do?



20 minutes



Groupwork



20 minutes



Groupwork