Lesson 5
Dealing with climate change: experiences and ideas
Outline

Children consider the consequences of climate change for people around the world by:

- sorting cards to solve a mystery and explore the consequences of the industrial revolution;
- taking on different roles to consider who is most vulnerable to climate change; and
- considering different possible solutions to climate change.

Key Question: Is climate change fair?

Key points of learning relating to climate change

- Greenhouse gas emissions began to substantially increase during the industrial revolution, and industrialised countries are most responsible for causing climate change.

- Droughts, storms and floods exacerbated by climate change impact most on people living in developing countries who have contributed least to climate change.

- Responding to climate change involves adapting to climate change and mitigating against it by using less fossil fuels. Different people advocate different priorities in response to climate change.

Curriculum integration

<table>
<thead>
<tr>
<th>Strand</th>
<th>Strand Unit</th>
</tr>
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<tbody>
<tr>
<td>SPHE</td>
<td>Developing citizenship</td>
</tr>
<tr>
<td></td>
<td>Myself and the wider world</td>
</tr>
<tr>
<td>History</td>
<td>Eras of change and conflict</td>
</tr>
<tr>
<td></td>
<td>The industrial revolution</td>
</tr>
<tr>
<td>Geography</td>
<td>Human environments</td>
</tr>
<tr>
<td></td>
<td>People and other lands</td>
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</tbody>
</table>

Resources

- Climate Change Mystery Sheet and Cards, cut up, one per group of three.
- Agree and Disagree Signs, one set per class.
- Role-Play Cards, one set per group of five, with one role per person.
- Whose Problem Sheet, one per group of five.
- Forwards and Backwards with Climate Change Sheet, one per class.
- One Hundred Million Euros Sheet, one per group of three.
- Fund-Us Sheet, one set per group of three.
LEsson PLAN

1. **Children explore the historic causes and current consequences of climate change using a mystery**

   The class brainstorms the consequences of climate change.

   Working in groups of three, children read and organise the **Climate Change Mystery Sheet and Cards** to solve the mystery. Was James Watt to blame for Ali missing school?

   Children debate the statement ‘James Watt was responsible for Ali missing school’. With an ‘agree’ sign at one end of the classroom and a ‘disagree’ sign at the other, children position themselves between the signs to reflect how they feel about the statement. Children justify their position and can move during the debate if they change their minds.

   In the same way, children debate the statement ‘the industrial revolution was a good thing’.

2. **Children take on different roles to explore who is most vulnerable to climate change**

   Working in groups of five, each group member is given a different **role-play card**.

   Children read aloud their roles to their group. Using the **Whose Problem Sheet**, children decide to which role each sentence most applies.

   Children stand in a line across the middle of the room holding their role-play card.

   Children listen to the teacher read the statements on the **Forwards and Backwards with Climate Change Sheet**. For each of the first set of statements, a child steps forward if it applies to their role; for each of the second set of statements a child steps backward if it applies to their role.

   **Class Discussion Questions**

   - What factors make some more vulnerable to climate change than others?
   - Who in the world is most vulnerable to climate change?
   - Is climate change fair?
3. Children explore the solutions to climate change

Children look at the Fund-Us Sheet and as a class discuss these organisations’ responses to climate change.

Working in groups of three, children are climate change action funders. They have €100 million in cash to spend on solutions to climate change. They have received applications from these different organisations, and using the Fund-Us Sheets they have to decide how much they are going to award each organisation. They can award it to as many organisations as they like and in unequal amounts.

Children share their bank notes between the applications on the Fund-Us Sheets as they wish.

Class Discussion Questions

How would the different people represented in the role-play above have divided up the funding?

Which organisation did each group give most money to? Why?

4. Children review their climate change learning wall

Can any questions be answered now?
Can new knowledge about climate change be added to the wall?
Can any new questions be added to the wall?
Climate Change Mystery Sheet

James Watt (1736-1819)


Is James Watt to blame for Ali missing school?

Ali (in the blue shirt), Punjab, Pakistan.

Punjab, Pakistan.

What to do?

Look at the information and photos.

Consider the question above. Decide whether James Watt is responsible for Ali missing school.
During the industrial revolution many people moved from the countryside, where they farmed the land, to cities to work in factories.

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Before the invention of the steam engine factories were powered by flowing water. This meant that factories had to be beside a river. The steam engine meant that factories could be set up anywhere, and they often moved into cities.

The steam engine worked by burning wood or coal. Coal was used more and more during the industrial revolution.

The industrial revolution is the name given to the time from about 1760 to 1830. During this time lots of changes took place in Britain and then in other places in Western Europe and in North America.

Before the industrial revolution things were often made in people’s homes using hand tools. The industrial revolution saw things being made in factories using special machinery.

The invention of the steam engine meant that cotton could be spun much more quickly than before.

Since the industrial revolution the amount of carbon dioxide around the earth has gone up and up.

The industrial revolution did not happen in Ireland like it did in the UK and elsewhere. Many people in Ireland lived off small areas of land and experienced poverty and hardship. Because of this many people in Ireland moved to the UK to get work.

Burning coal, oil and gas releases carbon dioxide into the environment.
## Climate Change Mystery Cards

<table>
<thead>
<tr>
<th>Card 1</th>
<th>Card 2</th>
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<tbody>
<tr>
<td>Around the earth is a layer of gases that acts like a blanket, trapping the heat radiating from Earth’s surface. Carbon dioxide is one the gases in this blanket. Giving off more carbon dioxide means making this blanket thicker. Scientists have found that this causes the earth to get hotter.</td>
<td>Ali lives in a village in Pakistan. His village has many green fields and a big ground where he used to play cricket. Ali goes to school in a nearby town with his cousins.</td>
</tr>
<tr>
<td>Ali lives with his grandmother, his three siblings and his mother. They grow wheat and vegetables. They also have one cow and some hens which give them milk and eggs.</td>
<td>When Ali’s village flooded, their crops were destroyed, their house was swept away and they had to stay in a safe camp high up a hill for three weeks.</td>
</tr>
<tr>
<td>Last year Ali’s village was flooded. The rains fell heavily and the river rose up very high. The floods destroyed the only road to Ali’s village, meaning that he could not get to school, hospital or the local market.</td>
<td>Eventually people in Ali’s village worked together to rebuild the road after it was destroyed by the floods.</td>
</tr>
<tr>
<td>Pakistan has a monsoon season when there is a lot of rain, and a dry season when there is much less rain.</td>
<td>As the earth gets hotter due to climate change, some of the ice caps on the mountains in Pakistan are melting and flowing down into Pakistan’s rivers.</td>
</tr>
<tr>
<td>On average, people in Pakistan burn a lot less fossil fuel and give off less carbon dioxide than people in Ireland.</td>
<td>As the earth gets hotter due to climate change, Pakistan is likely to have more serious droughts and floods.</td>
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</tbody>
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Agree and Disagree Signs
Disagree
Amos, Tharaka-Nithi County, Kenya

My name is Amos. I was born on the 6th of October 2004. My favourite game is football. My favourite football player is Diego Costa. I make my own football. I get papers and fold them together. I get string and tie them around the papers.


My family and I have a farm. I help my mother to farm. I like weeding. We used to grow lots of vegetables on our farm. We could eat these vegetables and sell any left over at the market to make money. Because of climate change, the rain has not come at the same time as it used to, so it is more difficult to grow our vegetables. My dad has had to move to a town far away to find work to earn money. I miss my dad very much when he is away.

I would like to be a traffic policeman when I grow up, to help people. I would like to help kids get to school.
My name is Mahlet. I am 13 years old. I live with my family in a small village in Northern Ethiopia. My sister’s name is Shewit and my brother’s name is Samuel. I enjoy school. My favourite subject is English. I want to be a doctor when I grow up.

My family grow vegetables on our land. We grow maize, sorghum, potatoes and tomatoes. We eat these vegetables and then sell some at the market to earn money. We use this money to buy more seeds, books for school and things for our house.

When my father was a young boy there was enough rain for the vegetables to grow. Now, because of climate change, there is not always enough rain for the crops to grow. My family and our neighbours are ready to farm, but the land is too dry. Together we are building an irrigation system. This is a long pipe that will bring water from a place far away. This will help the crops to grow.
My name is Ali. I am 11 years old. I live in a beautiful village with green fields and a big ground where I used to play cricket. I go to school in a nearby town with my cousins. I want to be a teacher when I grow up. I live with my grandmother, my three siblings and my mother. My mother grows wheat and vegetables. We also have one cow and some hens which give us milk and eggs.

In September 2014 heavy rains fell. The river water level rose up very high. One day there was an announcement in the local mosque that there was a flood warning. We were asked to leave our village. Everyone rushed to take their families, animals, some food and some belongings to the camp in a high, safe place.

The flood hit my village. My house was swept away. Our crops were destroyed. After 22 days in the camp we went back to our village. The only road to our village was destroyed, making it difficult to get to school, the hospital and the market. The people in my village worked together to fix the road. I am too young to work fixing the road, but I wanted to help. I started bringing drinking water to the men working on the road. I have also asked my cousins and friends to help.
Arianne, Leyte Island, the Philippines

My name is Arianne. I live in a house with my mother, father and younger brother. On the 8th of November 2013, Typhoon Haiyan hit our island. This was the strongest storm that ever hit the Philippines.

I remember hearing a loud noise and then a huge wave crashed down and destroyed many of the houses in my village. My house was destroyed. I went to the airport for shelter with my family. The airport was packed with other families. We got sick from drinking dirty water. After two days a ship brought us to a neighbouring island where we stayed until it was safe to return home.

Now we live in a new house. It is built on stilts, so that it can avoid being flooded in the future. It also has stronger walls to withstand strong winds. We feel much safer here but climate change is causing storms to get much worse and to happen much more often here.
My name is Rory and I am eight years old. I live with my Mummy, Daddy and six-year-old brother Eoin. We drive to school which is in a small village near Downpatrick, Co. Down. Downpatrick has been an important town since ancient times. Saint Patrick, the patron saint of Ireland, is buried here next to the cathedral. I don't live in a town or village but out in the countryside.

I like school and I really enjoy PE and music. I love Irish music and I play the fiddle for the local under-twelve Comhaltas group. I also play Gaelic football for my local team. Because it rains a lot in Ireland we often have to cancel training as it's too wet to play! Last spring the lane to our house got flooded as the river overflowed so we couldn't get in or out.

Most years we get some days off school because of heavy snow. Our country roads don't get gritted which means that they're often too dangerous to drive on in the snow. I don't mind though as I get off school and we can go sledding down the hill beside our house. It's great fun. We always build a snowman in the garden too. Last summer we went to Spain on our holidays as it's sunny and hot there. Sometimes I wish we had nicer weather here but Mummy says Ireland wouldn't be known as the Emerald Isle then.
Whose Problem?

Of the five people, who relates most to each of the statements? You can only put one name for each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Person</th>
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<tbody>
<tr>
<td>I am most affected by floods</td>
<td></td>
</tr>
<tr>
<td>I am most affected by drought</td>
<td></td>
</tr>
<tr>
<td>I am most affected if the price of food goes up</td>
<td></td>
</tr>
<tr>
<td>Things I do every day add to climate change</td>
<td></td>
</tr>
<tr>
<td>I would like to help stop climate change</td>
<td></td>
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</tbody>
</table>
Forwards and Backwards with Climate Change

Some people contribute more to climate change than others.
Some people are more vulnerable to climate change than others.

Thinking about your role...

First Set of Statements

Take a step forward if your person...

- Travels in a car.
- Flies abroad for a holiday.
- Has money to buy enough food for all your family.
- Has adapted your house because of climate change.
- Has adapted your farm because of climate change.
- Has a government that could help you adapt to climate change.

Second Set of Statements

Take a step backwards if the following relates to your person...

You rely on the food you grow to survive.

- As sea levels rise, flooding could affect your home.
- As sea levels rise, flooding could affect your ability to grow the food you eat.
- As sea levels rise, flooding could affect your family’s ability to earn money.
- As the temperature rises, you suffer from drought.
- If there is a drought, you might go hungry.
Funds for Fighting Climate Change

You are an organisation called Funds for Fighting Climate Change. You want to help stop climate change happening and you want to help people who are affected by climate change. You have got €100 million from all around the world to give to organisations working against climate change.

Twelve organisations have asked you for money to help their work fighting climate change and its impact. Look at the information from each organisation. You have to decide how much, if any, to give to each organisation.

Cut up the notes and share them out between the organisations depending on whose work you think is most important.
## Seed for Life
We are an organisation that develops crops which can grow in drier climates. We will provide these crops to people living in countries which suffer from drought.

## Be Safe Barriers
We make barriers which protect people and their homes from flooding. We can help protect people living in areas that flood as sea levels rise.

## Greener Energy
We build wind turbines and solar panels to get energy from these renewable sources instead of fossil fuels.

## Rebuild, Restart
We rebuild roads, bridges and buildings damaged by floods and storms in poorer countries.

## Food Relief Now
We provide instant relief to those people who are suffering from hunger as a result of droughts.

## Plant for All
We support people planting trees. These trees help protect the soil and help people grow more food.

## Educate and Unite
We help children learn about climate change. We also bring people together to work to stop climate change. Working together people can do more.

## Reduce, Revive
We work to stop people buying things they don’t need. This means fewer things are made, fewer things are wasted, less money is spent and less fossil fuel is burnt.

## Invent and Create
We help people invent machines which are better for the environment, from tractors to washing machines.

## Turn it off for Earth
We tell people to make sure they turn off lights and electrical devices when they are not using them and we encourage people to cycle instead of using their cars.

## Mooving away from Methane
We produce good vegetarian alternatives to meat products and encourage people to eat less meat so that less methane is emitted which causes climate change.

## Leading from the Top
We talk to governments about what they must do to stop climate change. Governments have the power to change laws on how energy is produced and on how much carbon dioxide we emit. We need action from governments to make a real difference to climate change.