

Tools for Solidarity

Learning about Climate Change: Causes and Impacts



Education for Sustainable Development Session 7

Materials required

- presentation 7 (available to download from TFS website)
- 'Climate Change Explained' video from Trocaire: <https://www.youtube.com/watch?v=Eowlsxo4HnE>
- picture cards for the definition game
- climate chain stories cards (adapted from 'Chain Reactions' which appeared in *The Sustainable Development Goals and Youth* by the National Youth Council of Ireland)

Session 7 Outline

Video – What is climate change?

In a moment we're going to watch a video about climate change. Does anyone think they know anything about climate change already? *Take a few answers.*

Listen out for answers to the following questions in the video:

1. What does climate mean? Do different places in the world have different climates? Any examples?
2. Which gas in the atmosphere creates a blanket around planet Earth?

<https://www.youtube.com/watch?v=Eowlsxo4HnE>

Pause the video at around 1.10 in order to listen to some answers to these initial questions.

Ok, now we have some more questions – listen out for the answers to these in the second part of the video:

3. What are the 3 fossil fuels? What do we use them for?
4. When we burn fossil fuels this releases more CO₂ into the atmosphere. CO₂ traps heat making the earth warmer. Why is it not a good thing if more and more CO₂ is added to the atmosphere? What extreme weather events does it lead to?



Definitions Game

Divide the class into 2 teams. This activity can either be carried out by lying the cards out on the floor or sticking them to the whiteboard with blu tack. In either case, the team who identifies the right card first, keeps it. At the end, whichever team has the most cards wins!

Listen out for your number (1 or 2). The numbers 1s should stand in a line on this side and the number 2s can go here so there is a gap between the 2 groups. Read out each card before placing it on the floor between the 2 groups (if you are using the board instead, one person should stick them up while the other is asking questions about the end of the climate video).

Don't worry if you're not sure what all of the words mean – we're going to learn the definitions together. I'll read a definition and the first 2 people have to try and find the right card. Put your hand on the card first to win the point. When the first hand is on the card the game is over – you can't snatch a card off the other player! The person who isn't reading the definitions should monitor the game carefully so they know who won the point. Your team can help you if you're not sure and you can only move when I say 'go'! When the first 2 children have had a turn, continue with the next pair in line.

transport – carbon dioxide is released into the atmosphere because we use petrol as a fuel to get around (petrol comes from oil)

* plastic – when we manufacture it carbon dioxide is released into the atmosphere. The material is made from oil and used for packaging.

* burning coal – powerplants do this to create electricity

* deforestation – to clear the way for farmland, mines and roads, we cut down a lot of trees

* fertilisers and pesticides – when manufactured or used these release greenhouse gases. They are chemicals sprayed on crops.

heating – we need this in our houses, schools and businesses to keep warm in winter

* methane – this is a greenhouse gas. When they burp, cows release it!

* food – transporting this releases carbon dioxide into the air. We often import it from other countries. It's one of the basic needs (not heating!).

factories – this is where our clothes, devices and many different products are made.

sea levels rise – this is caused by the polar ice caps melting

storm – a type of extreme weather event which climate change is making more frequent. This type of weather event occurs often in the UK and Ireland.

fossil fuel – there are 3 types of this – coal, oil and gas



blanket – the CO₂ in our atmosphere creates this around planet Earth.

fire - an effect of climate change. It spreads quickly and is difficult to control, especially after there has been hot weather and the trees are very dry.

* drought – a long period when there is little or no rain

* Before explaining the game it's a good idea to introduce or revise some of the cards which may be more challenging.

Climate Chain Stories: Causes and Effects

Now we're going to change the groups so listen out for your number again (1, 2, 3 or 4). Each group is going to get some cards which tell a story. The first and last cards (1 and 8) are numbered for you but you have to put the remaining cards in the right order. *Show sentences 1 and 8 on slide 3 as an example. Monitor the groups ensuring that everyone is getting a chance to read a card aloud.*

Let's hear each group's story. Reveal the answers on the presentation as they are read out by each group. They should be in the following order:

1. Maria goes by car to her local school in the morning.
2. The car burns petrol and releases carbon dioxide into the air.
3. The carbon dioxide forms a blanket in the atmosphere which traps the sun's rays.
4. The temperature in the atmosphere rises and affects the global weather.
5. Weather patterns change leading to an increased risk of hurricanes, floods and drought (particularly in developing countries).
6. The rains have failed in the Tigray region of Ethiopia.
7. Without rain the crops grown by Yusuf and his family wither.
8. Yusuf and his family have to queue for food aid.

1. Kevin leaves a lot of his electric devices on when he goes out.
2. The power plant burns more coal to produce the extra electricity, releasing more carbon dioxide into the air.
3. The carbon dioxide forms a blanket in the atmosphere which traps the sun's rays.
4. The temperature in the atmosphere rises and affects the global weather.
5. The rainfall is heavier and lasts longer over Bangladesh, leading to increased flooding.
6. The rising water forces Azra to seek refuge on the roof of her house.
7. The water becomes badly polluted.
8. Azra feels unwell because she has to drink the water and she cannot get to medicine or food.



1. Carol thinks reusing stuff and recycling is for idiots.
2. She gets loads of plastic bags when she goes shopping and buys products with lots of packaging.
3. The manufacture of plastic for bags and packaging releases carbon dioxide into the air.
4. The carbon dioxide forms a blanket in the atmosphere which traps the sun's rays.
5. The planet heats up and ocean temperatures rise which increases the risk of hurricanes.
6. In Florida, Emilio and his family have heard on the radio that another hurricane is on the way.
7. They gather up some possessions and flee inland before the hurricane destroys their home.
8. Emilio knows there will be more hurricanes in future but his family can't afford to live anywhere else.

At the end of each story, you may wish to go through some of the more challenging vocabulary (wither, food aid, refuge, polluted) and ask which continents the places mentioned are in.

Do you think our actions affect people in different parts of the world? Yes! Even though one person isn't responsible for causing an extreme weather event, we can see how lots of people doing the same actions or behaviours can really affect the climate and other people's lives.

The Most Vulnerable are Hit Hardest by the Climate Emergency

Do you think climate change is affecting all countries and people in the same way? Remember to give reasons and examples for your answer.

Unfortunately many people in the world who are already struggling to afford their basic needs are experiencing the worst effects of climate change. We'll speak more about this next week.

Recap

How is climate change caused? Which human activities are creating this change? What are the effects of climate change? What are greenhouse gases? Can you name any? What about fossil fuels? How are these linked to greenhouse gases?

We need to stop emitting greenhouse gases! How can we do this? What actions can we take? Is there anything you're already doing which could be a solution? Have a think and let us know next week!

Climate Chain Stories



Group 1

Maria goes by car to her local school in the morning.

1

The car burns petrol and releases carbon dioxide into the air.

The carbon dioxide forms a blanket in the atmosphere which traps the sun's rays.

The temperature in the atmosphere rises and affects the global weather.

Weather patterns change leading to an increased risk of hurricanes, floods and drought (particularly in developing countries).

The rains have failed in the Tigray region of Ethiopia.

Without rain the crops grown by Yusuf and his family wither.

Yusuf and his family have to queue for food aid.

8

Climate Chain Stories




Group 2

Kevin leaves a lot of his electrical devices on when he goes out.

1

The power plant burns more coal to produce the extra electricity, releasing more carbon dioxide into the air.



The carbon dioxide forms a blanket in the atmosphere which traps the sun's rays.

The temperature in the atmosphere rises and affects the global weather.

The rainfall is heavier and lasts longer over Bangladesh, leading to increased flooding.

The rising water forces Azra to seek refuge on the roof of her house.

The water becomes badly polluted.

Azra feels unwell because she has to drink the water and she cannot get to medicine or food.

8

Climate Chain Stories




Group 3

Carol thinks reusing stuff and recycling is for idiots.

1

She gets loads of plastic bags when she goes shopping and buys products with lots of packaging.



The manufacture of plastic for bags and packaging releases carbon dioxide into the air.

The carbon dioxide forms a blanket in the atmosphere which traps the sun's rays.

The planet heats up and ocean temperatures rise which increases the risk of hurricanes.

In Florida, Emilio and his family have heard on the radio that another hurricane is on the way.

They gather up some possessions and flee inland before the hurricane destroys their home.

Emilio knows there will be more hurricanes in future but his family can't afford to live anywhere else.

8

Picture cards for the definition game

transport



Image taken from *Google Images*.

plastic



Image taken from *Google Images*.

burning coal



Image taken from *Google Images*.

deforestation



Image taken from *Google Images*.

fertilisers and pesticides



Image taken from *Google Images*.

heating

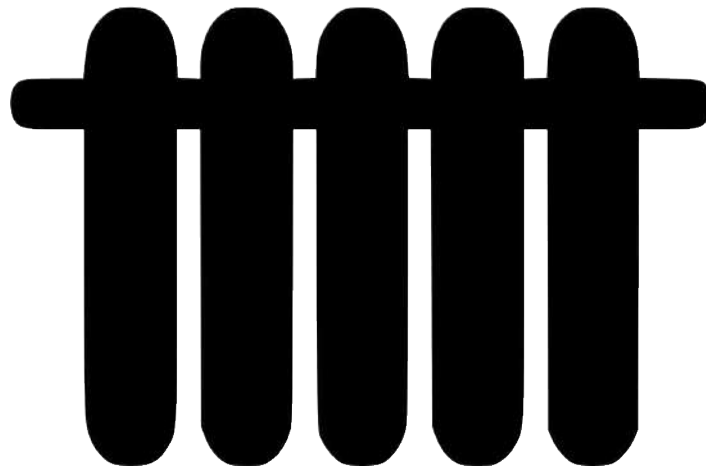
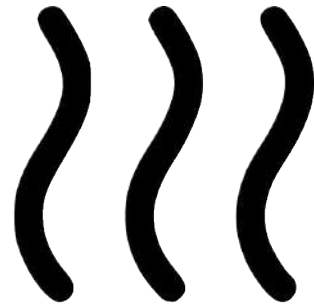


Image taken from *Google Images*.

methane

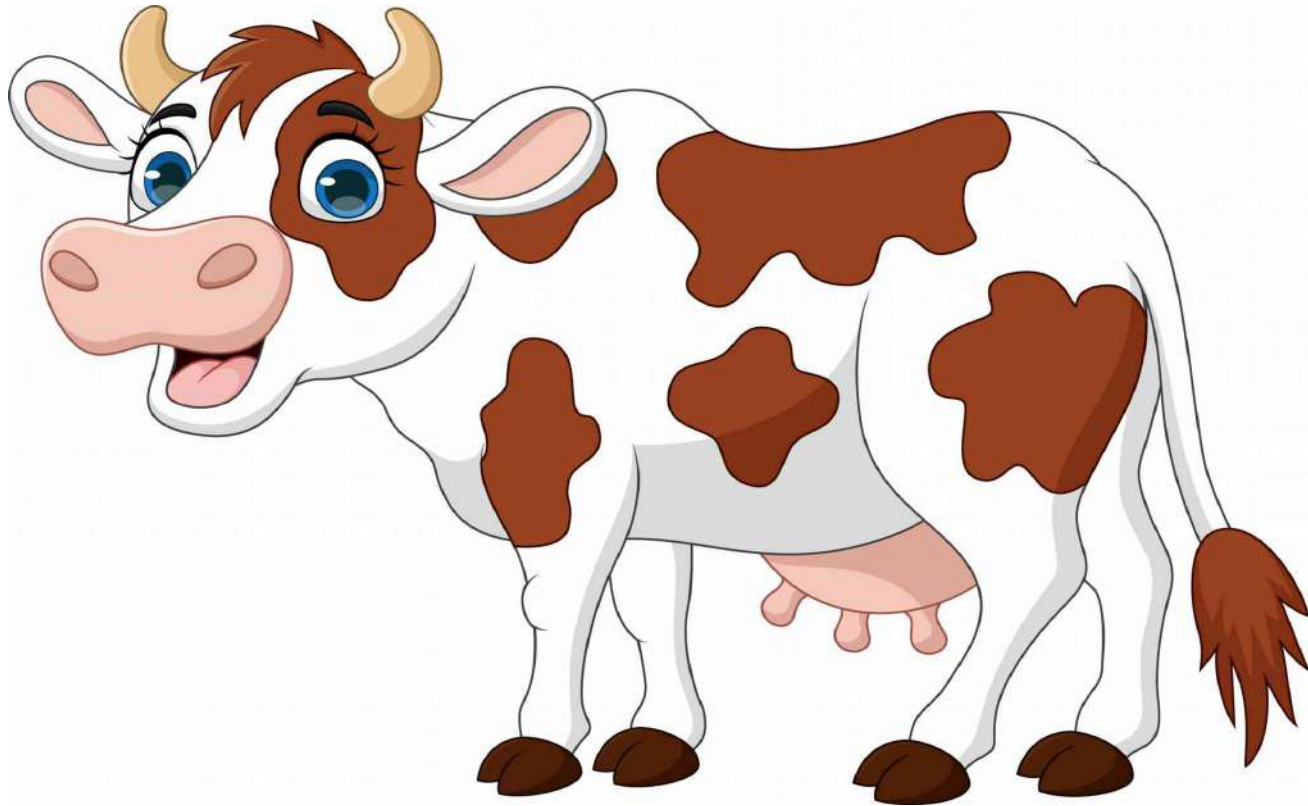


Image taken from *Google Images*.

food



Image taken from *Google Images*.

factories



Image taken from *Google Images*.

sea levels

rise



Image taken from *Google Images*.

storm



Image taken from *Google Images*.

fossil fuel



Image taken from *Google Images*.

blanket



Image taken from *Google Images*.

fire



Image taken from *Google Images*.

drought



Image taken from *Google Images*.