

BBC Bitesize: Change Champs

# How Does Transport Affect the World?



# About this video



BBC BITESIZE: CHANGE CHAMPS

## How Does Transport Affect the World?

Sloane, Emihle and Thapelo meet science teacher Lisa, who sets them challenges to explore which modes of transport are the most planet-friendly and how best to fuel them.

### Essential question:

How do different forms of transport affect our environment?

### Key vocabulary:

pollution

environment

greenhouse gases

renewable sources

energy

fossil fuels

### Learning intention:

Learn about different types of transport, the energy they use, and their impact on the environment.

# Before watching

## Activating prior knowledge: Two minute talks

- Group students into pairs.
- Tell them that each person in the pair will have 2 minutes to talk about the different forms of transport they have used in the last week and the energy that these forms of transport use.
- They select who from their pair goes first by asking the following question “Whose birthday is next?” Then tell them that “that person goes second!”
- Use a stopwatch or timer to tell the students when to begin talking.
- At two minutes, instruct the students to switch so that the other partner begins talking. It is okay for the second person to repeat some of the things the first person said. However, they are encouraged to try and think of new information to share.
- Once the second lot of 2 minutes is up, ask a few groups to share some of their responses with the whole class.

## Literacy connection

Incorporate literacy with the video by introducing the following vocabulary. Students should self-assess themselves on their prior knowledge of each word, and provide a predicted meaning as well.

Word	Self-Assessment Score	Predicted Meaning
pollution	1   2   3   4	
energy	1   2   3   4	
environment	1   2   3   4	
fossil fuels	1   2   3   4	
<b><u>Self-Assessment Score Scale</u></b> 1: I have never seen this word before 2: I have heard of this word, but I don't know what it means 3: I know what this word means 4: I know what the word means, and could give an example		

# After watching

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Below are activities to extend the learning from the video and to check for understanding.

## Activity 1: Literacy connection

Ask students to choose one of the vocabulary words that they were introduced to before the video. They are to use that word to complete the chart below, based on what they learned from the video.

<b>Chosen word</b>		<b>Definition of the word</b>	
<b>Real-life connection</b>		<b>Use the word in a sentence</b>	
<b>Picture</b>			

## Activity 2: Transport and energy

Explain to the students that they will be put into six different groups and each group will be given a different form of transport to research. They need to find out as much as they can because they will be teaching others in the class about it.

The six forms of transport are:

- Car
- Bus
- Train
- Aeroplane
- Bicycle
- On foot/walking

Each group should have access to books, printouts, or ICT resources to carry out their research. They need to present their research somehow to share with the other students and can choose from an information leaflet, a PowerPoint, Keynote or Google Slides Presentation, or an illustrated handout.

The students' work needs to include as many of the following success criteria as they can:

- The name of their type of transport
- The type of fuel their transport uses
- Information on the resources used to create their form of transport
- Information about any pollution that their form of transport makes
- Their own ideas about any advantages or disadvantages of their form of transport
- One other interesting and relevant fact



### Support:

Students could be given a template to record their information on, with sub-headings to help them organise and complete their research. They may also need a word mat with key vocabulary.



### Extension:

Imagine that in 5 years' time, your country's government were to introduce a ban on using any fossil fuels to power or create forms of transport. Write or draw a picture to show how you think people would travel distances of more than 50 miles or kilometres.

### Activity 3: Diamond 6 – Which is better for the environment?

This activity is a variation of the “Diamond 9” activity. Before the activity, you will need to prepare a set of 6 cards for each group. Each card in the set will have a different word and/or image on it. The six words are:

- Car
- Bus
- Train
- Aeroplane
- Bicycle
- On foot/walking

Explain to students that they need to discuss and prioritise which type of transport is best for the environment. They will be put into groups of 3 or 4 and each group will be issued with a set of 6 cards.

- The students have to read out or describe what is on each of the cards and then think about the impact that form of transport has on the environment.
- They then arrange the cards in 4 rows with one on the top row, two on each of the next two rows, and then one at the bottom. The one on the top row will be the one that they think is best for the environment and the one on the bottom row is the one they think is worst for the environment. The others will be somewhere in between.
- There is no right or wrong answer as such, instead, students are encouraged to reach a consensus in their group before sharing and justifying their choices with the rest of the class.



#### Support:

Students could be provided with the following “think cards” as prompts for their memories.

- Which forms of transport are powered by fossil fuels?
- Which forms of transport create greenhouse gases?
- Which forms of transport need a lot of resources to create them?



#### Extension:

Thinking about the activity you have just done, how might your answers be different for different journeys, e.g. transporting milk from a farm to a dairy or supermarket. Create any new cards you might need and arrange these in priority order. Be prepared to explain your choices.

## Conclusion

Ask students to respond to the essential question posed at the beginning of the lesson.

**How do different forms of transport affect our environment?**

Ask if they still have any questions about the content presented in the video. Discuss and answer these questions as a class.