

Transport -unequal movement-

Literacy

Accelerating global warming

Transport is responsible for pumping out millions of tonnes of carbon dioxide (CO₂) into the atmosphere. CO₂ is the main 'greenhouse gas' scientists say is responsible for global warming and climate change.

Global warming is happening

Scientific processes and weather records provide clues as to what is happening. Since the beginning of the industrial revolution 200 years ago the use of fossil fuels - namely coal and oil - has increased rapidly. The result is that concentrations of CO₂ in the atmosphere have risen by a third. CO₂ forms a 'blanket' around the planet, trapping heat reflected from the earth's surface. The greater the quantity of CO₂, the thicker the blanket and the more heat that is trapped.

Temperatures are rising more quickly than they have at any time in the last 10,000 years: 2000 to 2010 was the warmest decade on record and 2012 is set to be the hottest year since temperature records began. Sea levels have risen by between 10 and 25 cm in the last 100 years due to sea water volume increases and melting polar ice caps. Summer Arctic sea ice melt, which reached new records during the summer of 2012, is evidence of a warming planet. Scientists say that we need to limit global temperature rise to 2°C to prevent serious social, economic and environmental problems in the next 50 years but warn we are running out of time to ensure this limit is met.

So what has it all got to do with transport?

Motor vehicles are the fastest growing source of CO₂ emissions in the UK today. There are now 30 million cars on the roads in the UK,; one car for every two people. This compares with one car for every 200 people in Sudan. While many people in the South, particularly women and children, walk miles each day, often carrying great loads of wood or water, half of all UK journeys under two miles are made by car. These journeys would be ideal for walking and cycling.

Since the 1970s the proportion of children walking to school has declined from one in three to one in nine. As traffic gets worse parents are more worried about letting their children go to school on their own due to fears over safety and are more likely to take them in the car, perpetuating a vicious circle.

Increases in car dependency have had a detrimental effect on children's physical and emotional health. Pollution from traffic aggravates asthma, and levels of obesity in children are on the rise. Traffic filled streets deny children valuable opportunities for outdoor play and social interaction. Just five countries/regions of the world (China, USA, Europe, India and Russia) account for two-thirds of CO₂ emissions. Yet the poorer countries of the South who have much lower emissions are most at risk from global warming and climate change. Poverty makes people more vulnerable to natural changes as they don't have the resources to adapt. They are also less able to deal with natural disasters - 96% of all deaths from natural disasters happen in the countries of the South.

Understanding the link between our transport choices and decisions in the UK and global warming and climate change is essential in facing up to our responsibility towards the majority of people who live in the countries of the South.

Car adverts: tell it like it is	Literacy Transport	
A literacy activity encouraging children to think critically about advertisements	45 mins	Year 3 and 4

Suggested lesson structure

Our TV screens, radios, newspapers, magazines and the internet are saturated with car advertisements. Vast sums of money are spent on promoting the car compared to other forms of transport such as public transport or cycling. This activity aims to alert children to the exaggerated claims and false impressions given by car advertisements. Before this activity it would be useful if children cut out car adverts from magazines and newspapers or found some on the internet and wrote down images and slogans used.

Reading comprehension

Children should begin by considering the main 'selling points' used in car advertisements. Examples the children have collected should be shared with the whole class. Children should consider how the adverts present information, how they make an impact and the devices they use for grabbing attention. The selling points are likely to relate to factors such as speed, freedom, pleasure, pride, status, independence and security.

Using the list of factors raised, children can begin to question the honesty and accuracy of the adverts considering any exaggerated claims. They should then consider some of the negative aspects of cars, based on their own experience or from secondary sources. This could be done by asking them to think of a rebuttal to each positive point presented in the adverts. Examples should be written up and displayed to provide information for the writing task. Examples might include: speed - exciting but it poses great dangers to pedestrians, cyclists and wildlife and has the potential to kill or seriously injure; freedom - but only to those able to afford a car, whereas greater investment in improving public transport could provide freedom of movement for everyone in a community.

Writing activity

The children should use what they have worked on as a basis for writing a script for a 1 minute radio advertisement for Friends of the Earth (FOE). The first section, examining slogans used by FOE, could be considered as a whole class, or by groups who feedback their thoughts before progressing onto the writing activity. The advert should identify some of the negative aspects of cars. More able children may be able to plan a spoof advert (see box below). Adverts could highlight:

- reduced levels of fitness caused by increased reliance on the car
- dangers to our streets posed by traffic, particularly for children
- the thousands of deaths and injuries on the roads each year
- traffic congestion particularly in and around towns and cities,
- air pollution and the way this aggravates asthma
- the release of carbon dioxide from cars which contributes to climate change
- reduced investment in public transport caused by increasing reliance on cars which effects those most dependent on it, particularly the young and the old
- 'road rage' caused by the frustration of congestion

Example of short spoof advert

The new *Egoer* can reach a top speed of 108mph, not that you will ever be allowed to do that kind of speed because the top legal speed in the UK is 70pmh. It can do 0-60 mph in just 6 seconds, though with all the traffic jams caused by thousands of other cars we have sold, you'll be lucky to reach 25 mph. But if you do manage to reach up to 40mph you will kill anyone who stands in your way.

Sit back and relax in our luxurious interior for a stress-free journey – at least until your next attack of road rage. While you drive, free your mind of the global warming you are causing and the gases and chemicals you are spewing into the air worsening people's health. Enjoy the open road – if you can find one. But never fear! A new road will be on its way soon – cutting through a field or forest, speeding you along...to join the next traffic jam.

Car adverts: the other side of the story

Car adverts love to use slogans that people will remember. What slogans have you heard or seen for car adverts? Write some of these down.

Here are some slogans that Friends of the Earth have used to try and put across the other side of the story.

- 🔊 **Cars are a real choke!**
- 🔊 **The car is going nowhere!**
- 🔊 **Cars cost the earth!**

- Discuss each slogan thinking about why Friends of the Earth has chosen it.

- Can you think of any other catchy slogans for a Friends of the Earth advert which aims to tell people about the problems and dangers of cars?

NOW plan a **1 minute radio advert** for Friends of the Earth. The advert should:

- 🔊 **Tell people some of the problems cars cause**
- 🔊 **Choose information that you think will make people listen**
- 🔊 **Have one or more catchy phrase or slogan that people will easily remember**
- 🔊 **Give people ideas on how they can use other types of transport that are safer, more healthy and better for the environment**

You only have a minute! So get the message right!

Here are some facts that may help you plan your advert...

- 4000 people are killed and many more thousands are injured on roads every year.
- Every 50 minutes a new car is made that will eventually kill someone.
- People sitting in a car in a traffic jam will breathe in three times more poisonous fumes than people walking or cycling outside the car.
- One in three car journeys are 1 km or less and 7 out of every 10 primary children who travel to school by car live just one to three km away from their school. These journeys could easily be walked, improving fitness and reducing traffic jams.
- Travelling across London by car takes as long now as it did 100 years ago: cars travel at the same speed as horses and carriages used to - just 12 km an hour!

Follow up work

It would be good if children can have the opportunity to present their one minute adverts. They could also record their messages considering such issues as pace, expression, emphasis of important points etc and these could be played back to an audience who could critically appraise them on how convincing or persuasive they were.

	Knowledge and Understanding		Skills		Values and Attitudes
<input type="checkbox"/>	Social justice and equity	<input checked="" type="checkbox"/>	Critical thinking	<input type="checkbox"/>	Sense of identity and self-esteem
<input type="checkbox"/>	Diversity	<input checked="" type="checkbox"/>	Ability to argue effectively	<input type="checkbox"/>	Empathy and sense of common humanity
<input type="checkbox"/>	Globalisation and Interdependence	<input type="checkbox"/>	Ability to challenge injustice & inequalities	<input type="checkbox"/>	Commitment to social justice and equity
<input checked="" type="checkbox"/>	Sustainable development	<input checked="" type="checkbox"/>	Respect for people and things	<input type="checkbox"/>	Valuing and respecting diversity
<input type="checkbox"/>	Peace and conflict	<input type="checkbox"/>	Co-operation and conflict resolution	<input checked="" type="checkbox"/>	Concern for the environment and commitment to sustainable development
				<input checked="" type="checkbox"/>	Belief that people can make a difference

Transport: problems, consequences and solutions	Literacy Transport	
A literacy activity encouraging children to reflect on current problems and envision a more sustainable future	45 mins	Year 5 and 6

Suggested lesson structure

This activity helps children to be aware that transport problems are global in nature and can be experienced in all parts of the world. They use a critical and structured approach to consider transport problems and solutions in their own community.

Reading comprehension

The text reveals some of the changes that have occurred in Cairo, particularly in relation to transport, and the consequences for people and the city environment. Children should consider what ideas and issues are presented in the passage and how one factor impacts on another and the consequences of particular changes.

Children should consider the changes and consequences mentioned by Rabbab’s grandmother and discuss which information from the passage is most significant and how the information could be grouped. An example might be to note/list the changes in four columns or boxes: changes she regrets, changes she welcomes, changes which she suggests have had both good and bad effects and things that have not changed – for example the markets still being full of life and people being willing to help each other out.

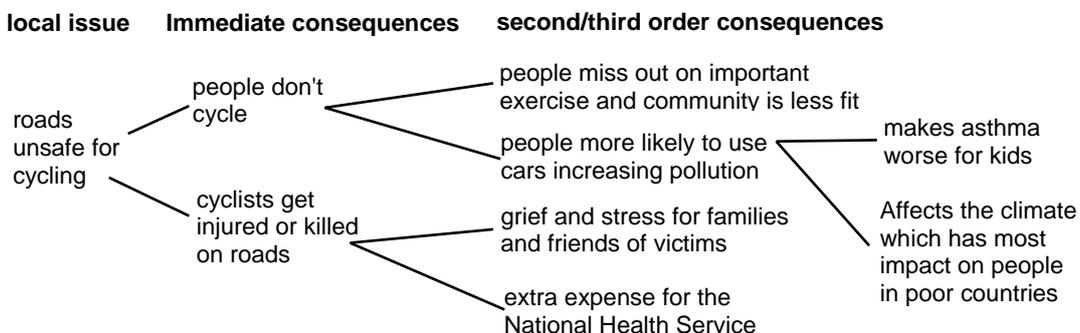
Group or independent writing task

Pupils should move on to consider the implications and consequences of a transport problem in their own community. They could use a form of note taking to develop arguments effectively and present a case. The process known as ‘mind mapping’ could be used which helps children to develop critical thinking skills and may be used in a number of different situations. The process can involve first, second and even third order consequences of a problem (see example below), Pupils could also consider the implications of a solution to a transport problem. This process encourages children to think critically, enabling them to make links between different issues and consider the wider implications of particular issues and decisions.

Follow-up work

The notes made in the form of mind maps could be used as a basis for writing a well thought through feature article on a local transport issue. It could also be used for helping connect points together to form an effective argument for a debate or presentation to the class or a group.

Example of mind mapping to consider a local transport problem



Rationale for mind mapping activity

This form of note taking is based on ideas from Mathew Boyle’s *‘The Learning File’* (University of Strathclyde 1997) which provides ideas for teaching young people to think about how they learn most effectively. Mathew Boyle describes mind mapping as “a powerful technique...of enormous value in schools as a note taking method.” It can “aid creativity, understanding, retention and give new insights to problems.”

The Changing City

The following passage is based on an interview with Rabbab's grandmother who is thinking back over some of the changes she has seen in Cairo, Egypt, where she has lived for many years

"Of course it's all cars, buses, and lorries now. But when I was younger, things were quite different. If you look out of my window at the building opposite, the one next to the mosque, you can see carvings of horses' heads on the wall. It's a museum now. But, before 1952, when there was a King of Egypt, that building was a royal stable. There were some cars, but most people used to walk, or cycle, or they travelled on donkeys or donkey-pulled carts - you can still see them sometimes in the markets and the old city. Some even had carriages pulled by horses. It all depended on how rich you were. I mean, they weren't for working families like us.

There were trams too, as there were in London. They were handy, and cheap. But of course the traffic grew, till five years ago things had to make way for a new bridge and flyover. They say it's progress - so long as you don't have to live with the noise and the fumes, that is.

But we're lucky in many ways, Allah be praised.

As Rabbab will tell you, the markets are full of life, and the Bulaq people are always keen to help each other out. You can see some beautiful city centre buildings from here - like the TV Centre and the Foreign Office. Mind you, with 26th July Street in the way, they could be in another world sometimes.

One thing I must mention, looking back. Before they built the new bridge, people used an old low one. You can still see it if you look. Abu Al'Elar, it's called. It was supposed to open in the same way as Tower Bridge in London. But unfortunately, it was too heavy to open! The bigger cargo boats could not get under the bridge. That meant more trade for Bulaq, as they had no choice but to unload here. It wasn't a very clever design, especially when you consider who built it. Heard of the Eiffel Tower in Paris? It was the same man, Gustav Eiffel.

Well, anyone can make a mistake, I suppose!"

From Cairo: Four Children and their City - Oxfam 1994

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				<input checked="" type="checkbox"/>	Belief that people can make a difference

Other activities on transport: The *What a Lot Of Hot Air Quiz!*

A quiz to help you learn more about global warming. Decide which of the following statements are TRUE and which are FALSE.

- Oil was formed millions of years ago from tiny sea creatures buried under sand and then rocks.
- Eventually all the world's oil will be used up.
- We will always need oil to provide our energy.
- Petrol, some plastics, make up and paint are made from oil.
- A litre of petrol is more expensive than a litre of beer.
- Global warming means our weather will get better.
- We need to get rid of all carbon dioxide from the air.
- Burning oil, coal, gas and petrol produces carbon dioxide gas.
- The earth is getting hotter because carbon dioxide gas in the air is trapping the heat of the sun.
- Cars only run on petrol.
- Governments are not interested in stopping global warming.
- There is nothing I can do about global warming.

Supplied by Leeds DEC and based on a quiz in *Global Express* produced by Manchester DEP

The *What a Lot Of Hot Air Quiz* Teachers notes

The above quiz can be tackled individually, in pairs or in small groups. The Quiz may provide the starting point for questions or discussion and prompt students to undertake further research. The correct answers are:

1. TRUE
2. TRUE, though new reserves are constantly being found and exploited. The drilling for oil often takes place in environmentally sensitive areas and can cause massive disruption to local communities.
3. FALSE. There are a wide range of alternative fuel sources, from solar, wind and wave power to fuel cell technology for cars. Solar energy has enormous potential - the sun can produce about 1000 times more energy than the earth currently uses.
4. TRUE
5. FALSE. On the whole, beer is more expensive per litre than petrol, though there are exceptions. Pupils could compare the costs of a litre of petrol with other liquids, e.g. lemonade, orange juice, milk, bottled water etc.
6. FALSE. The fact that the UK is likely to get warmer as a result of global warming is not necessarily a good thing - it may lead to more floods and/or droughts; other countries, particularly those of the South, may be particularly adversely affected by climate change.
7. FALSE. We need a certain amount of CO₂ in the air to 'regulate' the climate: without the 'Greenhouse Effect' the earth would be too cold for life.
8. TRUE
9. TRUE. Otherwise known as the 'Greenhouse Effect'.
10. FALSE. Various alternative fuels can be used - ethanol based on sugar cane juice, vegetable oil derivatives and hydrogen.
11. FALSE. Nearly all the governments of the world have agreed and signed up to Carbon reduction targets.
12. FALSE. There are many ways in which we individually can take action to reduce CO₂ emissions from walking or cycling rather than going by car to turning off lights not in use and using low energy light bulbs.

Opinions on transport

Transport is a controversial issue with many contradicting demands. While many people agree they want less congestion and air pollution and want to feel safe walking and cycling in the streets they also want cheaper petrol and resent parking restrictions. This activity examines the wide range of views on transport and particularly the divergent views on the car. It provides a chance for children to present a point of view in writing, e.g. in the form of a letter, a report or a script, linking points persuasively and selecting style and vocabulary appropriate to the reader.

Using the selection of quotes below children in groups decide who might have said the statements and develop reasoned arguments for and against the points of view which they represent. They could present this in the form of a short presentation to others in the class or as a written report.

-  *"Cars should be banned from the town centre."*
-  *"Cycling is too dangerous and shouldn't be allowed."*
-  *"Everyone who lives within a mile of their work or school should walk there."*
-  *"I have to dress very smartly in my line of business so I like to arrive at work looking absolutely perfect. I couldn't turn up to work on a bicycle!"*
-  *"I have to work late some evenings and feel much safer coming home in my car after dark."*
-  *"70 people can fit on my Double Decker bus instead of taking up about 200 metres of road space in their cars."*
-  *"The bus is always so crowded. At least I get a bit of peace in my car and I can listen to my music"*
-  *"Cars are a nightmare! They belch out poisonous fumes and clog up our streets: they are suffocating our cities."*

Based on an activity in the Green Transport pack

Taking action on transport!

Children can be encouraged to:

- Lobby the School Council, Head Teacher and teachers to set up a walking bus. This is a bus with legs rather than wheels! A walking bus is a line of children, walking in pairs to school along a certain route with an adult driver at the front and 'conductor' at the back. (See Year 3/4 Transport Numeracy leaflet for details)
- Lobby the Head teacher and others in the school community to set up a School Travel Plan which clearly identifies how car journeys to and from school by teachers and parents alike are to be reduced
- Nag their parents to walk, cycle or use public transport instead of the car, especially for short journeys!