



### Activity 6.1 – Transport and the environment



1 Read the information below and answer the questions.

#### What is air pollution?

Air pollution occurs when harmful gases, smoke, dust and odours get into the air, making it dirty and unhealthy to breathe.

1. Name four types of air pollution

- 1. ....
- 2. ....
- 3. ....
- 4. ....

#### Where does air pollution come from?

Some air pollution comes from natural sources such as volcanic eruptions, dust storms and wildfires. However, most of the world’s air pollution is caused by human activities that involve burning fossil fuels such as coal, oil and natural gas. These are mainly used to fuel transport, factories and power stations (places where electricity is made). When we burn fossil fuels, carbon dioxide (CO<sub>2</sub>) and other harmful gases are released into the air.

2. Name three natural sources of air pollution

- 1. ....
- 2. ....
- 3. ....

3. Coal, oil and natural gas are commonly called .....

4. What is released by burning fossil fuels? .....



### **Transport and air pollution**

Transport (mainly road and air) produces a quarter of global carbon dioxide emissions and is the biggest single air polluter. Most forms of transport, including cars, burn petrol or diesel, made from fossil fuels, to power their engines and make them move. When burned in an engine, petrol and diesel create air pollution. A range of toxic carbons and other poisonous gases are released from the vehicle's exhaust pipe into the air around it. These exhaust emissions are harmful to humans and to the environment. In some cities around the world where there is a lot of traffic, the air pollution is so bad that it is difficult to see through it and it is even difficult to breathe!

5. What powers most car engines and is made from a fossil fuel?

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6. Cars that use petrol and diesel release toxic carbons and other harmful gases. Which part of the car releases these gases?

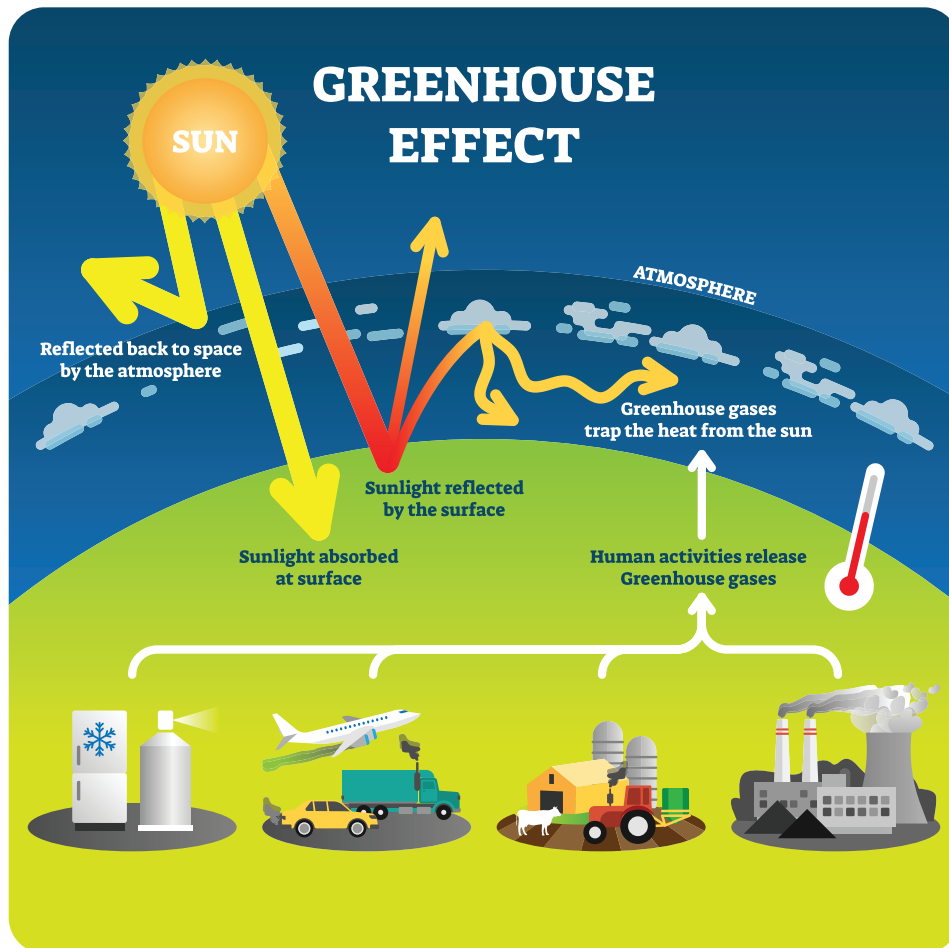
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### **How does pollution from transport affect global warming?**

Some gases in the air make our planet warmer. This happens because of the greenhouse effect. A few types of gas, called greenhouse gases, cause this effect by trapping heat from the sun close to the Earth. Carbon dioxide (also known by its chemical symbol CO<sub>2</sub>) is the most important greenhouse gas.

They are called greenhouse gases because like in an actual greenhouse, the glass lets in sunlight, warming up the inside. The glass then stops most of the heat escaping, keeping the inside warm so plants can grow better. The same thing happens to Earth where the greenhouse gases act like glass in a greenhouse. They trap the heat in the Earth's atmosphere so it can't escape, making it a planet where people, plants and animals can live comfortably. Without this effect, Earth would be covered in ice and be a chilly -18°C!

The problem is that burning too many fossil fuels is causing greenhouse gas levels to rise too quickly. Exhaust emissions from vehicles are releasing too much carbon dioxide and other greenhouse gases into the atmosphere, trapping the heat and causing a rise in global temperature. This global warming affects the environment in many ways. It causes extreme weather such as heat waves and tropical storms. It also creates rising sea levels by melting glaciers and polar ice. Some places around the world will get more rain and floods, while other places will have less rain and droughts. This will affect animal and plant life, farming and our food chain.



7. What acts like glass in a greenhouse and helps keep the planet warm?

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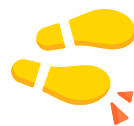
8. Burning fossil fuels is causing the amount of greenhouse gases to increase too rapidly causing a rise in global temperature.

This is called .....

9. Global warming is causing higher temperatures around the planet. List four other problems that result from global warming.

1. .... 2. ....

3. .... 4. ....



**What can we do to reduce air pollution and slow down global warming?**

We don't have any control over the pollution caused by natural sources, but we DO have control over the human activities that create most of the world's air pollution. There is a lot we can do.

We can talk to our friends and whānau about the problems caused by burning fossil fuels for transport and how the active travel choices we all make can help the planet. Walking, cycling, scootering, or choosing public transport such as buses, trains, trams and ferries, or carpooling when it is too far to walk or cycle, are the best choices to make.

Be kind to our planet and plant a tree! Did you know that trees absorb about 25% of the carbon dioxide produced in the world by the burning of fossil fuels?

Also, switching off lights and electrical appliances when not in use also uses less fossil fuels.

Little by little, step by step we will start to see the difference and Planet Earth will go on being a happy, healthy place to live in.

10. Trees are important for our environment because they absorb which greenhouse gas?

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11. List four things you could do to reduce air pollution and slow down global warming.

1. .... 2. ....

3. .... 4. ....

