



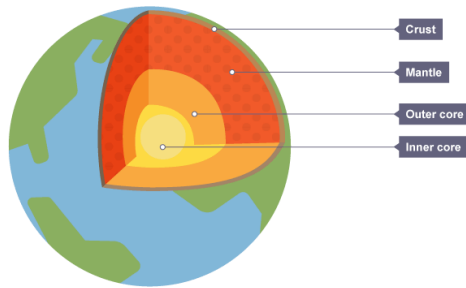
# Our Impact on Earth



## The Earth & Atmosphere

The Earth is surrounded by a layer of gas called the atmosphere. The atmosphere is:

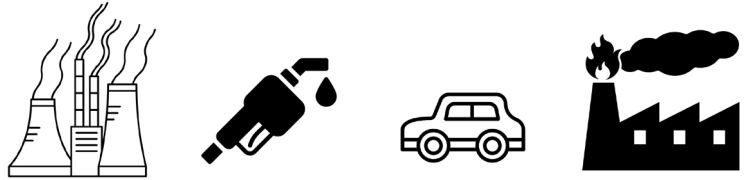
- Approximately 80% nitrogen
- Approximately 20% oxygen
- Approximately 0.04% carbon dioxide



## Burning Fuels

Combustion reactions are very common. They burn fuels to release energy.

For example, cars burning petrol. However, this releases carbon dioxide which is a greenhouse gas.



## Mining

Resources such as metal ores, fossil fuels or gems like diamonds need to be extracted from the earth's crust.

Mining has an environmental impact on the area around the mine leading to a destruction in habitats.

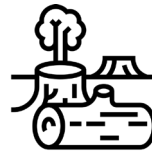


## Deforestation

Forests are cut down to make space for farms and wood.

Trees absorb CO<sub>2</sub>. So if there are less trees, there is less CO<sub>2</sub> absorbed.

Cutting down forests also destroys habitats and leads to more flooding.



## Air Pollution

Sometimes fuels which are burnt are impure. This leads to different gases getting into the air which are harmful.

*Harmful gases:*  
 NO<sub>2</sub> – Respiratory problems  
 SO<sub>2</sub> – Acid Rain  
 CO – Toxic



## The Plastic Problem

Plastic pollution is one of the main environmental problems we face. Plastic takes a long time to break down, due to littering and landfill it is found everywhere.

We should reduce our dependence on plastic and try to find alternatives to improve our environments.



## Recycling

Most of the materials we use are finite. This means they will run out eventually. For example, metals from can drinking cans or your smartphones.

Used metals should be recycled and reused so that we don't need to extract them from Earth.

Recycling also uses much less energy than extracting resources from the Earth and doesn't involve habitat destruction, that is why recycling technology is so important.



## Carbon Footprint

This is a measure of how much CO<sub>2</sub> you release to the atmosphere.

You can reduce your carbon footprint by:

- Walking more
- Recycling
- Not leaving electronics on standby



## Conservation of Ecosystems

Healthy ecosystems need to have stable populations of organisms. Scientists have the following methods to help maintain ecosystems:

- Breeding programmes in zoos
- Reduce climate change
- Scientific research
- Government laws
- Nature preserves
- Seed banks





# CORE Questions



The following are core questions for this topic. Cover the answer section with a sheet of paper and try and quiz yourself. Only try learning 5 at a time, once you know them move on.

1	Approximately what percentage of the air is nitrogen?	80%
2	Approximately what percentage of the air is oxygen?	20%
3	Which gas makes up approximately 0.04% of the atmosphere?	Carbon Dioxide
4	Which gas released by combustion is a greenhouse gas?	Carbon Dioxide
5	Complete the word equation Fuel + Oxygen ->	Carbon Dioxide + Water
6	Give two examples of resources which need to be mined.	Any from metal ores, diamonds, fossil fuels
7	Give two environmental impacts of deforestation.	Destroys habitats, more floods, less CO <sub>2</sub> absorbed
8	How do forests remove greenhouse gases?	They absorb CO <sub>2</sub> from the atmosphere to do photosynthesis
9	Nitrous oxides are harmful gases. Suggest a problem caused by NO <sub>2</sub>	Respiratory problems
10	Sulphur dioxide is a harm gas. Suggest a problem caused by SO <sub>2</sub>	Acid Rain
11	Why is carbon monoxide (CO) a dangerous gas?	It is posionous (it can suffocate you)
12	Why is plastic a problem when people leave it in landfills or litter?	It takes a long time to break down
13	Why should metals be recycled?	They are finite (eventually run out)
14	Give two benefits of recycling.	No habitat destruction from mining, uses less energy
15	What is meant by carbon footprint?	A measure of how much CO you produce based on your activities
16	Suggest two things you can do to reduce your carbon footprint.	Walk more, recycle, don't leave electronics on standbye
17	Give two ways scientists can maintain stable ecosystems.	Breeding programes, seed banks, nature preserves