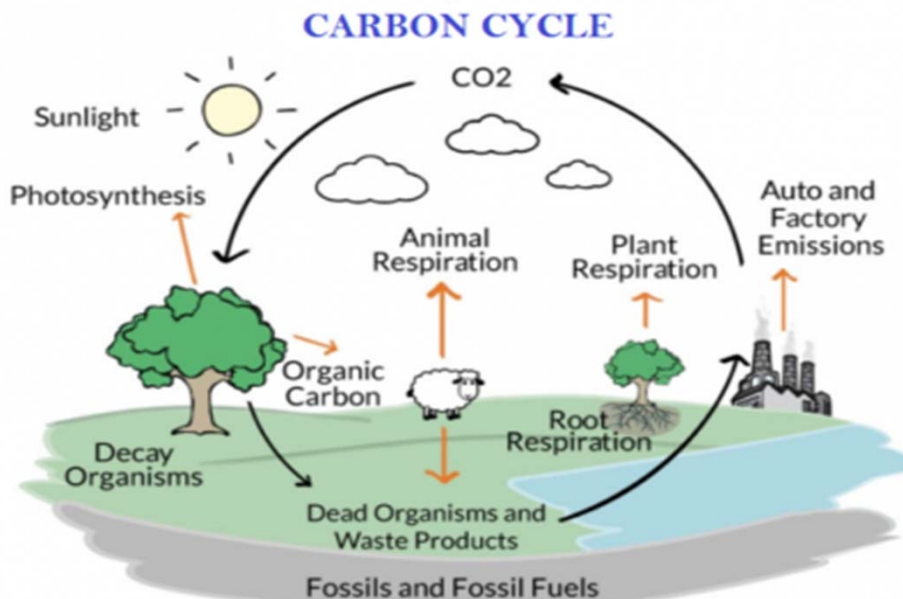


Y8 - Knowledge organiser – 8.2 – Climate & Earth Resources

The carbon cycle 1



The Greenhouse effect 2

- Reduces the amount of heat energy lost from the Earth as **radiation**.
- **Greenhouse gases:** **methane, carbon dioxide** contribute to global warming
- Is the gradual increase in the surface temperature of Earth.
- **Carbon sink:** areas of vegetation/ the ocean/ the soils which absorb and store carbon.

Global warming 3

- **Combustion** of fuels releases carbon dioxide into the atmosphere.
- **Fossil fuels** (remains of dead organisms) contain lots of carbon that is converted to carbon dioxide.
- Humans are burning more and more fuels in cars and factories.

Natural resources 4

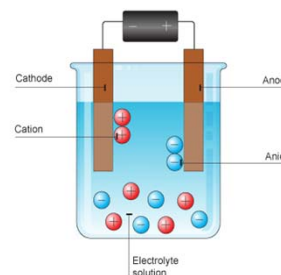
- They are materials from the Earth acting as raw materials.
- There is only a certain quantity of these **resources** on Earth.
- The faster resources are used, the sooner it runs out.
- **Ore:** naturally occurring rock containing enough **minerals** to extract.

Extraction - displacement 5

- **Extraction:** separation of a metals from a metal compound.
- **Used to separate metals less reactive than carbon.**
- Metal compound is heated with carbon, leaving metal element behind.

Extraction - electrolysis 6

- **Electrolysis** is used – splits the metal element from the ore using electricity.
- Separate metals **more reactive than carbon**.



Recycling 7

- This is **processing** a material so it can be used again.
- **Conserves resources**
- **Uses less energy**
- **Less waste goes to landfill**



KO 1

1. What is the carbon cycle?
2. What process removed carbon dioxide from the air?
3. Name a process that add carbon dioxide to the air.
4. What is the greenhouse effect?
5. Name another greenhouse gas.
6. What are fossil fuels?
7. Define combustion.
8. How are humans adding to the greenhouse effect?
9. How can we reduce the greenhouse effect?
10. What natural processes add to the greenhouse effect?

Knowledge organiser quiz

1. Where are natural resources found?
2. Why do natural resources run out?
3. What is extraction?
4. Why can you not extract all metals by heating with carbon?
5. What gas is produced when you heat aluminium oxide with carbon?
6. What process is used to extract more reactive metals?
7. What does electrolysis use to split metals from their compounds?
8. What is recycling?
9. Why is recycling important?
10. Give a benefit of recycling.

Answers

1. The Earth
2. Because there is only a certain amount of them in the Earth
3. Removing a metal from its ore
4. Some are more reactive than carbon
5. Carbon dioxide
6. Electrolysis
7. Electricity
8. Re-using materials
9. To save the Earth's resources so we don't run out of them
10. It's cheaper than making new materials/uses less energy/saves Earth's resources