carbon footprints

- A carbon footprint is the total amount of carbon dioxide and other greenhouse gases released during the full life cycle of something
- It can be for a service like a bus an event like Olympics or a product like a toaster

Why it is hard to measure

- Many things create emissions
- Because there are so many steps it is very difficult or sometimes impossible to measure the exact carbon footprint
- Still even a rough estimate help us understand which things cause the most pollution

How to reduce carbon footprints

Even if we can't measure perfectly we can still reduce the emissions

- use renewable energy
- use more efficient processes
- governments can tax emissions
- governments can set a limit
- carbon capture Technology

Why reducing emissions is difficult

Technology is still developing

- Carbon capture is new and still been improved
- Renewable Energy Equipment is still expensive

Government worry about economy

- Cutting emissions may Slow Down economic growth is specially in developing countries
- Hard to make international agreement; countries don't want to reduce emissions if others are not doing the same
- Stopping deforestation is important
- people must change their lifestyle like walking cycling instead of driving
- some people do not want to change

Air pollution

Burning fossil fuels releases many harmful gases not carbon dioxide

Combustion of fossil fuels

- Fossil fuels contain hydrocarbons
- When they won
- with enough oxygen this is called complete combustion
- and they will form carbon dioxide and water
- when with not enough oxygen so this is called incomplete combustion

- and it will form carbon monoxide and soot

Problem caused by particulates soot

- If breath in they can damage lungs and cause breathing problems
- they cause global dimming because they reflect sunlight away from the Earth

**Problems caused by carbon monoxide **

- Very dangerous gas
- stops blood from carrying oxygen because it sticks to haemoglobin
- can cause fainting or death
- it has no colour and no smell so it's hard to detect

Sulphur dioxide and nitrogen oxides

- Sulphur dioxide is made when coal with Sulphur impurities is burnt
- nitrogen oxides form when nitrogen and oxygen react inside hot car engines

These gases cause
acid rain
breathing problems

Testing for Sulphur impurities

- Bubbles the gas through universal indicator
- if sulphur is present so indicated will turn into red acidic