

Rubber being drained from a rubber tree

Synthetic plastics: are chemically manufactured from carbon based materials such as crude oil, coal and gas.



Crude oil works



A piece of coal

### How are plastics made?

Plastics are produced using a process know as polymerisation. Polymerisation occurs when monomers join together to form long chains of molecules called polymers.







Polymer

Polymerisation comes from the word 'POLY' which means 'MANY' and 'MER' which means 'PART'. So Polystyrene means 'POLY' many single monomers of 'STYRENE', joined together to form a long chain.

## What types of plastics exist?

There are two types of plastic thermosetting plastics and thermoplastics.

## Thermoplastics

Thermoplastics can be heated and shaped many times. Thermoplastics will soften when it is heated and can be shaped when hot. The plastic will harden when cooled, but can be reshaped because their is no links between the polymer chains. Some common thermoplastics are ABS (acrylonitrile butadienestyrene), Nylon (polyamide), acrylic (polymethyl methacrylate), uPVC (polyvinyl chloride), polystyrene, polypropylene and cellulose acetate.

# Useful web links

## **BBC Bitesize plastics page**

View the BBC bitesize site and take a bite size test to see how much you know!

View the bitesize plastics page >>

## 3 minute plastics quiz!

A fantastic guiz by Warrren Design and Technology. Take it and see what you know in 3 minutes!

View the 3 miute test page >>





