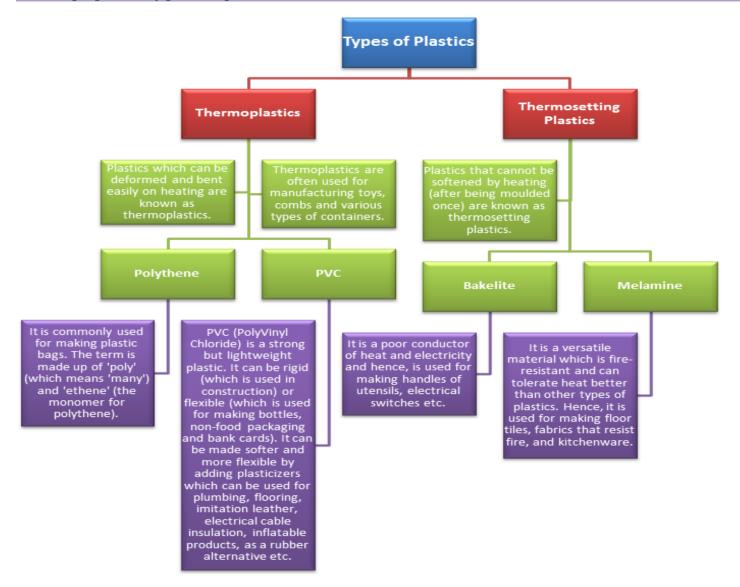
# **Plastics**

**Plastic** is a polymer (like the synthetic fibre) which can be moulded into different shapes. The word 'plastic' originates from the Greek word 'plastikos' which means 'that can be moulded or **shaped**'. Plastic polymers can have different types of arrangement of monomers:

- LINEAR POLYMERS
- BRANCHED POLYMERS
- CROSS-LINKED POLYMERS
- NETWORK POLYMERS

Plastic can be recycled and used. It can also be melted, rolled into sheets, made into wires, and coloured.

Some popular types of plastics are:



#### Plastics as Materials of Choice

Advantages of Plastic					
Lightweight	Lower price	Good strength	Easy handling	Not-reactive (does not rust like iron when exposed to water and air, and doesnot corrode easily)	Poor conductor of heat and electricity

#### **Give Reasons Why:**

# Buckets are made of plastic these days.

Plastic buckets are strong, lightweight, and do not rust.

# Bakelite plastic is used to make electrical switches.

Bakelite is a poor conductor of heat and electricity. Hence, they would not give anyone an electric shock when someone touches the switch.

# Melamine is used to make crockery.

Melamine is unbreakable, fire resistant, and tolerates heat better than plastics. Hence, it can be used to make crockery that can hold hot liquids or dishes served in it.

# Plastics are used in cars, aircraft and spacecraft.

Plastics are strong, durable, lightweight, and corrosion-resistant.

#### Chemicals are stored in plastic bottles.

Plastic bottles are lightweight, unbreakable, corrosion-resistant, and are resistant to the action of chemicals. Hence, they are suitable for storing chemicals.

### Which plastic is used to make:

Non-stick coating on Cookware: Teflon

**Insulation covering on Wires: PVC** 

Polythene Bags: Polythene

Flame-resistant Uniforms: Melamine

**Special uses of Plastic:** 



Besides being used in packaging for food and non-food items and several daily-used items (such as furniture, electrical switches, slippers etc.), plastic also has special uses such as:

- Used in the healthcare industry for packaging of tablets, syringes, doctor's gloves, a number of medical instruments, and threads for stitching wounds.
- Used to make cookware used in microwave ovens
- Used as a non-stick coating on cookware (made of a special plastic called Teflon is used on which oil and water do not stick)
- Used to make the fire-resistant uniform for firefighters (made of Melamine)

Plastic is a threat to the environment as it is non-biodegradable. Its disposal is a big problem.

**Biodegradable:** Material which gets decomposed through natural processes (such as bacterial action) is called **Biodegradable**.

**Non-biodegradable:** Material which cannot be easily decomposed by natural processes is called **Non-biodegradable**.

How do plastics cause environmental pollution?

Plastics cause pollution as they:

- are non-biodegradable, and
- release toxic fumes when burnt (and hence, cause air pollution).
  - > Next part : Plastics and the Environment