Name..... Group..... Mark.....

8.26 - Plastics: Revision Sheet

Plastics are to be seen all around us and there are two main groups:

Thermosetting
Once 'set' these plastics cannot be reheated to soften, shape and mould.

Thermoplastics
These plastics can be re-heated and therefore shaped in various ways.

Examples of Thermosetting plastic

Many **adhesives (glues)** are thermosetting plastics. A good example is 'Araldite' which is an epoxy resin that hardens when a second chemical is added (a catalyst). It will bond most materials including woods and metals as well as some plastics.
Polyurethane. This forms the basis of many paints and varnishes because it is very tough and has water resistant qualities.
Melamine Formaldehyde. Used in the production of plastic laminates because of its smooth surface and hygienic qualities. It is also used in electrical plugs and sockets because it can be cast and it is an excellent insulator.
Polyester resins. If resins are combined with a material such as fibre glass the result is a very tough material that can resist impact. This type of material is known as a glass reinforced plastic (GRP) and is used in car body repairs, sailing boats, corrugated sheet because of its lightness, toughness and resistance to water.

Examples of Thermoplastics

Acrylic. (Known also as PERSPEX) This is the most common plastic in a school workshop. It is purchased usually in the form of sheets and comes in a range of colours. It can be translucent (e.g. smoked), transparent or opaque. It is resistant to most acids and weather conditions.
Polythene. Can be moulded into almost any form due to its excellent moulding qualities. Used for the production of bottles, bowls, toys, tube etc... It is available in large sheets. There are two types: High density which is rigid and hard, and low density which is tough and flexible. Machine parts are generally made from high density polystyrene whilst bottles are made from the low density polystyrene.
Polyvinyl Chloride. Better known as PVC. It is a tough material which can be purchased as a hard material or alternatively a flexible form. It can be welded or bonded with an adhesive. It has a range of uses including water pipes, raincoats, long play records, coating on electrical wires and many more.