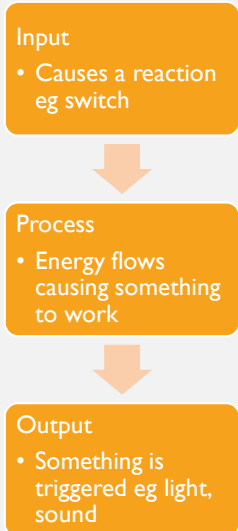


YEAR 8 – USB MOOD LIGHT

Component	Photos	Symbols
Switch		
Battery		
LED		
Resistor		



Plastics

Thermosetting – Plastics can not be reheated and reshaped due to chemical reaction that occurs

- Initially set by heat
- Can not be reshaped once set
- Extremely strong and durable
- Can not be recycled

Thermoforming – can be reheated and therefore can be reshaped

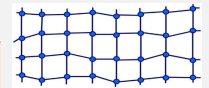
- Soften when heated
- Can be reshaped
- More commonly used in school
- Can be recycled

Epoxy Resin

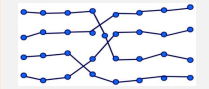
- Properties – good electrical conductor, durable and brittle
- Uses – Adhesives, castings and circuit boards

Polyester resin (PR)

- Properties – Hard, brittle and heat resistant, good electrical conductor
- Uses – Electrical fittings and door handles



Thermoset



Thermoform

Acrylic

- Hard, shiny but scratches easily
- Baths and signage

High impact Polystyrene (HIPS)

- Properties – Hard, ridged, lightweight
- Food pots and casing

Polypropylene

- Properties – Tough, Lightweight, flexible
- Uses – Stationary, food packaging and rope

Property	Meaning
Hardness	Ability to resist wear, scratching and indentation
Elasticity	Ability to bend and then return to its original position
Insulator	Ability to prevent heat or electricity from passing through
toughness	Ability to withstand blows or sudden shocks
Tensile strength	Ability to withstand a force without breaking or bending

Resistance

Resistance is the hindrance to the flow of electrons in material. The shorter the length of material, the lower its overall resistance.

Polarity - The electrical energy will only pass in one direction



Microcontroller
A microcontroller is a compact integrated circuit designed to govern a specific operation in an embedded system.

Soldering – guide to good/bad joints

How to Solder

Non Renewable Energy

- Coal
- Oil
- Gas
- Nuclear

Renewable Energy

- Wind
- Wave
- Solar
- Tidal
- Biomass
- Geothermal

Tools and Equipment

Coping Saw—Used to remove intricate or shaped pieces of wood/MDF/plywood

Tenon Saw— Flat deep saw, used for making straight cuts, useful in making wood joints

Wood files—Used to remove very small amounts of material, come in a variety of shapes/sizes

