Knowledge Organiser Y8

2D Design

Select tool:
This tool allows you to highlight anything. You can then stretch, copy, flip, rotate etc. A property box will also appear in the bottom right of the screen to edit.

ABC:
This tool allows you to write text. Left click and hold on the tool to view a selection of text tools.

In:
Use this to zoom in on a specific area. Draw a box around the area you want to zoom in on
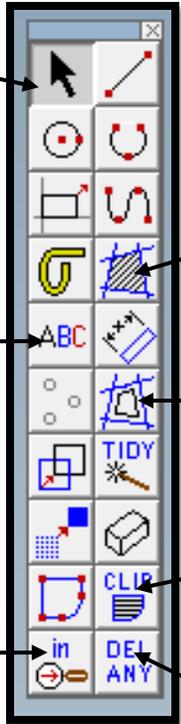
Grid Lock:
The gridlock tool makes your curser/mouse only move on the dotted grid. This can help with accuracy when drawing.

Attach:
Allows you to connect to the end of a line or shape.

Undo last:
This is the quickest way to remove a mistake.

Drawing tools:
These are located at the top of the left hand tool bar. Left click to start drawing and left click to stop. Left click and hold to view a wider selection of drawing tools.

Boundary/Fill:
This tool allows you to add colour. Select the outline of the area to be coloured. Islands are areas inside a shape that you do not want to colour.

Contour:
This tool makes either a larger or smaller outline of an identified shape.

Clip:
Left click and hold on the to reveal the clip to a box tool. Use this to crop unwanted sections of an internet image.
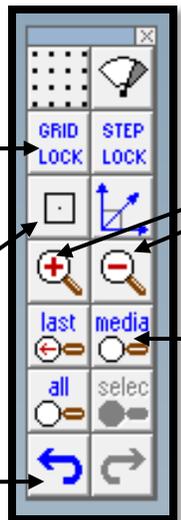
Delete:
Delete any will delete an object. Left click and hold to reveal the delete any tool which will allow you to remove sections of lines.

Magnifying glasses:
These tools give you a clearer view of what you are doing. Always zoom in on small areas when drawing.

Media:
Click this to quickly view your page.

Plastics / Polymers

Thermal forming polymers.

Thermal forming polymers contain few cross linkage molecules so they are not very resistant to heat. They can easily be melted, moulded and often reformed. They are also recyclable.
Examples include: Polyurethane, Adhesive, Polyester resin.
Uses include: Paint, Varnish, Glue, Boats, Car body repairs.

Thermo forming polymers once formed will return to their original shape if reheated. This is referred to as a **plastic memory**.

Thermal setting polymers

Thermal setting polymers undergo a chemical change when forming that makes them permanently rigid and resistant to heat and fire. They cannot be reformed and are not recyclable.
Examples include: Polythene, Polyvinyl Chloride and Acrylic.
Uses include: Bottle, Tubes, Window frames, Bath tubs.

Refining crude oil

Most plastics are man-made polymers that are synthesised from crude oil. Crude oil is found under the Earth surface and is obtained by drilling down to extract the material. It is then sent through a process called fractional distillation to turn it into plastic followed by polymerisation.

THERMOPLASTICS VS. THERMOSETS
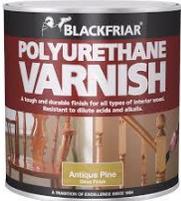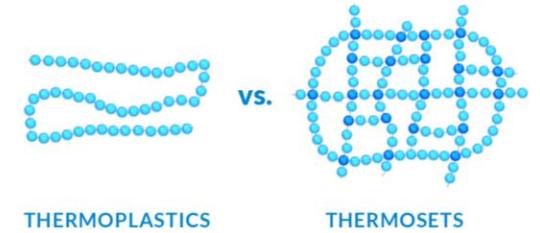
Product Analysis

Products analysis involves examining how well the product works and how well it performs in the market. Products may be investigated in terms of:

Different products can be compared to judge which aspects of the product work and which do not. For example, a product performance could be tested on certain conditions, or a products could be analysed in terms of looks, feel, smell, taste or sound. Variations of the products can also be analysed and compared.

When analysing a product you should consider the following by using the ACCESSFM acronym:

Aesthetics – Describe the appearance of the product
Construction – How has the product been put together?
Cost – How much would the product cost to buy in a shop or how much would it cost to make?
Ergonomics – Is the product easy to use?
Size – How big is the product?
Safety – Is the product safe to use for all?
Function – What is the purpose of the product?
Material – What material/s is the product made from?

Techniques when using tools and equipment

Power Fretsaw / Hegner Saw

Use the **finger guard** prevent the material from lifting whilst cutting.
Rotate the material as cutting so that you line is always **pointing towards the slit** at the front of the bed.
Find the **balance** between the amount of **pressure** to apply and the **speed** to turn the material.

Coping Saw

Start you cut with **3 drag backs** of the saw to create a groove.
Put **2 hands** on the handle when cutting.
Always **point straight forwards** when cutting.
Try **to cut downwards**. You will need to rotate the material in the vice during the cutting process to achieve this.

Files

Place **one hand on the handle** and the other at the **end of the file**.
Keep the file **level** when in use.
Push forwards to file the material.
Use **a flat file** for **straight** and **rounded** edges and a **curved file** for the **inside of a curve**.