

SUBJECT: Year 7 Technology

UNIT: Year 7 Resistant Materials



MATERIALS

MDF – is a manufactured board made from fibres that have been compressed in a resin. It is a cheap alternative, easy to work with however not very good quality.

PLYWOOD – is a manufactured board made by gluing thin sheets of wood together. It is very strong and durable but can splinter.

ACRYLIC – is a thermoforming plastic – it comes in a range of colours and sheet sizes. It has a colourful shiny finish but can shatter when being cut.

PROCESSES

HAND CUTTING – refers to cutting and shaping of materials using hand tools such as saws and files.

VACUUM FORMING – is the process of heating a sheet of plastic and forming it over a made product or mould.

Examples are plastic cereal bowls.

CAD/CAM – stands for Computer Aided Design & Computer Aided Manufacture. This refers to products that are design on a computer and a machine is used to manufacture them.

BELT SANDER

The BELT SANDER is used to quickly sand and smooth larger sections of wood and timber after it has been cut.



PILLAR DRILL

The PILLAR DRILL is a machine that will be used to safely create holes in products that have been manufactured to make it function.



COPING SAW

The COPING SAW is a hand tool used to cut and shape materials. It has a large frame and thin blade which is ideal for cutting curves and detail.



FLAT FILE SAW

The FLAT FILE is part of a group of files that are used to flatten and smooth cut edges.



TENON SAW

The TENON SAW is used to cut straight lines in materials – its large thick blade.



Design Influences

Product Analysis

You can understand a great deal about how a designer has worked by fully analysing one of their products. This will not only tell you about the design decisions that they have made, but it will help you to understand the fashion and trends at the time the product was created.

When you look at the key design features (e.g. colours and form) of products such as upright vacuum cleaners, similarities with contemporary products can be identified. Nearly 30% of all new cars sold in the UK in 2017 were grey or silver, making these metallic tones a safe bet for domestic machines such as vacuums and washing machines.

- A** **Aesthetics** *Is there a theme? Describe the shape, colour, texture...*
- C** **Consumer** *Who is the product aimed at? How can you tell?*
- O** **Cost** *Does the product look cheap/expensive to make? Value for money?*
- E** **Environment** *Environmentally friendly – re-usable/recyclable? Is the product very Sustainable?*
- S** **Safety** *Is the product safe to use. Any loose parts or sharp edges?*
- S** **Size** *Is it an appropriate size for the job or the intended person?*
- F** **Function** *How well would it do its job? Why do you think this? How do the separate parts help the overall function?*
- M** **Materials** *What materials or processes have been used?*



Marking tools

The measuring tools associated with timber are used to measure lengths and angles. The most common tools are:

- ruler - for measuring shorter lengths, widths and thicknesses
- tape measure - for measuring long distances, particularly in the building trade
- try square - for marking out angles that are 90 degrees to an edge
- mitre square - for marking out angles that are 45 degrees to an edge

