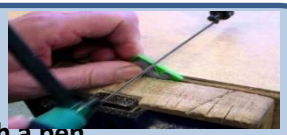
Year 8 Design Technology– Knowledge

Practical: - Booklets in the middle of the table. Hair tied back. Wear an apron. Stools stacked in four.

Equipment: Pencil, ruler, Tenon saw,

How to use a Coping saw



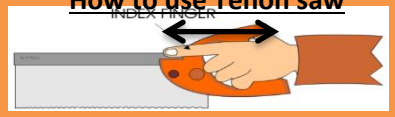
Using a coping saw is a test of skill as it can be difficult to

1. **Draw on the material with a pen.**
2. Secure the material in the vice.(Low as possible)
3. **Keep the blade parallel to the table.**
4. Rest the blade against your thumb nail. Drag back the blade towards you. (3 times)
5. **Move your thumb and pinch the material (fingers above the blade) use the full blade.**
6. Go slow. Watch carefully to make sure the cut is staying on the line.

Good Practice for cleaning up.

1. Work together as a team.
2. Throw big off cuts into the bin.
3. Brush dust slowly & carefully to the floor.
4. Put tools into the toolbox.
5. Any tools taken from the tool cupboard to be replaced.
6. Ask the teacher to check equipment before putting awa
7. Collect your stools.
8. Hang up the aprons.

How to use Tenon saw

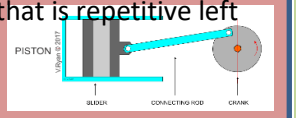


1. The saw has to be held in the hand carefully.
2. The index finger must point in the direction of sawing and it also helps to support the whole saw as it moves forward.
3. The saw must not move from side to side or it will jam in the wood making sawing difficult.

Motion

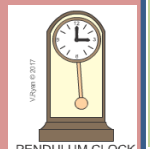
Linear Motion
Movement in a straight line and

Reciprocating Motion
A motion that is repetitive left



Rotary Motion
Movement following a circular path,

Oscillating Motion
Occurs when an object swings



ACCESSFM

Aesthetics
What does the product look like?
Colour, Style, Texture

Cost
How much is the product? Price, Materials , Manufacturing?

Customer
Who would buy the product? Age, Gender, Hobbies

Environment
Is the product sustainable? Six R's, Impact, Sustainability

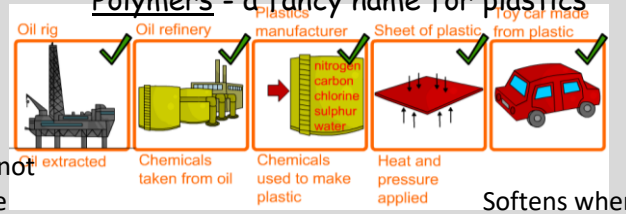
Size
How big is the product? Width, Length, Height

Safety
Will the product cause harm? Hazards, Risks, Precautions

Function
What is the product designed to do? Purpose, How it works, Could it work better

Materials
What is the product made from? Materials, Properties, Suitability

Polymers - a fancy name for plastics



THERMOSETTING PLASTICS

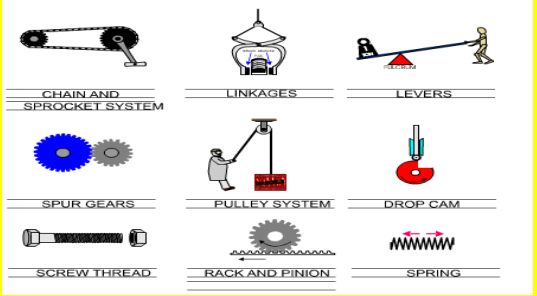
Can only be softened once.
Once 'set' these plastics cannot be reheated to soften, shape and mould.
Ideal when heat is an issue.
Difficult to recycle as they go

Types: Melamine, (UF)
Urea Formaldehyde

THERMOPLASTICS

Softens when heated.
These plastics can be re-heated and shaped and reshaped.
They become mouldable after reheating as

Mechanism



Categories of Woods

Softwoods, Hardwoods and Manmade boards

Coniferous Trees

From trees that have needles/exposed seeds, not leaves.
They grow quickly, around 30 years to mature.
When sewn and planed they tend to
Parana Pine, Spruce, Redwood, Larch, Red Cedar

Deciduous

From trees that have leaves, that they lose seasonally.
Tend to be harder than softwoods (exception of Balsa wood).
Have a wider variety of colour and texture than softwoods

Oak, Walnut, Ash, Mahogany

Both types of trees and recycled pulp and sawdust

Made in factories from materials such as wood chippings or sawdust.
Sheets are available in standard sizes –

Blockboard, Chipboard, MDF, plywood, Hardboard

Wider thinking / further reading:
https://www.stem.org.uk/home-learning/secondary-design-technology