An introduction to the most common workshop tools

The Design and Technology workshop contains many types of hand tools for many different tasks. Below is just a selection of the most common ones that you will use within the school's workshop. I have included quick explanations of the tools for more information please click on the more information links provided.

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<th>Tool</th>
<th>Use</th>
<th>Image</th>
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<tr>
<td>Coping saws</td>
<td>Used for cutting curved shapes in wood or plastic.</td>
<td><img src="image" alt="Coping saw" /></td>
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<tr>
<td>Try-square</td>
<td>Used for marking out straight lines on wood.</td>
<td><img src="image" alt="Try-square" /></td>
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<tr>
<td>Tenon saw</td>
<td>Used for cutting mortise and tenon joints and straight lines on wood.</td>
<td><img src="image" alt="Tenon saw" /></td>
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<tr>
<td>Chisel</td>
<td>Used for carving or shaping wood.</td>
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</table>
### File - More information >>

Hand files are used to smooth rough or sharp edges on material. Files can be used to smooth metals or woods. Files are made from high carbon steel so that they are tougher than the material that they are filing. Hand files are held within the hand and are pushed flat to the surface of the material. The file is then pushed forwards and back to smooth the material.

Used to smooth rough or sharp edges from metal or wood.

![File Image](image)

### G-Clamps - More information >>

G-Clamps are indispensable within the workshop for holding and securing work. They are available in many sizes and are used for securing work to the surface of a bench. They are also used to hold wood together while the glue is drying.

Used for securing work.

![G-Clamps Image](image)

### Steel rule - More information >>

Steel rules are more accurate than plastic rulers. Steel rules measurements start at the beginning of the rule unlike plastic rulers whose measurements start around half a centimetre from the beginning.

Used for measuring and marking out work.

![Steel Rule Image](image)

### The Pillar Drill - More information >>

A Pillar drill is a fixed drill that is mounted or fixed to a floor so it cannot be pushed over. It can drill larger pieces of material quickly and easily. It is made up of a base, a pillar, a table and a drill head. The drill table can be adjusted vertically and is moved up and down depending on the what you are drilling. A pillar drill can only drill down at 90 degrees unlike a hand drill, however it is very stable and is relatively safe as you can clamp your work to the table.

Used to drill larger pieces of material quickly and easily.

![Pillar Drill Image](image)

### The Fretsaw - More information >>

The fretsaw is used to cut wood and plastic it can cut curves like a coping saw. The best fretsaws are manufactured by a company called 'Hegner' in Germany. A fretsaws blade vibrates up and down to create the cutting motion. When using a fretsaw you should always use goggles you should also not force the material when cutting as the blades can be easily broken.

Used to cut curves in material.

![Fretsaw Image](image)
DT: learn about workshop hand tools.

**Quiz time!**

Mr DT says 'Read the text above and then answer these questions below'. Write your answers on a sheet of paper, don't forget to write your name on the sheet!:-

1.) What are Coping saws used for?
2.) What tool do we use for marking straight lines on wood?
3.) Why is the Tenon saw also called a back saw?
4.) What tool do you use with a chisel to create more force?
5.) What are files made from?
6.) Why are G-clamps indispensable in a workshop?
7.) What apart from the material is the difference between a steel rule and a plastic ruler?
8.) Why is a Pillar drill often fixed into the floor?
9.) What is a Fretsaw used for?
10.) Name the two tools from above that do the same job?

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