

Materials



Timber

Hardwoods

Softwoods

Manufactured boards

Paper and board

Plastics

Thermosetting plastics

Thermoplastics

Useful web links



The wood picker site

Use the Wood Picker to identify between woods, enter your criteria to find the most suitable wood.

[View the wood picker page >>](#)

BBC Bitesize

Revise more about timbers at the BBC bitesize site.

[View the bitesize timbers page >>](#)

Relevant DT links

Need to learn more about joining woods? Then try this link below.

[Wood joints >>](#)

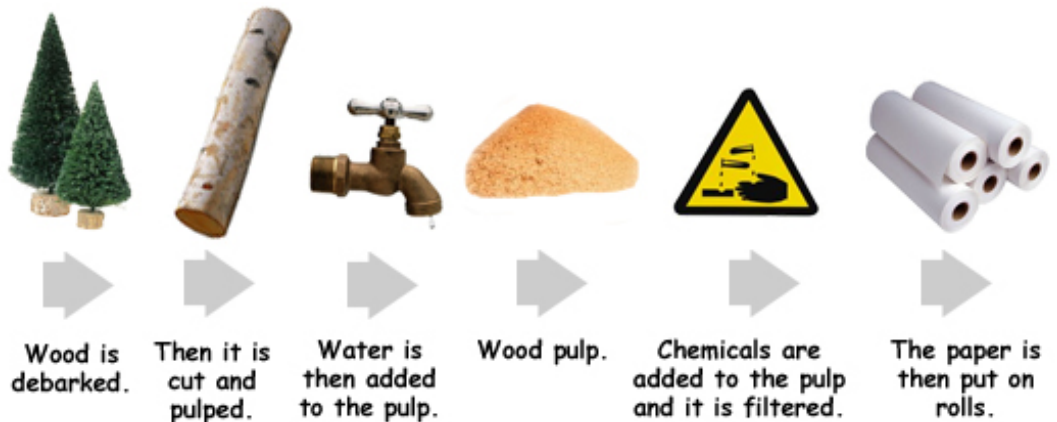
Paper and board



Paper

Paper consists of fine vegetable fibres which are extracted from wood. These fibres are made of cellulose. Both coniferous (softwood trees) and deciduous (hardwood trees) can be used to provide the untreated material which is called wood pulp. Cellulose fibres can also be taken from other plants like hemp, flax, cotton and bamboo. However the most common material source to make paper from is wood. Wood pulp has numerous different chemicals added to it. This is done so the wood pulp can achieve the required texture and surface finish required to make paper.

The stages involved in making paper



The paper making process

The paper making process has remained basically the same for the last two thousand years. Tiny chips of wood are cooked in water and chemicals to make a mushy wood pulp. The pulp is then poured through a filter or a fine mesh. As the water drains away, the cellulose fibres (which are less than 1mm in length) naturally join to form the paper's structure. The paper then moves through a set of machine rollers which flattens the paper and removes any left over water. Flattening the paper makes the mesh of fibres stronger.

Paper comes in different sizes. 'A' sizes are the most common, standard sizes are A4 and A3. Use the grid below to work out paper sizes.

Paper	Size	Uses
A6	105mm x 148mm	
A5	148mm x 210mm	(Twice the size of A6)
A4	210mm x 297mm	(Twice the size of A5)
A3	297mm x 420mm	(Twice the size of A4)
A2	420mm x 594mm	(Twice the size of A3)
A1	594mm x 841mm	(Twice the size of A2)
A0	841mm x 1189mm	(Twice the size of A1)

Board

Board is a general term used to describe a whole range of paper based material such as cardboard, mounting board, corrugated board, etc. Board is thicker, heavier and more rigid than paper as it is made from several more layers of pulp than paper is. Very thick board is made by sticking sheets of paper or board together in a process known as laminating.



Laminating paper-based board with other materials creates boards with different qualities. These are known as composite materials e.g. – cereal packets, egg cartons, orange juice cartons, etc. A good example is foil lined board this has foil on one side of the board and is used for fast food containers to keep moisture and heat in.



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 does paper consist of?
- 2.) What is the most common material source to make paper from?
- 3.) What are the main stages involved in making paper?
- 4.) Briefly describe the paper making process?
- 5.) What paper size is twice the size of A4 paper?
- 6.) What is oak normally used for?
- 7.) How is board different from paper?
- 8.) Name an example of a composite board material?



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