

# Wood Worksheet

## Types of Wood

There are three types of wood, **Softwood**, **Hardwood** and **Manufactured Boards**.

### Softwood

Coniferous trees (trees that keep their needle-like leaves throughout the year) provide softwood. They can grow quickly with straight trunks. They are often grown in plantations and are replaced when they are cut down. The wood is quite cheap and is used in the building industry for windows and doors etc. When the trunk is converted the waste is used for making paper and card.



### Hardwood

Deciduous trees (trees that lose their large leaves every winter) provide hardwood. They grow slowly and sometimes have twisted trunks. They are often not replaced when cut down. The wood is costly and is used for fine furniture and wooden toys, etc.

**Note:** The difference between softwood and hardwood is a biological difference, not one of softness and hardness. The softest wood is Balsa - it is a hardwood!

### Softwoods

NAME	PROPERTIES	USES	COST
Scots Pine (Deal)	Straight grained, but knotty, quite strong and easy to work	Building construction. When used outside it needs protection.	Low
Parana Pine	Straight grained with few knots, quite strong and durable, warps easily	High quality interior construction and furniture	High
Spruce (white-wood)	Quite strong, with small knots, resistant to splitting but not durable	Fitted furniture, e.g. kitchen cabinets.	Low
Cedar	Straight grained that is knot free. Very light in weight. Very durable, inside and outside. Quite soft.	Used outside for shed construction and quality fencing.	High

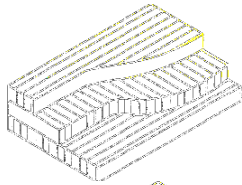
### Hardwoods

NAME	PROPERTIES	USES	COST
Ash	Light in colour, flexible and tough, steam bends well, varnishes well.	Tool handles, cricket bat handles, ladders, veneers.	Med
Beech	Mid-brown colour, hard, strong and tough, tends to warp, steam bends well.	High quality furniture, toys, tool handles, veneers	Med
Oak	Light brown, hard, tough, heavy and durable outside. Gets harder with age.	High quality furniture, garden furniture, boat building, veneers	High
Mahogany	Red in colour, medium weight, quite strong, durable inside, warps easily	High quality furniture, shop furniture, boat fittings, veneers.	High

### Manufactured Boards

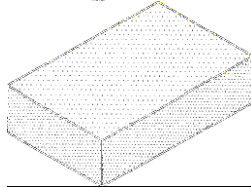
These are made from the waste wood left over from conversion. They use thin sheets (plywood), small blocks (blockboard), wood chips (chipboard) and wood fibres (fibreboard). They are generally cheaper than solid wood and can be made into large

sheets that do not warp or twist easily.



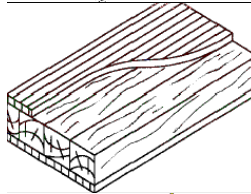
### **Plywood**

Made from thin sheets of wood (veneers), glued together with the grain direction at 90° to the one next to it. They always have an odd number of layers 3,5,7 etc. to reduce warping



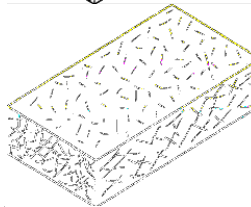
### **Medium Density Fibreboard (MDF)**

Made from fine wood fibres, compressed and glued together. When in use it is normally covered by a plastic coating or hardwood veneer



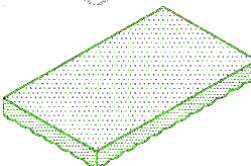
### **Blockboard**

Strips of softwood are glued together and then sandwiched between two hardwood veneers. The edges look rough and are often covered with a thin hardwood strip



### **Chipboard**

Made by compressing and gluing small chips of waste wood. When in use it is normally covered by a plastic coating or hardwood veneer.



### **Hardboard**

Made by compressing and gluing pulped wood. It is smooth on one side and rough on the other.

NAME	PROPERTIES	USES	COST
Plywood	Strong in all directions, quite stable but can warp. A waterproof ply is available.	Tabletops, worktops, door fronts, drawer bottoms, small boats (waterproof ply)	Med
MDF	Does not warp easily, cuts and planes well without splitting, needs a finish.	Tabletops, worktops, veneered furniture, clock cases.	Med
Blockboard	Does not warp easily. Very strong, rigid and rather heavy. Edge finishing is difficult.	High quality furniture, stage flooring, fire doors.	High
Chipboard	Heavy, can warp easily, joining pieces together is not easy, needs a finish.	Cheap plastic coated furniture, roofing boards, partitions	Low
Hardboard	Not very strong, warps easily, needs a finish.	Door panels, cheap drawer bottoms, cabinet backs.	Low

## Questions

Answer the following questions, once you have completed these, make a sequence of operations for your pencil box.

1. What sort of trees do hardwoods and softwoods come from
2. What are manufactured boards made from?
4. Which softwood might you choose to make a dog kennel from?
5. Which hardwood might you choose to make a child's toy truck?
6. Explain how plywood is constructed.
7. Which manufactured board might you choose to make a long shelf for heavy books?
8. What is the environmental advantage of making and using chipboard?
9. Which hardwood would be beneficial for making outdoors furniture?
10. You have been hired to make a kitchen work-surface, they are looking for a high-quality, long-lasting material, which would you propose and why?