

### Natural Timbers

Softwoods are generally cheaper than hardwoods as they are more available, since they grow quicker.

But because man-made boards are manufactured they are cheaper than timbers. Man-made boards also come in a better variety of sizes since they don't depend on tree growth.

**Stock forms** for both include; sheets, dowel, planks, etc

| <b>Hardwoods</b> come from <b>Deciduous Trees</b> . These trees lose leaves in winter and grow fruit and flowers in spring |   |                                  |
|--|---|----------------------------------|
| Material   | Key info                                    | Examples                         |
| <b>Ash</b>   | Flexible, tough and shock resistant         | Sports equipment<br>Tool Handles |
| <b>Beech</b>   | Fine finish, tough and durable              | Toys, furniture and veneers      |
| <b>Mahogany</b>  | Easily worked, durable, high quality finish | High-end furniture               |
| <b>Balsa</b>   | Very soft and spongy. Light                 | Modelling                        |
| <b>Oak</b>   | Tough, durable and hard                     | Flooring, furniture and veneers  |

| <b>Softwoods</b> come from <b>Coniferous Trees</b> . These have thin, needle-like leaves and grow all year round. Often have pine cones and sometimes nuts and seeds |   |   |
|--|---|---|
| Material   | Key info  | Examples  |
| <b>Larch</b>   | Durable, tough, good water resistance and finishes well | Furniture, flooring and used outdoors           |
| <b>Pine</b>  | Light, easy to work with but can split                  | Cheap furniture, construction and decking       |
| <b>Spruce</b>  | Easy to work with, high stiffness but can decay quickly | Furniture, musical instruments and construction |

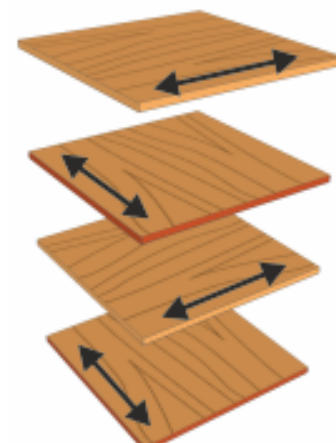
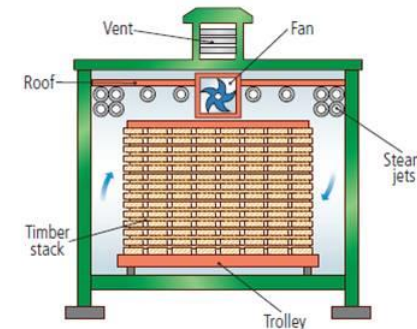
### Man-Made Boards

| <b>Manufactured boards</b> are made from wood chips/dust/ layers and glue. |  |  |
|--|--|--|
| Material   | Key info   | Examples                               |
| <b>Chipboard</b>   | Prone to chipping but good compressive strength. Not-water resistant | Flooring, low-end furniture, flat-pack |
| <b>MDF</b>   | Rigid and stable. Easy to finish. Absorbs liquid easily              | Flat-pack furniture and kitchen units  |
| <b>Plywood</b>   | Very stable. Exterior veneer can be used from more expensive woods   | Shelving, furniture, toys              |

### Primary Processing of Papers and Boards

Trees are cut then converted into planks by cut using saws  
It is then seasoned to reduce the moisture in the wood. This is done by either:

- Air-drying** – Planks are stacked and air allowed to circulate; causing evaporation
- Kiln-drying** – Where planks are put into a kiln and dried rapidly. This process is more costly than air-drying



Manufactured boards can be either be made by lamination or compression

**Lamination** – Layers of woods and adhesive are layered and compressed together. Usually with a more expensive wooden veneer on the top

**Compression** – Wood is shredded, heated and compressed with adhesive under extreme pressure