

Design Technology

Revision sheet booklet

Subject contents covered
in Year 7



Hardwood



WOOD

There are two basic types of wood: hardwood and softwood.



Softwood



HARDWOOD



- . Comes from **deciduous** trees (lose their leaves in winter)
- . **Slow** growing
- . Hard, **dense** wood with tight woodgrain
- . Difficult to cut
- . Expensive

SOFTWOOD



- . Comes from **coniferous** trees (keep their leaves in winter)
- . **Quick** growing
- . Soft wood with wide woodgrain
- . Easy to cut
- . Cheap



Forest Stewardship Council

Sustainable Forest
A sustainable forest is a forest that is carefully managed and felled trees are replaced

Seasoning

Seasoning
is when the moisture is removed from the timber in order to be able to make things with it. You can either use the air drying or kiln drying process.



Tree felling machine

Deforestation
is the removal of a forest, converting it to non-forest use. Often wildlife's habitat is destroyed.

Conversion

Conversion
is when the tree trunk is cut into pieces. Softwoods are usually rough or through and through sawn and hardwoods are quarter sawn for a better looking grain.

Tools, Equipment and Machinery

This is what you will use for this project



Drill bit



Vice



File



Pilar drill



Belt sander

Extractor



Bobbin sander



Coping saw



Scroll saw



Know your tools and equipment

Tools	Use	Safety points
	Sawing curves in wood	Could cut your finger Blade gets hot from friction
	Making metal, plastic and wood smoother	Heavy metal would hurt if dropped onto your foot
	Drilling holes in a range of materials	Goggles to be worn Hands away from drill/sander
	Making plastic and wood smoother	Tie loose hair/clothing Secure the material Have the Guard on.

Research — Material Properties

The materials we will be using can be found below, using the information from the PowerPoint complete the descriptions and think of 3 examples of products made from the 3 materials. Also complete the sentences below using the key words.

Materials

3 Example products

Pine - Pine is a type of natural wood. It is soft and easy to cut and shape. It is light in colour and can be painted and varnished.

Furniture, Doors, wooden toys

MDF (Medium-density fibreboard) is a man made board wood made from saw dust and glue and forming sheets by applying high temperature and pressure. MDF good for the environment, easy to work with but shouldn't be used outside as it soaks up water. MDF products are usually painted to protect it and to make it look nicer.



Acrylic plastic is a manmade material which comes from oil. It is a thermoplastic so it can be recycled and remoulded numerous times. It comes in a range of forms and colours and often replaces glass. It is waterproof and light shines through it.



Neoprene is a form of thermoset plastic so it cannot be recycled. It comes in a range of forms and colours and is often used in fashion as it is soft and comfortable as well as waterproof. If neoprene burns, it lets off toxic fumes.



MDF is considered **Environmentally Friendly** as it is made

KEY WORDS

from recycled wood.

Malleable Safe

Acrylic can be heated and **Re-moulded** to make other products.

Environmentally Coloured

Neoprene is soft and bendy therefore is considered to be **Malleable**.

Friendly Re-moulded

DESIGNING PROTOTYPES



DEVELOP A DESIGN BRIEF

WHO? (User)
WHAT? (Product)
WHY? (Need)

RESEARCH & ANALYSIS
eg customer profile, existing product analysis, market research, anthropometrics & ergonomics

SPECIFICATION
List of conditions to meet when designing and making your product (ACCESS FM)

IDEAS
Initial Sketches

DEVELOPMENT
Detailed scale drawings, materials, construction methods of chosen designs, social, moral, environmental & sustainability issues

TESTING & EVALUATION
How could the design be improved/modified?

MAKE
Prototype

PLAN
Manufacturing Criteria

FINAL DESIGN

MODEL
Test & improve design

PRODUCT ANALYSIS

We use ACCESS FM to help write a specification (a list of requirements for a design) and to help us analyse and describe an already existing product.

Aesthetics



What does the product look like (eg. shape, colour, form, size)? Do you think it looks attractive? Why? Where did the designer get their inspiration?

Cost



How much does the product cost to make? Is it value for money? Will it make a profit? Is it affordable to your consumer?

Customer



Who is the target market? Why would a consumer buy it? What impact would it have on their life

Environment



What is the product's impact on the planet? How long will it last? Can it be recycled?

Safety



Is it safe for the consumer? Does it meet safety standards? Is the product high quality?

Size



Is it an appropriate size? Has the designer considered anthropometrics? What are the measurements in mm?

Function



What does it do? Does it work? Is it easy to use? Why is it needed?

Materials



What is it made from? Would a different material make it better? What impact could the choice of material have on the environment?

Finishes are added to woods to protect them from rotting and insects, to make them last longer and to make them look nicer. These finishes can be applied with a cloth, brush or a spray.



Wood stain

varnish

Sealer

Paint

French polish

