

Key Term	Definition
Vanishing Point	Point(s) at which all lines in a perspective drawing appear to meet.
Horizon	The line on which the vanishing point(s) sit.
Logging	The harvesting of trees for paper production.
Deforestation	The removal of large areas of forest.
Pulp	Wood fibre reduced chemically or mechanically to pulp used in the manufacture of paper.
Raymond Loewy	'The father of industrial design'- Loewy is famous for designing logos such for Shell and BP. He is also famous for 'streamlining' the design of vehicles.
Typeface	A set of fonts with shared characteristics.
Serif	A typeface with 'feet', or 'flicks' at the end of the letters stems. SERIF
Sans Serif	This typeface has no feet or flicks (just like the letters you are reading now!) SANS SERIF
Script	This typeface will have a handwritten look- think ' <i>Coca Cola</i> '.
Decorative	This typeface will be designed to have a theme incorporated into it. Decorative
Wordmark Logo	A logo consisting of only lettering.
Symbolic Logo	A logo consisting of only images.
Sublimation	The process of transferring a printed image onto an item. The process uses heat to evaporate ink which condenses when it hits the surface of the object to be printed onto.
Heat Transfer Paper	Special paper used in the sublimation process. Dye particles sit on the top surface of the paper, the water from the dye is absorbed into the second layer of the paper.
Polymer Coating	A polymer coating (plastic) that absorbs the evaporated ink during the sublimation process.

One Point
Perspective

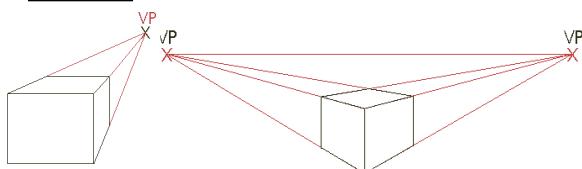
Two Point Perspective

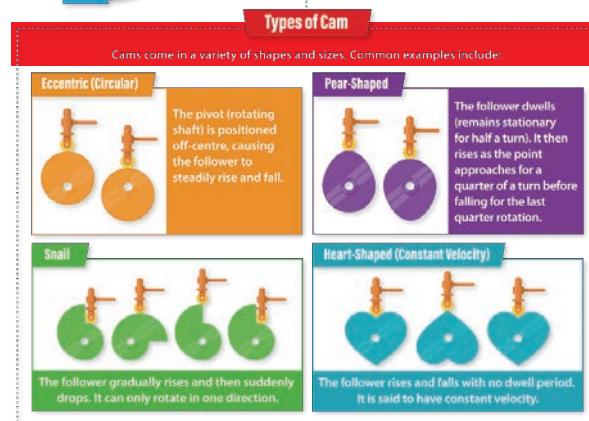
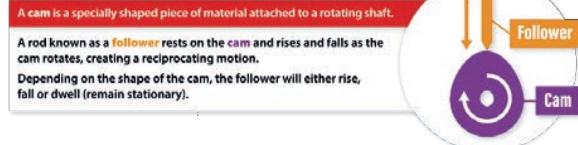
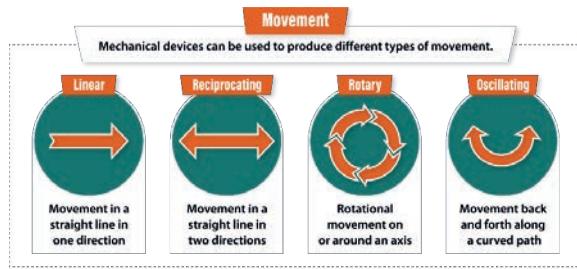
Logos designed by Raymond Loewy

Die Cutter

Laser Cutter

Heat Press





Natural Timbers

Wood is an organic material that is the main substance in the trunk and branches of a tree. Wood prepared for use in building and carpentry is known as **timber**.

Most hardwoods come from broad-leaved, deciduous trees (trees that shed their leaves annually). They are generally slow growing and are therefore usually more scarce and expensive than softwoods.

 Hardwoods	• hard, tough, strong & finishes well • warps easily • close, straight grain • expensive • pinkish-brown	• very strong, heavy, durable & hard • grain varies but is generally open • over 400 species • light brown	• hard, strong, easy to work & resistant to rot • fine, straight grain • some species are protected • reddish-brown	• very light & soft, but has great strength-to-weight ratio • straight grain with distinct velvety feel • pale cream to white
 Uses - flooring - furniture - tool handles	 Uses - flooring - furniture - barrels	 Uses - flooring - fine furniture - instruments	 Uses - surfboards - construction & aircraft models	

Other hardwoods include ash, birch, maple and willow.

Softwoods come from coniferous trees that have long needle-like leaves and are generally found in cold climates. They are quick growing and can therefore be replaced quicker than hardwoods.

 Softwoods	 Cedar • contains a chemical that makes it durable & resistant to weather • short, notable grain • light cream to reddish-brown	 Scots Pine • easy to work with, reasonably strong & lightweight • straight grain with lots of knots • pale to reddish-brown	 Larch • tough & strong, but easy to work • resistant to rot, but prone to splitting • yellow to reddish-brown	 Spruce • good strength-to-weight ratio • can contain small knots • creamy white to pinkish-brown
 Uses - outdoor furniture - cupboards - fencing	 Uses - furniture - construction - door frames	 Uses - decking - cladding - fencing	 Uses - construction - stringed musical instruments	

Other softwoods include Douglas fir, yew and western hemlock.

Remember: Most hardwoods are hard, and most softwoods are soft.

Timbers: Stock Forms, Types & Sizes

Timber is available in a range of stock forms and sizes to suit different purposes.

Planks, Boards & Strips

Timber planks, boards and strips are available in a range of stock sizes, with set lengths, widths and thicknesses. Measurements are usually listed as **length × width × thickness (mm)**.

 Planned Timber	Timber is available rough-cut and planed. Planed timber is smoother than rough-cut timber, but it is also more expensive.
 Rough-cut Timber	Planing removes around 2–3 mm of material from each side of the timber, so planed timber is slightly smaller than rough-cut timber.

When joining two pieces of wood together using wood screws...

- 1 Drill a pilot hole through both pieces of wood. This hole should be slightly narrower than the thread of the screw.
- 2 Drill a clearance hole through the top piece of wood. This hole should be slightly larger than the shank or thread of the screw.
- 3 If using a countersunk screw, a countersunk hole should be drilled to the depth of the screw.

Self-drilling screws that negate the need for pilot and clearance holes are also available. They have a sharp end (like a drill bit) and a tapered thread to create a hole.





One-Off Production

In one-off production, bespoke products are made to meet specific customer requirements. Every product is unique.

Key Points

- One-off production is often labour intensive.
- It usually involves highly skilled workers who command relatively high wages.
- Each item is individually made so production can be time-consuming and costly. However, the finished product is usually of a high quality.

Examples: bespoke clothing, furniture and jewellery

A prototype is an early, working version of a product or system that is usually made using one-off production. It is used to test different aspects of a design and find ways to improve it.



Batch Production

In batch production, a set number of products are passed through the production process together, one stage at a time.



Key Points

- Batch production is useful when making small quantities of a product or variations of similar products.
- Machines can be programmed to carry out specific tasks, and the use of templates, jigs and moulds ensures that the products are identical.
- Machinery often has to be stopped and reconfigured for each batch. This is known as downtime. It can be inefficient, especially when lots of batches are required.
- Materials can be purchased in large quantities, enabling the business to benefit from economies of scale (lower unit costs when larger quantities are purchased).

Examples: a bakery making different types of bread or cake



Mass Production

In mass (or flow) production, the production process is broken down into stages, with different tasks being performed as the products move along the assembly line.



Key Points

- Mass production is used to produce large quantities of identical products quickly.
- Productivity is high, so unit cost of production is low. This allows the business to benefit from economies of scale and offer competitive prices.
- Workers or machines perform a simple dedicated task at each stage of the production process so little skilled labour is required.
- Machinery is costly so initial set-up is expensive.

Examples: newspapers, drinks bottles and cars

Templates, Jigs and Patterns

Templates, jigs and patterns are tools that help to improve the accuracy and consistency of repetitive designs. They are ideal for batch production because they can be used over and over again.

Patterns

Patterns are templates that can be used in textiles or casting.



Templates

Templates are shapes that can be drawn or cut around to produce a specific shape. Using a template ensures that all designs are identical, and it is far quicker than drawing a design to scale every time.

Textiles

Patterns are used to trace outlines onto textiles so that they can be cut out and sewn together. Tracing can be done by hand or by using CAD/CAM technology.

Blended and Mixed Fibres

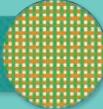
Blended fabrics are made by spinning two or more types of fibre together to produce a yarn (thread). Fabrics are blended to combine different fibres with desirable properties.

Polycotton (cotton and polyester) is more durable, cheaper and stronger than cotton alone and is less likely to crease or shrink. However, it is not as breathable and is highly flammable.

Woven Fabrics

Weaving fabrics are made by interlacing two sets of yarn at right (90°) angles to each other. The **weft** runs along the **width** of the fabric, and the **warp** runs along the **length** of the fabric. Woven fabrics tend to be very strong, particularly along the straight grain (warp) of the fabric. The edge of a woven fabric is known as a **selvedge**, and it will not fray unless cut.

The plain weave is the most basic and cheapest weave to produce. It is made by passing the weft yarn over and under warp yarns. It is strong, hard-wearing and holds its shape well. Its pattern is identical on both sides of the fabric.



Non-Woven Fabrics

Non-woven fabrics are made directly from fibres that have not been spun into yarns.

Bonded Fabric

Bonded fabric is made from webs of fibres that are bonded together with glue, heat, stitches or needle-punching. Fabrics do not fray but are weak.

Uses: disposable cloths, tea bags, clothing

Felted Fabric

Felt is made from matting wool fibres together by using moisture, heat and pressure. It is inelastic and pulls apart easily.

Uses: jewellery, hats, crafts, carpet underlay

Knitted Fabrics

Knitted fabrics are made by interlocking (rather than interlacing) loops of yarn together.

Weft Knitting

Weft-knit fabric is made by hand or machine using a yarn that forms interlocking loops across the width of the fabric. It is stretchy and warm. However, it can lose its shape and unravel easily.

Warp Knitting

Warp-knit fabric is made by machine using yarn that forms vertical interlocking loops. It is less stretchy than weft-knitted fabric, but it retains its shape better and is less likely to unravel.

Targeted at the correct age range and ability



Who will purchase the product?

Cost of the materials and overall product



Skills developed-learn numbers, colours etc.



What considerations are required to make a good educational toy?



Size, shape and weight are ok for the age range and safe?



Tactile and sensory development-different textures and sounds



Lifespan of product

Fillings inside the toy to add different textures

Safety-all safe toys that are tested carry the Lion mark logo



Timescale to complete the product



Year 8 Food Preparation and Nutrition Essential Knowledge Organiser

4 C's

Food hygiene is necessary in order to make food which is safe to eat. This involves more than just being clean. A simple way to remember all the important areas where safety could be an issue are the **4Cs**:

- Cooking
- Cleaning
- Chilling
- Cross Contamination



Nutrient	Food Examples	Main Function in Body
Macronutrients - We need these in large amounts.		
Starchy Carbohydrates	Cereals, bread, rice, potatoes, pasta etc.	Give us slow release energy. (wholegrain versions are higher in fibre).
Protein	Meat, fish, eggs, nuts, seeds, pulses, lentils.	Growth, repair and maintenance of muscles.
Fat	Butter, lard, margarine, sunflower oil, olive oil etc.	Insulates our vital organs (heart, lungs etc) and keeps us warm.

Useful Websites:

- <http://www.foodafactoflife.org.uk/site.aspx?siteId=19&t=3>
- <https://www.bbc.com/food/techniques>
- <https://www.ifst.org/lovefoodlovescience/resources>

Key Word	Meaning
Bacteria	Micro-organisms which can grow and multiply on food. Some can cause food poisoning
Chilling	Reducing temperature 0-4°C to slow down growth of bacteria
Cooking	Using different methods to kill bacteria e.g. boiling, grilling, baking
Cross contamination	Transfer of bacteria from one thing to another e.g. equipment
Danger Zone	Temperature between 5 - 63°C when bacteria multiply quickly
Food Poisoning	Caused by eating food infected with bacteria. Symptoms include sickness, fever and diarrhoea
Food Spoilage	When bacteria causes food to decay. Food will start to smell, lose texture or flavour.
Gluten	Protein in wheat flour, which makes dough stretchy
High Risk Food	Foods which may cause food poisoning if bacteria can multiply quickly

Raising Agents

Biological – Yeast, used in bread making.



Mechanical – folding, beating, whisking, sieving, creaming, rubbing in.



Chemical - Bicarbonate of soda, baking powder, S.R.flour.

