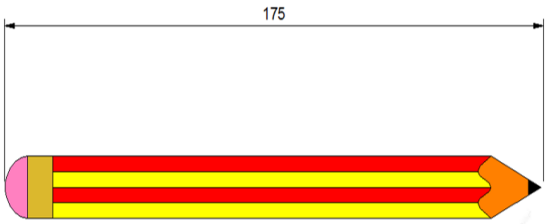
Design & Technology Knowledge Organiser
Year 7 Design: Timbers & Measuring

Woods—Key Words:
Manufactured
Deciduous
Coniferous
Felling
Seasoning
Converting
Grain
Knots
Heartwood

Natural Timbers		Manufactured Boards
Hardwood	**Softwood**	
		
Hardwoods are usually obtained from **deciduous** trees, which lose their leaves in autumn. ❑ usually grow in warmer more humid climates, mainly in South America and Asia ❑ grow slowly (80+ years) ❑ are more difficult to sustain than softwoods ❑ are more expensive than softwoods ❑ are strong and hardwearing.	Softwoods are usually obtained from **coniferous** trees, which keep their leaves in winter and are also known as evergreens. These grow quickly which makes them sustainable as they are renewable. This also makes them cheaper when compared to hardwoods. ❑ Usually grow in colder climates and are mainly grown in Scandinavia and Northern Europe ❑ Grow thin, needle-like leaves ❑ Grow relatively quickly (30 years) ❑ Are easier to sustain than hardwood trees ❑ Are easy to cut and shape ❑ Are usually cheaper than hardwoods	Manufactured boards are made from the waste sections of felled trees – the parts which are of little use as planks. The wood is reduced to pulp, particles or thin strips and bonded together using special adhesives or resins. Manufactured boards are made as alternative to natural timber. ❑ Come in sheet form (usually 1.2 x 2.4m) ❑ Are extremely stable and of uniform thickness ❑ Are less expensive than laminating planks of timber ❑ Can be covered with veneers ❑ Ae available in a variety of thicknesses (3, 6, 9, 12, 15, 18, 22mm)

We always measure in millimetres!
1cm = 10mm

Steel Rule



Adding Dimensions

Pillar Drill

Adhesives

P.V.A. – Poly Vinyl Acetate – best for joining 2 pieces of wood together
Epoxy – a *thermosetting* resin that can be used to bond most types of material
Contact Adhesive – a glue type that creates a tacky bond on both surfaces to be joined. It can be used with most materials.

Tri Square

Mitre Saw

Bench Hook

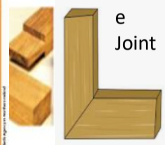
Tenon Saw

1: Joining Methods

Wood joints can be either permanent of temporary depending on the type and if glue is used.

Temporary:
hen we will, or might need to take pieces apart again
Screws, bolts, nails

Joints

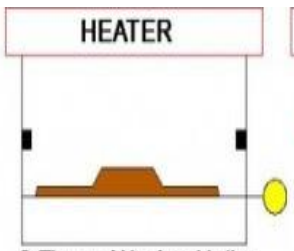


Mitre Joint

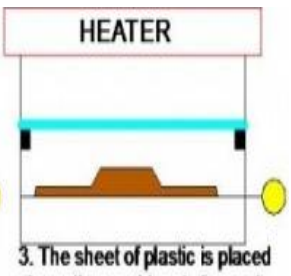
Dowel Joint

Vacuum Forming

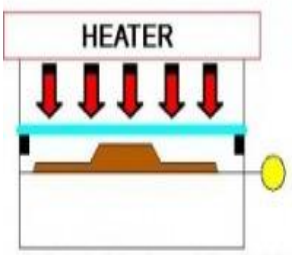
1. Mould is made from MDF or Expanded Polystyrene



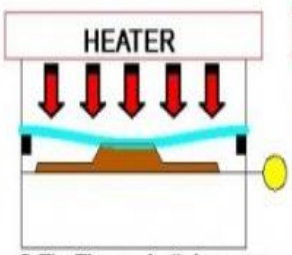
2. The mould is placed in the bottom of the vacuum former



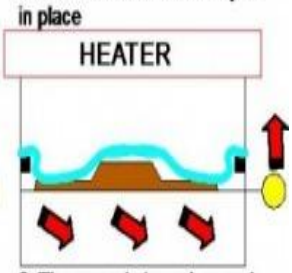
3. The sheet of plastic is placed above the mould and clamped in place



4. The electric element (heater) is turned on and begins to warm the plastic sheet



5. The Thermoplastic becomes flexible as it is heated. The mould is moved up to the plastic using the handle



6. The pump is turned on and the air is removed from under the plastic, sucking the plastic over the mould

Design and Technology Knowledge organiser
Year 7 Technology: Electronics sensors and systems

KEY WORDS AND THEIR DEFINITIONS

Component: a part that combines with other parts to make something bigger (your circuit)

Target market: the group of people for which your product is Aimed at. Who is likely to buy or use it.

Sensor: a device that detects and responds to a type Of input (light/heat/motion/pressure etc)

Transistor a component that regulates the voltage flow through your circuit

Resistor a component that limits the flow of electricity in your circuit

Safety Glasses

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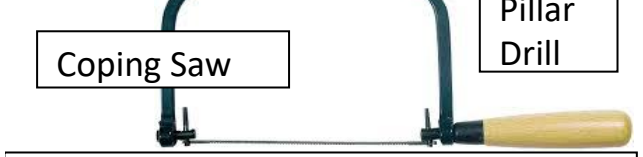
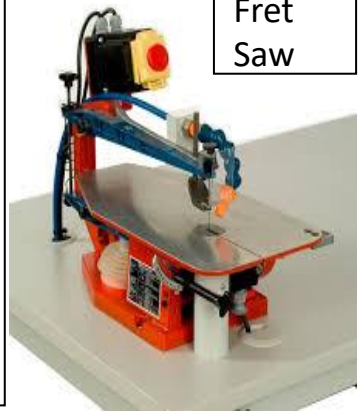


Coping Saw

Pillar Drill

Machines, tools and safety wear

Belt sander



Fret Saw

Input>process>output

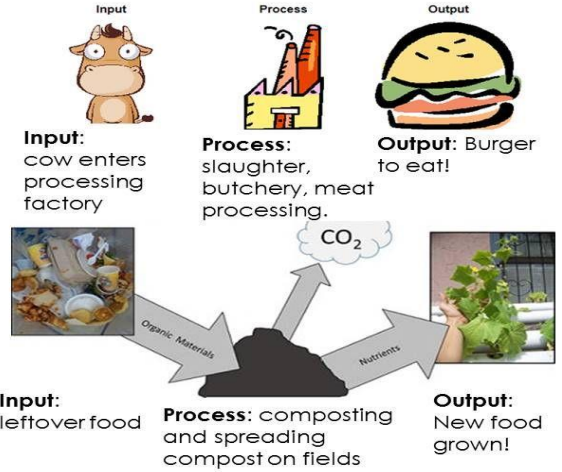
Every system has:

Input (ingredients that are put into the system)

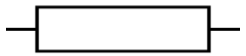
Process (what happens to make the system work)

Output (what the system creates)

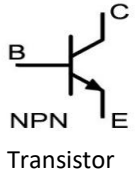
For example…



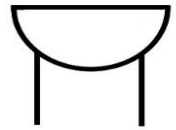
COMPONENTS & SYMBOLS



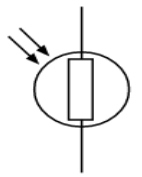
Resistor



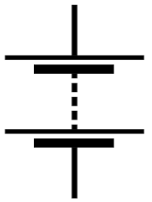
Transistor



Buzzer



LDR



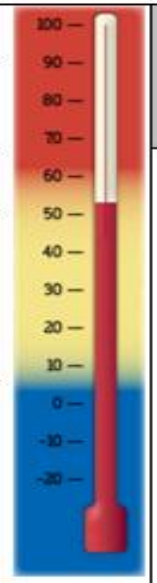
Battery

wledge organiser
iene, Eatwell guide

Hazards in the food room

cal hazard	2. Hygiene hazard	3. Infestation hazard
Physical hazard: can cause harm with **contact**. A door left open, spill on floor	**Hygiene Hazard:** microorganisms' (tiny living things) e.g. bacteria/ germs	**Infestation Hazard:** Food left out could encourage pests e.g. mice or ants
		

Infestation
Dormant
Hazard
Microorganism
Contamination
Saturated
Dense
Restrictions



The 4 key Temperatures for Bacteria activity

4Cs: Always wash and dry your hands properly. **Keep everything clean**

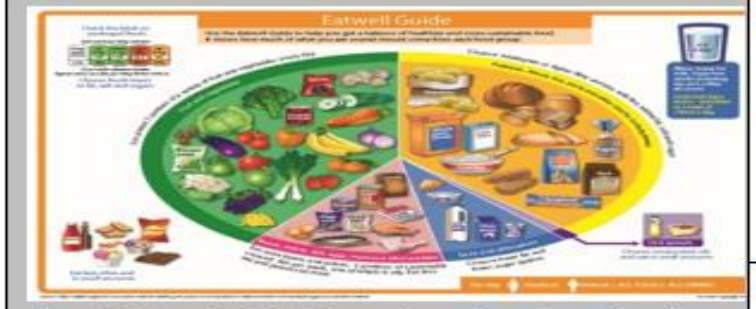
4Cs: Keep raw meat and cooked foods apart to avoid cross ~~contami~~-nation

4Cs: Cook food properly! You must make sure foods like 'meat' are cooked in the middle.

4Cs: Store food at the correct temp. **Keep it chilly silly.**

8 Tips for healthy eating

1. Base your meals on starchy foods.
2. Eat lots of fruit and veg.
3. Eat more fish.
4. Cut down on saturated fat and sugar.
5. Try to eat less salt – not more than 6g a day.
6. Get active and try to be a healthy weight.
7. Drink plenty of water.
8. Don't skip breakfast.



The **Eatwell Guide** is based on the 5 food groups and shows how much of what you eat should come from each group.

The 5 different groups are:

Fruit & Veg (F&V) – Starchy Carbs SC) – Protein (P) – Dairy & Alternatives (D&A) – Oils & Spreads (O&S)

F&V Vitamins. & Minerals	SC Energy	P Build & Repair muscles	D&A Calcium	F&O Fat soluble vitamins. Insulation

YouTube **foodtech 101**

See ~~FoodTech~~ 101 for all KS3 practicals

5 Things bacteria need to thrive:

1. Plenty of moisture
2. Plenty of food
3. Warm temperature
4. Correct PH (not too acidic or too alkali)
5. Enough time

Allergies and Intolerances:

- Dairy
- Eggs
- Peanuts
- Shellfish
- Gluten
- Yeast

Nutrient Dense Foods=		Energy Dense Foods=	
			
			

SDN=Special Dietary Needs & Restrictions: Vegetarian, Vegan, Pescatarian, Lacto Vegetarian, Lactose Intolerance, Kosha, Halal