

Design and Technology Knowledge organiser

Year 9 Food: Food provenance, food choice & diet related disease



Food Provenance: Where your food originally comes from		
Grown Food includes fruits & vegetables + cereals: e.g. wheat, rice etc. 2 methods of farming: Intensive  Organic 	Reared Food are animals raised by humans for their meat and other products: Chickens = eggs.  Cows = Milk 	Caught Food applies to seafood. Wild/caught fish come from seas, rivers, & other bodies of water. 

Foods from around the world	
	Indian cuisine very popular in the UK
	Italians are famous for pizzas and pasta
	Chinese noodles are a favourite takeaway meal around the world
	South American foods use corn as the main ingredient
	African meals are often based around rice
	French Pastries are famous the world over.



Genetically Modified (GM) foods have had their genes altered to give it useful characteristics, such as improving its growth or changing its colour. **Disadvantages:** long term health effects aren't known. Also modified genes could affect other non GM crops. GM can't be sold everywhere. The EU restricts the import of some GM foods



When **planning meals** for special dietary needs it is essential that you first have a good understanding of what a **balanced diet** should include. And what you should avoid.



KEYWORDS
Provenance
Genetic
Ethical
Organic
Intensive
Moral
Obligation
Sustainable

Diet-Related Health Problems
In many cases, making a few small changes in our foods choices can have a massive effect on our long term health & well-being.

	Obesity is very common. It affects roughly one in every four adults in the UK.
	Coronary Heart Disease is when the arteries which supply the heart with blood narrow due to fatty deposits
	Type 2 Diabetes is a disorder where blood glucose levels stay too high because the pancreas can't produce enough insulin.
	Poor Diet can affect the skeleton too! Your bones & teeth can become diseased if you don't get the right amount of nutrients



Food Ethics
Do animals have rights, even the tasty ones?
What principles govern or determine the foods you eat?

- Customs
- Culture
- Where you're from
- education
- travelling
- necessity



Special Dietary Needs:

	In sports , dietary needs can differ widely. Some need lots of protein to build muscle for strength, others focus more on carbs for endurance.
	Diets also vary widely between different religions . Some eat meat, whilst for others it may be totally forbidden or need to be prepared in a particular way.
	People can choose a plant based diet for different reasons. Some for health benefits, for ethical reason : e.g. animal right etc.
	Allergies and medical issues can often lead to individuals requiring a special diet. E.g. coeliac's need to avoid food with gluten.

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Year 9 Design: Sustainability & polymers

Modelling—Key Terms:

Mock Up—put together quickly and simply to test a design idea

Model—an accurate copy of a product, sometimes on a smaller scale

Prototype—a real size, working model of a product made to demonstrate a design

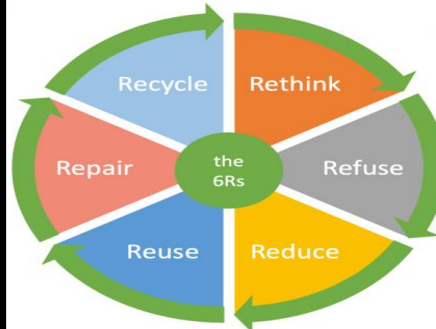
Modelling materials might include: card, foam board, corrugated board, plywood, MDF, dowel, clay, Plasticine, polymorph, Styrofoam, Lego, K'nex, etc.



Abrasive papers
Glass paper

Wet and Dry
Paper

Emery cloth



A logo is a graphic mark, emblem, or symbol used to aid and promote public identification and recognition. It may be of an abstract or figurative design or to include the text of the name that it represents as in a wordmark



Finite Resources - limited in supply and cannot be reproduced. These WILL run out
e.g coal, oil, metal ores etc

Non Finite Resources - are abundant in supply and can be grown/replaced at the rate they are being used. These WILL NOT run out if managed correctly.
e.g Solar, wind, bio oils, wood etc



Thermoplastics are flexible when heated, can be re-shaped, 'magic memory, good for recycling:

High Density Polyethylene—HDPE
Low Density polyethylene—LDPE
Polypropylene—PP
High Impact Polystyrene—HIPS

Thermoset Plastics are rigid, more heat resistant, once set in shape they cannot be reformed (like concrete):

Epoxy Resin—ER
Melamine Formaldehyde—MF
Urea Formaldehyde—UF
Phenol Formaldehyde—PF

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Year 9 Technology: CAD & Study of design eras

page 1

This section concentrates on the Permanent Carcase/box joints:

Wood joints

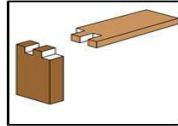
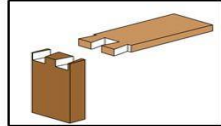
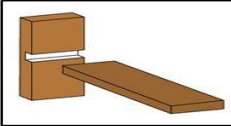
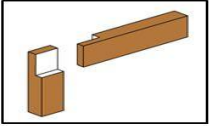
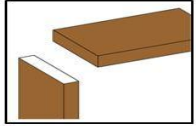
Butt

Lap

Housing

Dovetail

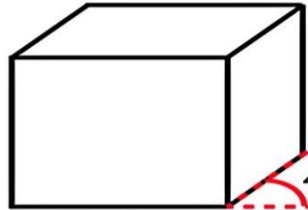
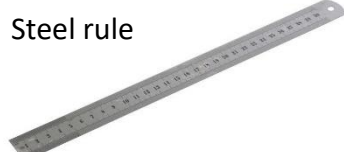
Comb



Try square

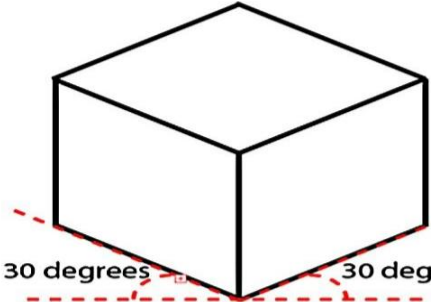
Steel rule

Sharp pencil



45 degrees

OBLIQUE PROJECTION



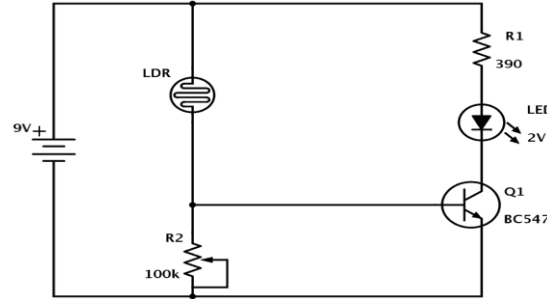
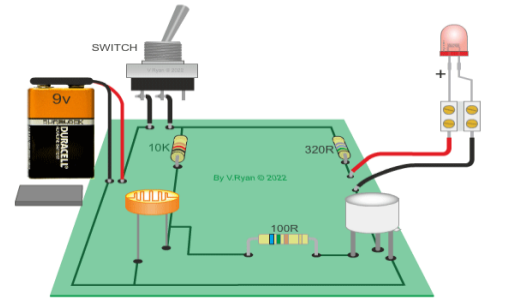
30 degrees

30 degrees

ISOMETRIC PROJECTION

An iconic design is usually a design that is 'ground breaking' and one that sets new standards in its field.

It is a design that other designers and manufacturers follow, as it becomes a bench mark for other similar products.



Light sensitive LED circuit

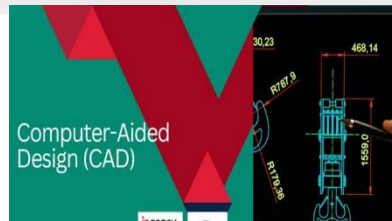
Soldering Iron



- Risk of injury
- Risk of burns
- Risk of electrical shock

REDUCE RISKS BY:

- Wear protective equipment, apron, goggles.
- DO NOT TOUCH SOLDERING IRON TIP.
- Always use the tool as instructed by your teacher.
- Check tool to ensure that it is safe before use.
- Always replace the tool in the stand.



Computer-Aided Design (CAD)



3D printer



Laser cutter

Key Words and their definitions:

Characteristic:	a typical or noticeable feature of something that is easily recognisable
Iconic:	very famous or popular 'It was an iconic design'
Influence:	the ability to have an effect on something 'he used Pop Art to influence the design'
Oblique:	a type of drawing to show 2D objects as 3D objects
Incorporate:	to combine or join together 'She incorporated Art Deco features into the design'
Isometric:	a drawing of a 3D shape on a 2D surface where horizontal lines are at 30°
Nouveau:	a French word for New. 'We are looking at the Art Nouveau design movement'
Elaborate:	detailed, beautiful and complicated 'Art Nouveau is elaborately decorated'

Art Deco

1924-1940

Art Deco is usually associated with the architecture of the 1930s.



Its style relies on bold designs, clear lines and vibrant colours and geometric patterns.

Art Nouveau

1870-1920

Art Nouveau was the dominant style until the 1920s for the rich not the working class.



Examples of Art Nouveau include highly skilful jewellery, elaborate interior design and wrought iron scroll work.

Pop Art

1960-Now

Pop Art uses images from popular culture, adverts and consumer products as its trademark.



Soup cans, Cola bottles and comic strips are replicated using bold and distinctive colours, dots and bold lines.

Memphis

1980-Now

The Memphis design style began in the 1980s and is characterised by its use of colourful, abstract decoration and asymmetrical shapes.

