

Knowledge Organisers



LYMM
HIGH SCHOOL

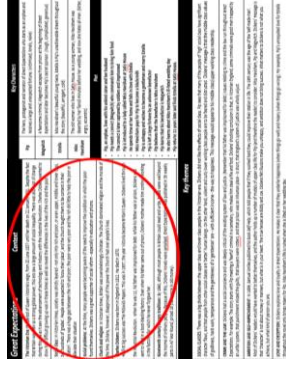
Year 7 2019

Self Quizzing: How to study independently using Knowledge Organisers:



1) Before you begin, use a blank piece of paper to write out a list of up to 9 things that are on your KO. Most people find that about 5 is a sensible amount of topics to work with.

These are the things you are going to focus on moving to your Long Term memory. You should decide on this by choosing a section of your KO, like this:



Your list should be names, headings or titles of the things on the KO that you are remembering, like this:

The Victorian Era:	
Social class:	
Social problems:	
Church and religion:	

2) Now, you are going to begin to work at remembering by using the Read, Cover, Write, Check, Correct (RCWCC) strategy that you have been trained to use.

READ

Method 1: Find the **most important bits**, highlight, and **mentally verbalise** (this means that you should say them over and over again in your head).

Method 2: Make **links** between similar things, highlight, and **mentally verbalise** (this means that you should say them over and over again in your head).

HANDY HINT: Many people find this easier to do if they close their eyes.

COVER

Cover up your KO, and keep mentally verbalising (saying it to yourself inside your head).

HANDY HINT: If you are struggling here, it is because you didn't do enough mental verbalising when reading. Start the RCWCC again.

WRITE

Write as many things as you can remember in your table.

CHECK

Check how did by comparing your work to that section of your KO. Read very slowly and carefully, looking at the vocabulary that you used. How similar is it to what is on there? Remember – there can be subtle differences between words that can affect meaning.

CORRECT

Correcting your work is really important, but people often skip this bit. If you don't do it properly, the chances of it moving to your Long Term Memory are much less.

Remember that it is important to be really strict with yourself; if you have not quite been accurate, you must edit your work.

Social problems:


were becoming aware of the need to improve the condition in which the poor found themselves. Dickens was a great supporter of social reform - especially in education and prisons.

People ~~who~~ that there were poor people who needed help. Dickens supported ~~which~~ to improve the conditions especially in education and prisons.

people were becoming aware of the need to improve the condition in which the poor found themselves. Dickens was a great supporter of social reform - especially in education and prisons.

YEAR 7 KNOWLEDGE ORGANISER - BASIC SKILLS



Tone	A tone is produced either by the mixture of a colour with grey, or by both tinting and shading..	
Shade	The mixture of a colour with black, which increases darkness.	
Tint	The mixture of a colour with white, which increases lightness	
Mark making	Different lines, patterns, and textures we create in a piece of art. It applies to any art material on any surface, not only paint on canvas or pencil on paper.	
Composition	The position and layout of shapes on the paper	
2 Dimensional	Having or appearing to have length and breadth but no depth.	
3 Dimensional	Having or appearing to have length, breadth, and depth.	

Recording from Observation

Primary source

observational drawing: drawing something real in front of you.

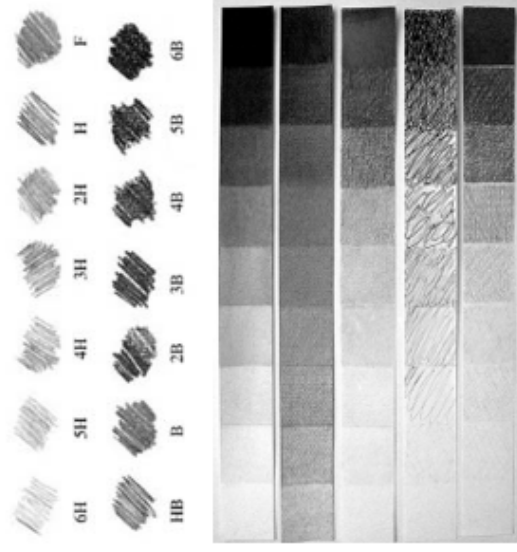
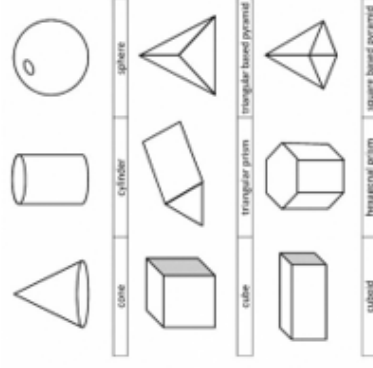
Secondary source

observational drawing: drawing something from a picture.



MARK MAKING IDEAS

Scan here to watch a step by step guide; how to draw 3D shapes



Grades of Pencils

Pencils come in different grades. The softer the pencil the darker the tone.

H = hard, B = black (soft)

In Art the most useful pencils are B, 2B and 4B.

If your pencil has no grade

it is likely to be an HB

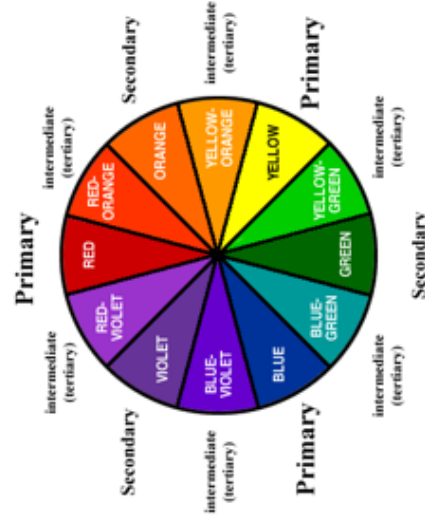
(hard black in the middle of the scale)

Making something look 3D

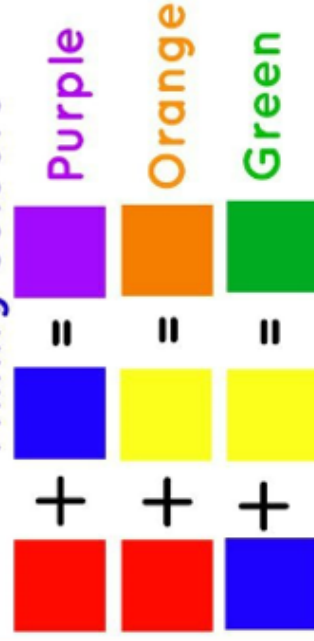
- To prevent objects looking flat, a range of tonal shading is essential to make objects look 3D
- Pressing harder and lighter with a pencil creates the different tones
- As a surface goes away from you the tones usually darken
- Shading straight across a surface will make an item appear flat
- Use the direction of your pencil to help enhance the 3D surface
- Including shadows will also help make objects appear 3D and separate objects from each other.

YEAR 7 KNOWLEDGE ORGANISER - BASIC SKILLS

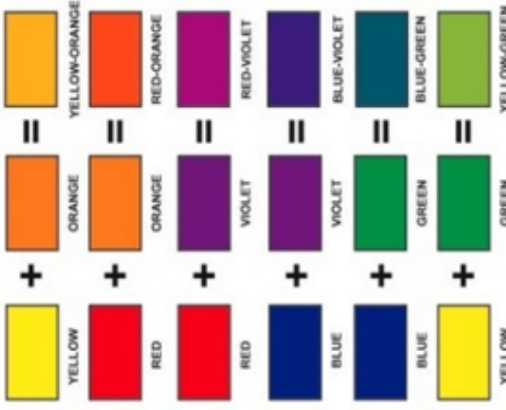
The colour wheel	This is a diagram that shows how colours are mixed or the relationship between colours.
Primary colours	Red, blue and yellow. These are colours that cant be made by mixing other colours together.
Secondary colours	Green, orange and purple. Mix two primary colours to create a secondary colour
Tertiary colours	These are colours create by mixing a primary and a secondary colour together.
Complementary colours	These are colours that are opposite on the colour wheel.
Harmonious colours	These are colours from the same section of the colour wheel. These work well when blending.
Cool colours	Fall on one half of the colour wheel. Calm or soothing in nature. They are not overpowering and tend to recede in space. For this reason, they typically make a space seem larger.
Warm colours	Fall on the opposite side to the cool colours on the colour wheel. They are vivid or bold in nature. They tend to advance in space and can be overwhelming.



Mixing colours



Primary + Secondary = Tertiary



Blending

- Always start with the lightest colour and add the darker colour in small amounts
- Harmonious colours blend well together.
- Cross hatching is a good mark making method when blending dry materials.
- Wet materials should be mixed on a palette before blending.

Scan here to watch a step by step guide; how to blend using different materials.



Organic Forms

Definition: Organic forms are associated with things from the natural world, like plants and animals.



Georgia O Keeffe

Born: Georgia Totto O'Keeffe, 15th November 1887. Town of Sun Prairie, Wisconsin, U.S.

Died: 6th March 1986 (aged 98). Santa Fe, New Mexico, U.S.

Nationality: American

Education: School of the Art Institute of Chicago. Columbia University. University of Virginia. Art Students League of New York.

Known for: Painting **Movement:** American Modernism (the artists related to this movement sought to represent reality in a new, more industrialised world.

Drawing accurately

The easiest way to ensure an image is drawn accurately is by using a square grid. Over your image draw a grid. On a separate piece of paper, re draw the grid and start to plot out your image square by square.

Enlarging an image by hand

You can also use a grid to enlarge an image. Your second grid should be double in size so that when you plot your drawing it increases.

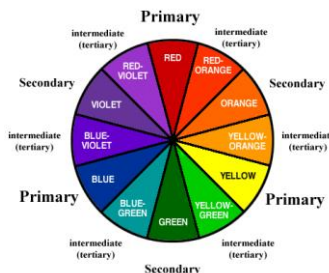
What do I include on an artist research page?

- Title (artist name)
- Images and drawings of the artist's work.
- Facts/information and annotation (include your own opinion)
- Consider creative presentation. Try to make the page reflect the artist's style.

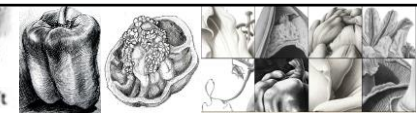
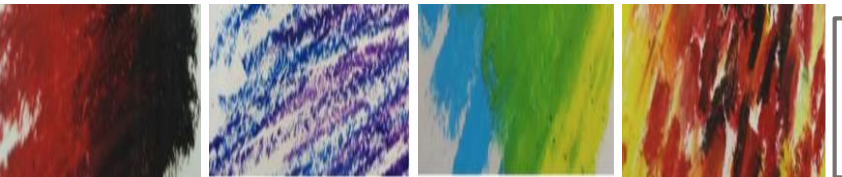
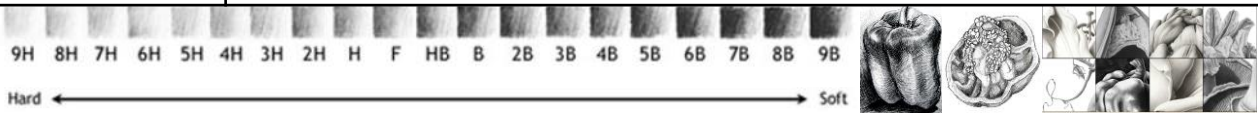


Using watercolours

Remember to hold your brush low so you have control of your strokes.



Tone	A tone is produced either by the mixture of a colour with grey, or by both tinting and shading.
Scale	Refers to the size of an object (a whole) in relationship to another object.
Line	A mark formed by drawing.
Composition	The position and layout of shapes on the paper.
Mark making	Different lines, patterns, and textures we create in a piece of art. It applies to any art material on any surface, not only paint on canvas or pencil on paper.
Blending	The technique of gently intermingling two or more colours or values to create a gradual transition or to soften lines.
Abstract	Seeks to break away from traditional representation of physical objects.
Enlarge	To make something bigger in size.
Cropping	The removal of unwanted outer areas from a photographic or illustrated image.
Viewfinder	A tool to help select a composition.



Using clay

Clay is a NATURAL RESOURCE, which means it comes from the earth. It is usually found a couple of feet below the ground. Clay tools are used to shape the clay.

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Using oil pastels

- Heavy pressure blending:** Generously add oil pastel in one direction. You can layer colours to achieve a blended and rich look.
- Light pressure blending:** Lightly apply the oil pastel in one direction. You can layer colours over each other to create various hues.
- Colour Mixing:** Apply a layer of oil pastel and follow with a contrasting colour.
- Scruffito:** Overlap two thick layers of different colours. Use a paper clip or sharp edge to scratch and scrape away the top layer to reveal the underneath colour.
- Stippling:** Use small choppy strokes to create a stippled effect. Layer colours to create texture and depth.

YEAR 7 KNOWLEDGE ORGANISER – DAY OF THE DEAD



Day of the Dead

- It is a Mexican holiday celebrated throughout Mexico and around the world in other cultures.
- Dia de los Muertos: Spanish translation (language spoken in Mexico).
- It focuses on gatherings of family and friends to pray for and remember friends and family members who have died.
- It is particularly celebrated in Mexico, where the day is a bank holiday.
- The celebration takes place on October 31, November 1 and November 2, in connection with the Christian events Halloween etc
- Traditions include: Building private altars called 'ofrendas'. Leaving gifts at the grave to honour the dead (Sugar skulls, marigolds, favourite foods of the dead). They also leave possessions of the deceased.
- The main emblem for the Day of the Dead festival is the skull.



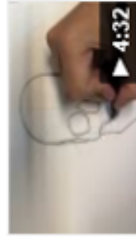
Thaneeya McArdle (name is pronounced "tuh-nee-yuh").

- An artist, designer and craftsperson from Florida.
- She is most well known for her use of vivid colours and intricate symmetrical pattern work.
- Draws and paints sugar skulls.
- The work she produces is inspired by her travels around the world.

<https://www.thaneeya.com> (Thaneeya McArdles personal website)

<https://www.art-is-fun.com> (Thaneeya

McArdles website in which she has hints and tips for drawing, painting and much more!)



4:32



<https://www.youtube.com/watch?v=ECL662yPMIK>

Watch this tutorial to learn how to draw a skull.



Tone	A tone is produced either by the mixture of a colour with grey, or by both tinting and shading.
Scale	Refers to the size of an object (a whole) in relationship to another object.
Block Colour	One solid colour that does not differ in tone.
Line	A mark formed by drawing.
Symmetrical Pattern	Lines and shapes that are made up of exactly similar parts facing each other or around an axis
Composition	The position and layout of shapes on the paper.
Mono printing	A form of printmaking that has lines or images that can only be made once, unlike most printmaking, which allows for multiple originals
Polyblock printing	A form of printmaking using polystyrene as a block, in which you indent to create a textured surface.
Scruffitto	A form of decoration made by scratching through a surface to reveal a lower layer of a contrasting colour.
Wax resist	The use of a waxy medium to make a design over which a colored wash is spread.

What do I include on an artist research page?

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- Images and drawings of the artists work.
- Facts/information and annotation (include your own opinion)
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YEAR 7 KNOWLEDGE ORGANISER – DAY OF THE DEAD



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What is a Diorama?

A diorama is a model which represents a scene or story with three-dimensional figures. Day of the Dead dioramas are based on the altars and retablos (devotional paintings) associated with the festival. They are made using tin or wood cages, known as *nichos* and contain collages of skeletons, skulls, flowers and photographs.



The colour wheel

This is a diagram that shows how colours are mixed or the relationship between colours.

Primary colours

Red, blue and yellow. These are colours that cant be made by mixing other colours together.

Secondary colours

Green, orange and purple. Mix two primary colours to create a secondary colour

Tertiary colours

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Complimentary colours

These are colours that are opposite on the colour wheel.

Harmonious colours

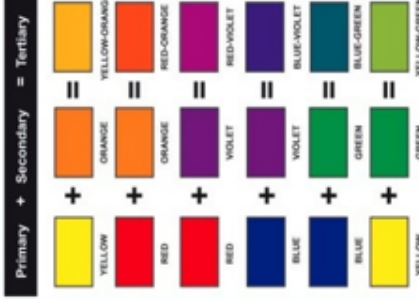
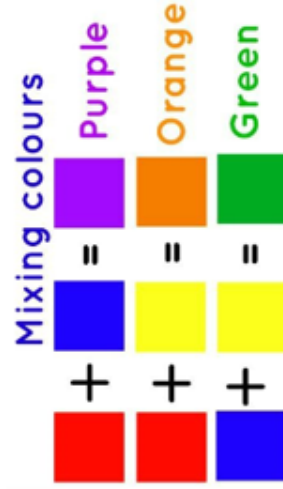
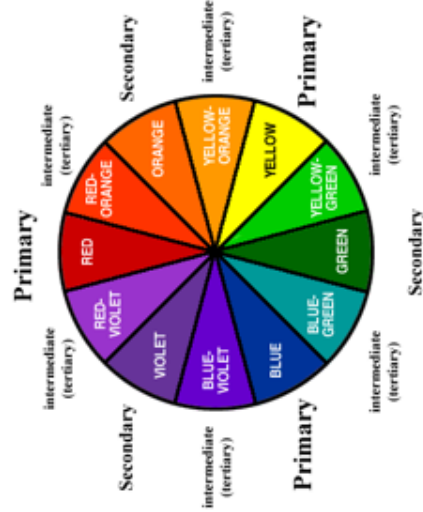
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Cool colours

Fall on one half of the colour wheel. Calm or soothing in nature. They are not overpowering and tend to recede in space. For this reason, they typically make a space seem larger.

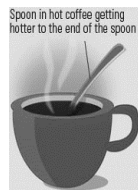
Warm colours

Fall on the opposite side to the cool colours on the colour wheel. They are vivid or bold in nature. They tend to advance in space and can be overwhelming.



Topic: Cooking methods

Conduction



How is heat transferred to food?

1. Convection
2. Conduction
3. Radiation

This happens when heat is directly touching a piece of equipment, or a piece of food.

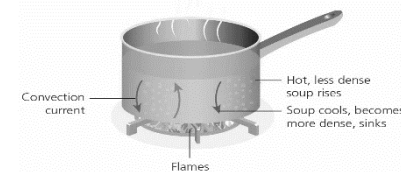
- If you put a metal pan on an electric or gas hob, the heat from the hob will heat up the base of the pan.
- There are good conductors of heat, and bad conductors of heat.

Metal conducts heat very well, which is why saucepans and frying pans, along with baking trays and cake tins, are made of metal

Water is also a good conductor of heat, which is why boiling foods works well and cooks foods quickly

Wood, plastic, cloth and glass are poor conductors of heat.

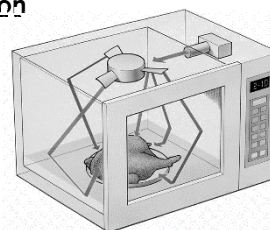
Convection



This only happens in liquids and gases.

- The molecules of liquid or gas nearest the hot base of the pan gain heat energy, and start to rise in the pan.
- As the liquid rises to the top of the pan, it will begin to cool again, so starts to drop back to the bottom, where it will be heated up again.
- There is a convection current moving in the pan. Convection currents also happen in ovens.
- Hot air rises and cooler air falls.
- A convection oven uses a fan to move the heat around, so every part of the oven is approximately the same temperature.

Radiation



This occurs through space or air. Radiation transfers energy through space by invisible electro-magnetic waves. The waves are either infra-red or microwaves

Infra-red heat waves are absorbed by the food when they reach it, and they create heat inside the food which cooks it.

This happens when you put food under a grill.

Cooking foods in microwaves also uses radiation. The microwaves are created by a magnetron inside the oven. The microwaves are absorbed by the food, making the molecules vibrate and heat up, which then cooks the food.

Microwaves pass straight through glass, china and plastic, and do not heat them up.

Metal will reflect the microwaves and damage the magnetron so do not put metal object into a microwave oven.

Braising



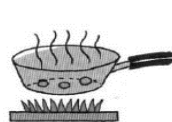
Pieces of food are first browned in a little fat, then cooked with some liquid in a closed pan.

Deep-frying



Frying pieces of food in a deep pot or fryer with plenty of hot oil or fat.

Sautéing



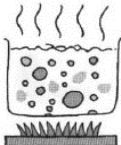
Cooking small or thin pieces of food in a little very hot oil or fat. The frying pan is shaken constantly to stop the food from burning.

Flambéing



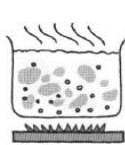
After frying, alcohol is added to the food in the frying pan and set on fire. This gives added flavour to the food.

Boiling



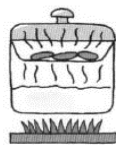
Food is cooked in deep boiling liquid [water, stock, wine etc.] in an open or covered saucepan.

Simmering



Like boiling, but the liquid is kept just below boiling point in an uncovered pot.

Steaming



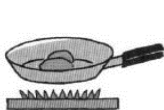
Food is placed on a container and cooked in the steam from boiling water in a covered pan or steamer.

Stewing



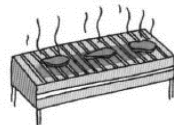
Cooking food in its own juices with a little additional liquid, in a covered pan, at simmering point.

Pan-frying



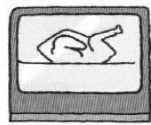
Frying food in a little oil or butter using a frying pan over moderate heat.

Broiling/grilling



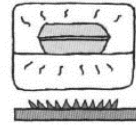
Cooking food like steak or fish, over or under open heat, e.g. under the oven grill, or on a barbecue or hot plate.

Roasting



Cooking food like meat or poultry with some fat in a hot oven [between 200-240 degrees centigrade].

Baking



Cooking food like cakes, pies, bread etc. in a closed oven at a temperature of between 120-240°C.

Cooking methods can be categorised as **wet/dry** and **fast/slow**.

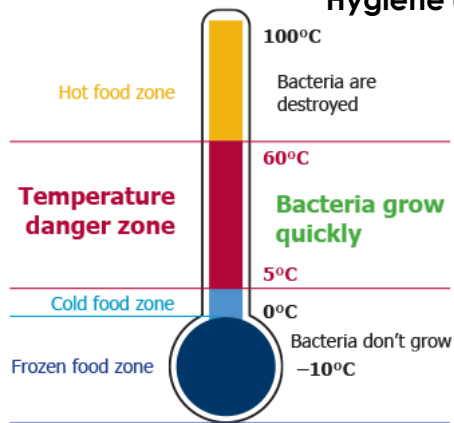
Wet or dry refers to the texture of the cooked food so baking and frying are dry cooking methods and boiling and stewing are wet methods.

Fast and slow methods refer to how long it takes. Generally less than an hour is a fast cooking method and over an hour is a slow cooking method.

Braising	Deep frying	Sautéing	Flambéing
Beef Lamb Veal	Chips Doughnuts	Garlic Onions Mushrooms	Steak Cherries Crepes
Boiling	Simmering	Steaming	Stewing
Pasta Noodles Potatoes	Custard Soup Curry	Broccoli Fish Asparagus	Lamb Beef Carrots
Pan frying	Grilling	Roasting	Baking
Eggs Shellfish Potatoes	Sausages Lamb chops	Chicken Potatoes Parsnips	Cakes Biscuits Pies

Hygiene and safety

- The temperature danger zone is between 5°C and 60°C, when it is easiest for harmful bacteria to grow in food
- Minimise the time that food spends at these temperatures in order to keep food safe
- Refrigerated food needs to be kept at 5°C or below
- Hot food needs to be kept at 60°C or above



High Risk Foods

Foods particularly susceptible to contamination if not handled, stored or cooked properly include:

- raw meat and poultry
- raw eggs
- raw shellfish
- unpasteurised milk
- "ready-to-eat" foods

The 4 Cs (To prevent the transfer and growth of bacteria)

Cooking- heating food to over 75°C in the middle for over 2 minutes to kill the bacteria

Cleaning- cleaning your hands, equipment and work surfaces prevents the transfer of bacteria to food.

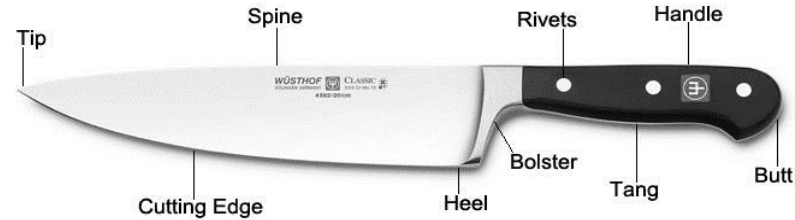
Chilling- storing high risk foods between 0-5°C to slow the growth of bacteria.

Cross contamination- keeping raw and ready to eat food separate to prevent the transfer of bacteria.

Washing up

1. **SCRAPE** – as much of the food off the plates and dishes as you can.
2. **SORT** – Put all of the dirty dishes and pans neatly stacked by the sink. Not **in** the sink.
3. **STACK** – Stack in order. Glasses, cutlery, china and lastly saucepans
4. Get all of the equipment ready to help you clean really well.
5. Washing up liquid, dishcloth, scourer, brush and tea towel.
6. Fill the sink with **HOT** soapy water. It should be **almost too hot** for your hands to bear.
7. Now wash up all of your items.
8. Wash cleanest items first, one item at a time.
9. Do not put all your washing up into the sink together.
10. Wash in the order of glasses, cutlery, plates or dishes, then lastly saucepans.
11. If the water is too dirty change to clean hot water and continue.
12. Drain the items upside down on the draining board. Then dry really well with a clean tea towel.

Potential hazards in the kitchen



What	Why
Bags/ blazers	Can be tripped over
Unattended oven/ hob	Pans can boil over, food can burn, fires can start
Liquid on floor	Can be slipped on
Equipment on the edge of work surface	Can fall off and break
Pets/ pests in the kitchen	Can spread bacteria to surfaces/ food.
Long hair not tied up	Can become tangled in equipment such as electric whisks
Pan handles sticking out over a walk way	Can be knocked off and burn/ scald you.

Hazards vs Risks

Hazards are something which can cause illness or injury.	A risk is how likely that thing is to happen and if it does how severe it would be.
E.g. A hazard of not refrigerating raw chicken is bacteria will grow on it.	This is high risk because it will definitely happen, given enough time.

Knife safety rules

- Store in a knife block, drawer or roll
- Carry by the handle, at your side pointing downwards
- Never run with a knife
- A sharp knife is a safe knife
- Never leave in the washing up bowl
- When cutting; eyes on your blade
- Always cut away from yourself
- Never grab a falling knife
- Clean knives safely
- Only cut on a chopping board

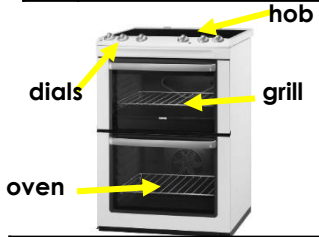
Key words

Bacteria	Micro-organisms which can be harmful once inside the body and make us ill.
Cross Contamination	Transferring bacteria from raw to ready to eat foods. Often through not washing hands or equipment after handling raw foods
High risk food	Foods bacteria can multiply quickest on because they are high in protein and moisture e.g. Chicken, milk, cooked rice.

Topic: Large Equipment

How do I use the oven?

1	Preheat the oven to the correct temperature
2	Put in food using oven gloves
3	Set the timer
4	Remove food using oven gloves



The **hob** is used for heating sauce pans, frying pans, griddle pans etc.

Be careful not to leave pan handles sticking out where they can be knocked off.

What powers different cookers?

Gas	Charcoal	Sunlight
Electricity	Wood	Coal

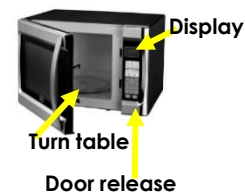
What is a salamander?

- A culinary grill characterised by very high temperature overhead electric or gas heating elements.
- Takes less cooking time than other techniques, reducing preparation time.
- Similar to an oven without a front door, with the heating elements at the top.
- More compact; typically only half the height and depth of a conventional oven.
- Primarily in professional kitchens for overhead grilling, toasting, browning of gratin dishes, melting cheeses onto sandwiches, and caramelising desserts such as crème brûlée.



How do I use the microwave?

1	Place food in a suitable container and cover if necessary on the turntable
2	Select which power setting is required
3	Set the timer
4	Press start



What is a deep fat fryer?

Deep fryers are used for cooking many fast foods, and making them crisp. Modern fryers feature a basket to raise food clear of the oil when cooking is finished. Fryers often come with features such as:

- Timers with an audible alarm
- Automatic devices to raise and lower the basket into the oil,
- Measures to prevent food crumbs from becoming over cooked
- Ventilation systems to reduce frying odours
- Oil filters to extend the usable life of the oil
- Mechanical or electronic temperature controls.



What is a toaster?







- Electric elements heat and toast the bread from both sides.
- Traditionally used for toasting slices of bread
- You can buy toasting bags for making hot sandwiches in the toaster.
- There are also some sweet products (available for breakfast) e.g. Pop Tarts that you can also put in a toaster.






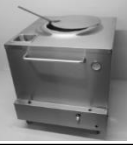



What is a food processor?

- A kitchen appliance used to help with repetitive tasks in the preparation of food, such as cutting, blending, grating and mincing.
- Food processors are similar to blenders in many forms.
- The primary difference is that food processors use interchangeable blades and disks (attachments) rather than a fixed blade.
- Also, their bowls are wider and shorter, a more appropriate shape for the solid or semi-solid foods usually worked in a food processor.
- Usually, little or no liquid is required in the operation of the food processor, unlike a blender, which requires a certain amount of liquid for the particles to move around the blade.



Large Equipment	What is it used for?	Safety precautions	How to clean	Dishes it can prepare/ finish
 <p>Conventional Oven</p>	Used for roasting, baking, casseroles and heating pre made foods.	Use oven gloves when putting food <u>in</u> and taking food out the oven. Move shelves <u>before</u> turning the oven on.	Before you make a start, make sure that the oven is off and cool. Wearing rubber gloves, remove any bits of food that you see lying inside the oven. Next, remove the shelves from the oven and soak them in warm, soapy water. Next, spray or sponge the product into the corners of the oven. Meanwhile, use a scourer to scrub the oven racks clean. Turn them halfway through to make sure that they are clean on both sides. Rinse with warm water and set aside to dry.	Meat, casseroles and baked goods such as bread, cake and other desserts.
 <p>Combination oven</p>	A combi oven is an oven with three functions: convection, steam and combination cooking. In the convection mode, the oven circulates dry heat. The steam mode injects water into the oven.	Use oven gloves when putting food <u>in</u> and taking food out the oven. Move shelves <u>before</u> turning the oven on.	Don't pour liquids, grease or food scraps/debris down the drain inside your combi oven. Doing so can cause the drain to block. Always ensure that the drain screen is always in place. Avoid using any abrasive cleaning equipment to clean your combi oven Put your oven through the cleaning cycle if it has one.	Pastries and breads but can also poach fish, rice and vegetables.
 <p>Bratt Pan</p>	Braising, boiling, steaming, poaching, stewing, roasting, deep-fat frying and shallow frying. They are typically used in mass catering establishments such as schools, hospitals etc. for producing large volumes of food	Be careful especially when tilting the pan to avoid oil or hot water spilling and scalding you.	Tilt the pan. As bratt pans usually have a central spout, any remaining food is easily removed ready for cleaning. Degrease/ wash with hot soapy water.	Chips, pasta, stews, poached or steamed vegetables.
 <p>Rice cooker</p>	An automated kitchen appliance designed to boil or steam rice. It consists of a heat source, a cooking bowl, and a thermostat. The thermostat measures the temperature and controls the heat.	The rice cooker and lid will become hot during use. Use oven gloves to handle the lid and allow to cool before cleaning.	The inner pot can be removed and left to soak. Use soap and hot water. If there is a thick layer of rice stuck to the inside of the pot, remove it with a plastic spoon or spatula before soaking for optimal results. Wash the utensils of the rice cooker while the pot is soaking. If there are still some hard bits of rice stuck to the inside of the pot, you can take a spoon and carefully scrape them off.	Rice. Some can steam other foods such as dumplings and vegetables too.
 <p>Bain-Marie</p>	A type of heated bath, is a piece of equipment used to heat foods gently and gradually to fixed temperatures, or to keep materials warm over a period of time. A bain-marie is also used to melt ingredients for cooking.	The main hazards are burns and scalds. Where oven gloves when removing compartments to avoid this.	<ol style="list-style-type: none"> 1. Switch and allow to cool completely before attempting to clean. 2. Remove all compartments and wash in Dishwasher wash by hand 3. Dry the compartments, lids and dividers thoroughly. 4. Wipe surfaces and sides of the Bain Marie with a clean disposable cloth/paper towel to remove food debris. 6. Spray the surface to be cleaned with a sanitizer. 7. Allow 30 seconds contact time then wipe down, rinse and dry. 	It is used to keep a wide range of food hot such as curry, pasta, custard, vegetables and casseroles.
 <p>Pasta machine</p>	Sheets of pasta dough are fed into the machine by hand, and by turning a hand crank, rolls the pasta thinner incrementally. On the final pass through the pasta machine, the pasta may be directed through a machine 'comb' to shape the pasta noodles as they emerge.	Keep finger away from rollers as they can become pinched. Tie long hair and dangling jewellery/ ties back to avoid them becoming entangled.	Let parts air dry for one hour and then remove any dried dough using the Cleaning Brush. If dried dough cannot be removed, try hand-tapping the attachment. A toothpick can be used if necessary. Never use a knife or other sharp object to remove excess dough. Polish with a soft, dry cloth and store attachment pieces in a dry place at room temperature.	Any fresh pasta.

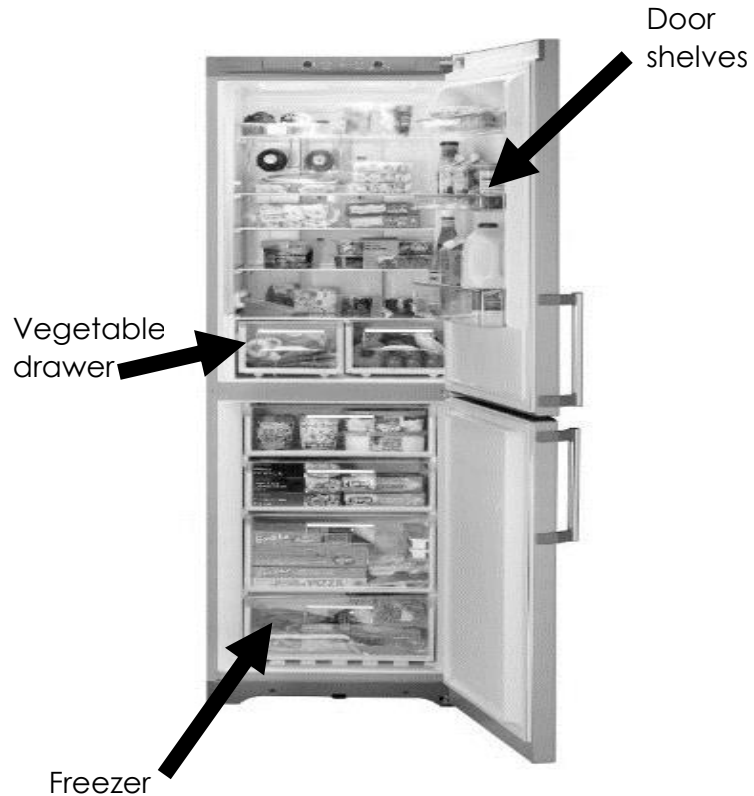
Large Equipment		What is it used for?	Safety precautions	How to clean	Dishes it can prepare/ finish
	Griddle	A flat cooking surface with a heat source underneath. A griddle can be a piece of cookware, such as a cast iron griddle that is heated over a hob, or it can be built into a range	Always use an oven mitt when working with a griddle. As the griddle gets hot. Also use a spatula.	When you are finished cooking, scrape off all the food residue and cooked bits from your griddle. It can be helpful to follow that by wiping the griddle clean with a damp rag. Wear protective gloves, as the griddle will still be hot. Finally, add a thin coat of cooking oil, wipe it down with a rag.	Bacon, pancakes, French toast, hash browns, burgers and other hot sandwiches
	Mixer	A kitchen utensil which automates the repetitive tasks of stirring, whisking or beating. When the beaters are replaced by a dough hook, a mixer can also knead.	Always use the guard on the mixer as rotating attachments can cut, entangle or stab.	Unplug the stand mixer before you begin the cleaning process. Immerse only the beaters into the sink and scrub them with a sponge. Wipe the rest of the commercial mixer using a soapy, soft cloth. Use the sponge to scrub off hard-to-remove material if necessary. Rinse off the beaters and the rest of commercial mixer and dry.	Cakes, biscuits, breads and scones.
	Blender	An appliance that mixes foods together, in particular an electric mixing machine used for liquidizing, chopping, or pureeing.	Fasten the lid firmly in place. Cool hot liquids before blending. Always open the lid away from your face after blending hot foods.	Use care when washing your blender. Pour one drop of liquid dish detergent into the container base. Fill one third full with warm water and secure the lid. Blend on high for 35 to 45 seconds. After stopping the machine, rinse the container and lid well with hot water and wipe dry. You also can put your blender in the dishwasher, but don't put it in with the blades still attached. Over time, blades get dull if they are washed in the dishwasher.	Soups, smoothies and sauces.
	Chinese burner wok cookers	This type of cooker allows foods to be stir-fried at a very high heat. The wok is heated by a flame underneath a ring which holds the wok and provides stability and concentrates heat.	The wok will become very hot and special long handled spatulas or ladles needs to be used to avoid being burnt.	To clean the wok burner ring wait until it has completely cooled down after cooking. Remove from the stove top and clean in hot soapy water with wire wool or a scouring pad. Dry thoroughly afterwards. Remove any food debris from around the burner using a dish cloth and hot soapy water.	Stir fries, curries, soup and dumplings.
	Open ring stoves	These stoves an open flame coming up directly from the centre of the burner which creates more direct heating to the pan. It results in more even and faster cooking than on the sealed burners.	As with any open flame hob do not leave oven gloves or clothes on top which could catch fire.	Wait until the stove has cooled down after use. Remove the burner and other components. Wash all in hot soapy water using wire wool or a scouring pad to remove burnt on food. Dry thoroughly afterwards. Remove any food debris from around the stove using a dish cloth and hot soapy water.	Stir fries, pasta, potatoes, rice and eggs.
	Tandoori Oven	Also known as a tandoor; a variety of ovens, the most commonly known is a cylindrical clay or metal oven used in cooking and baking at high temperatures (480 °C).		Clean the burner twice a year. You can use a brass bristle brush for gentle scraping in cleaning process. Make sure that all of the burner openings are clear. Use a wire brush for ignitor cleaning. Use a stiff long handled brass brush to scrub the tandoor plates.	Flatbreads, curries, kebabs and samosas.
	Steamer	A small kitchen appliance used to cook or prepare various foods with steam heat by means of holding the food in a closed vessel reducing steam escape. Can be made from bamboo, metal or plastic.	Be careful when removing he lid as steam can escape and scald you.	If using hardwater you will need to decalcify the steamer if it is made from metal or plastic. Just fill the water tank with 1/3 white vinegar and 2/3 distilled water. Run the steamer until half the mixture has steamed. Unplug and allow it to rest for 30 minutes. Rinse and repeat... as many times as necessary until steam returns to normal (could be 2-3 times).	Dumplings, Chinese buns, vegetables, chicken and fish.

Cleaning

It is important to clean the dials and handles on a cooker and the inside of microwaves and fridges regularly, otherwise bacteria can build up and contaminate food.

Fridges/ freezers

Fridges need to be between 0-5°C to slow down the reproduction of bacteria.













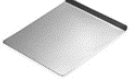



Freezers need to be -18°C to stop bacteria reproducing.

Dishwasher

- Nearly all commercial kitchens have a dishwasher.
- It is different to ones you may have at home because it is used more frequently (up to 50 loads an hour).
- Commercial dishwashers need to be efficient enough to:
 - 1) clean the items put through the machine,
 - 2) hot enough to kill bacteria, and
 - 3) fast enough to cope with demand.



Small equipment		Material/s it is made from	Safety precautions	Storage	How to clean	Foods it can prepare/ finish
	Teaspoon/ Dessert spoon/ Table spoon	Stainless steel	n/a	Store in a cutlery drawer	Clean with hot soapy water	Any baked goods for measuring ingredients
	Table Knife	Stainless steel	n/a	Store in a cutlery drawer	Clean with hot soapy water	Spreading jams etc.
	Pallet Knife	Stainless steel and plastic	n/a	Store in a cutlery drawer	Clean with hot soapy water	Spreading icing, picking up biscuits.
	Plastic Spatula	Plastic	n/a	Store in a cutlery drawer	Clean with hot soapy water	Scraping cake mixture of a bowl
	Plastic Spoon	Plastic	n/a	Store in a cutlery drawer	Clean with hot soapy water	Stirring soups and sauces
	Grater	Stainless steel and plastic	Be careful of the sharp edge	Make sure it is stored somewhere dry to avoid rust spots	Clean with hot soapy water and a brush	Grating cheese/carrots/ potato zesting lemons/ limes/ oranges
	Vegetable Peeler	Stainless steel and plastic	Be careful of the sharp edge	Store in a cutlery drawer	Clean with hot soapy water	Carrots/ apples/ potatoes/ parsnips
	Sieve	Plastic or Stainless steel	n/a	Store somewhere dry	Do not get wet, knock off left over flour	Cakes/ biscuits/ roux based sauces
	Chopping board	Plastic or wood	Be careful when cutting	Store somewhere dry if wooden	Clean with hot soapy water	Fruits and vegetables/ meat/ fish
	Colander	Stainless steel	Be careful not to drip boiling water	Make sure it is stored somewhere dry to avoid rust spots	Clean with hot soapy water and a brush	Pasta/ potatoes/ fruit and vegetables
	Juicer	Plastic	n/a	Make sure it is stored somewhere dry	Clean with hot soapy water	Lemons/ limes/ oranges
	Mixing bowl	Stainless steel	n/a	Make sure it is stored somewhere dry to avoid rust spots	Make sure it is stored somewhere dry	Cakes/ biscuits/ sauces
	Baking tin	Aluminium	Be care when it has been in the oven as it may still be hot	Make sure it is stored somewhere dry to avoid rust spots	Make sure it is stored somewhere dry	Cakes/ tray bakes/ Pies
	Baking tray	Aluminium	Be care when it has been in the oven as it may still be hot	Make sure it is stored somewhere dry to avoid rust spots	Make sure it is stored somewhere dry	Pies/ tarts/ cakes/ biscuits/ meringues
	Saucepan	Stainless steel/ Aluminium	Turn pan handles so they are not knocked off	Store somewhere dry	Clean with hot soapy water	Sauces/ soups/ biscuits/ cakes
	Wok	Cast iron	hold the handle of the wok to keep it steady when stir frying	Store somewhere dry	With a brillo pad then seasons with oil.	Stir fries/ curries

Topic: Weighing and measuring

How do I use scales?

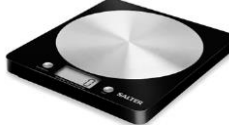


1. Put bowl on scales.
2. Set to zero.
3. Carefully and slowly, add ingredients.




There are two systems of measurements; **metric** and **imperial**. Imperial is older and is different in different countries or even regions. Metric is newer and used internationally.

Imperial	Metric
Stone (st)	Kilogram (kg)
Pounds (lb)	Grams (g)
Ounces (ozs)	Milligrams (mg)
Pints (pt)	Litres (l)
Fluid Ounces (fl oz)	Millilitres (ml)
Inches (in)	Centimetres (cm)
Yards (yd)	Meters (m)

WEIGHING

MEASURING

	Advantages	Disadvantages
 <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Electronic scales</p>	Electronic scales are highly accurate; measuring to 1/10 th of a gram. They are also the easiest to read as they have a digital display. They can measure both wet and dry ingredients in a variety of both metric and imperial units. They are reliable as they do not rely on the ability of the user to interpret the weight correctly.	They require batteries to work and will break if you get them wet which can make washing up properly difficult.
 <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Balance scales</p>	They do not require batteries to work and you can clean them easily as they are safe to get wet. The measuring bowl is usually quite large allowing for ingredients to be measured in bulk.	They require a separate set of weights and skill on the part of the user to set up and use the scales correctly and accurately. It can also be confusing if weights have both metric and imperial measurements on them.
 <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Spring balance scales</p>	They do not require batteries to work and you can clean them easily as they are safe to get wet. They do not require any separate weights.	The bowl is significantly small than the one seen on the balance scales. It can be difficult to read the measurements accurately especially if you have poor eyesight as the integers on the dials are quite small.

 <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Cups</p>	A measuring cup is a kitchen utensil used primarily to measure the volume (instead of weight like scales) of liquid or solid cooking ingredients such as flour and sugar, especially for volumes from about 50 mL (2 fl oz) upwards. Usually used in US recipes.
 <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Measuring jugs</p>	Measuring jugs can be used to measure large amounts of wet ingredients. They are available in metric or imperial units.
 <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Measuring spoons</p>	Measuring spoons can be used to measure small amounts of wet or dry ingredients. They are available in metric or imperial units. You can buy purpose made sets (see right) but you can also use teaspoons, dessert spoons and table spoons.

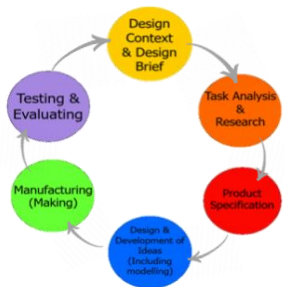
D&T Year 7 Health & Safety

You must be safe when working in a DT workshop. Safety is for yourself and other around you.

You should:

1. Remove your blazer when carrying out any practical work.
2. Tie long hair back.
3. Place bags underneath the work benches to avoid anyone from tripping.
4. Wear an apron when carrying out any practical work.
5. Only use machines that you have been trained to use.
6. Wear safety glasses when operating machinery or when you are cutting something by hand that may break and hit you in the eye.
7. Tuck away any loose items (e.g. your tie)
8. Put the guard down on the pillar drill when drilling.
9. Secure your work in a machine vice when using a pillar drill.
10. Operate machinery one at a time.
11. Stand behind the yellow lines when waiting to use machinery.
12. Carry equipment carefully when moving around the workshop.
13. Walk and do NOT run in the workshop.
14. NOT shout and make loud noises as it can distract others.
15. Ensure that others are being safe in the workshop.

The Design Process



Scan the QR code to learn how to carry out a Task Analysis using ACCESSFM



Product Analysis

ACCESSFM

A is for **Aesthetics**



Aesthetics means **what does the product look like?**
What is the: Colour? Shape? Texture? Pattern? Appearance? Feel? Weight? Style?

C is for **Cost**



Cost means **how much does the product cost to buy?**
How much does it: Cost to buy? Cost to make?
How much do the different materials cost? Is it good value?

C is for **Customer**



Customer means **who will buy or use your product?**
Who will buy your product? Who will use your product?
What are their: Age? Gender?
What are their: Likes? Dislikes? Needs? Preferences?

E is for **Environment**



Environment means **will the product affect the environment?**
Is the product: Recyclable? Reusable? Repairable? Sustainable?
Environmentally friendly? Bad for the environment?
6R's of Design: Recycle / Reuse / Repair / Rethink / Reduce / Refuse

S is for **Size**



Size means **how big or small is the product?**
What is the size of the product in millimeters (mm)? Is this the same size as similar products? Is it comfortable to use? Does it fit?
Would it be improved if it was bigger or smaller?

S is for **Safety**



Safety means **how safe is the product when it is used?**
Will it be safe for the customer to use? Could they hurt themselves?
What's the correct and safest way to use the product? What are the risks?

F is for **Function**



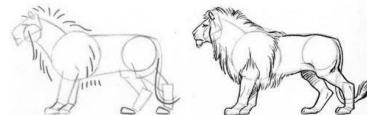
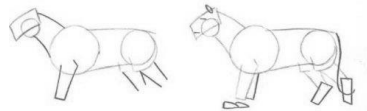
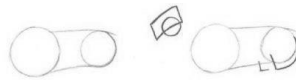
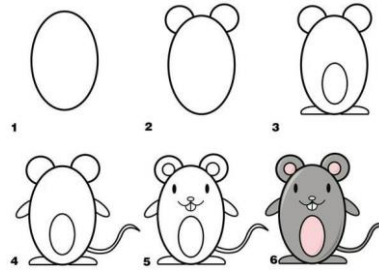
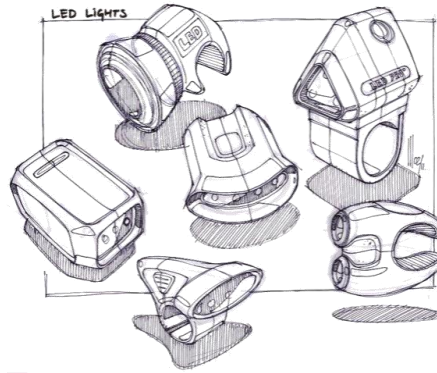
Function means **how does the product work?**
What is the product's job and role? What is it needed for? How well does it work? How could it be improved? Why is it used this way?

M is for **Material**



Material means **what is the product made out of?**
What materials is the product made from? Why were these materials used? Would a different material be better? How was the product made? What manufacturing techniques were used?

Sketching

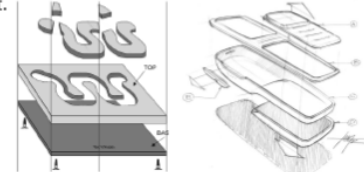


Scan the QR code to learn how to draw using simple shapes.....

Exploded Isometric

Exploded views

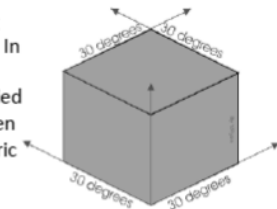
Exploded drawings are extremely useful when explaining a design / idea. The drawing opposite is a design for an educational toy (for a young child) has been drawn with all the parts disassembled. It is important when drawing an exploded view that all the parts line up with each other when disassembled. The vertical guidelines clearly show how the various parts are in line with each other. If an exploded drawing is constructed properly anyone looking at the drawing should be able to see how the various parts go together to form the finished design/object.



Isometric Drawing

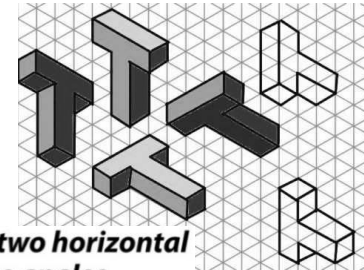
Isometric drawing is a way of presenting designs/drawings in three dimensions. In order for a design to appear three dimensional, a 30 degree angle is applied to its sides. The cube opposite, has been drawn in isometric projection. Isometric project always looks at the view of a product from the corner.

Isometric

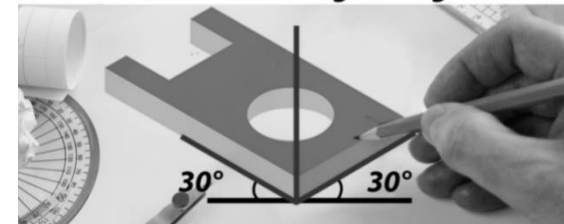


Drawing in isometric projection, normally means drawing very accurately using traditional drawing equipment. This includes using parallel motions, set squares and measuring accurately.

Drawing using simple shapes....



axes are drawn so that the two horizontal axes are drawn at 30 degree angles

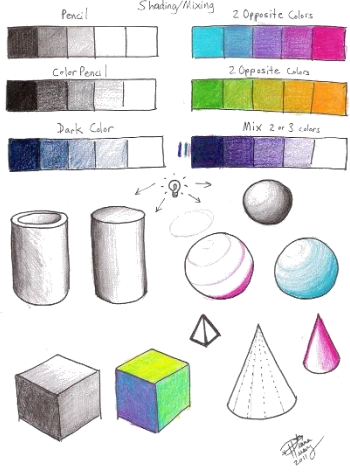


Scan the QR code to learn how to draw simple shapes in exploded isometric

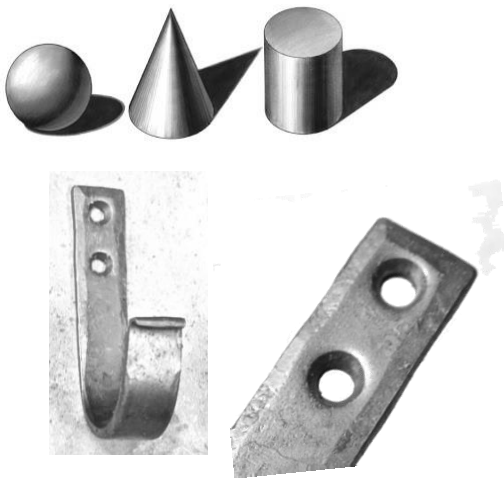


Scan the QR code to learn how to draw simple shapes in isometric

Colour blending.



Shading an object to look like metal.



Wood

Metal

<p>Marking Out</p> <p>Tracing Paper Masking Tape</p>	<p>Scribe Masking Tape Ball Pein Hammer Centre Punch Engineers Square Steel Rule</p>
<p>Cutting</p> <p>Coping Saw Bench Vice</p>	<p>Hack Saw Metal Vice</p>
<p>Shaping</p> <p>File</p>	<p>Drilling</p> <p>Pillar Drill Machine Vice Counter Sink Drill Twist Drill</p>
<p>Finishing</p> <p>Sand Paper</p>	<p>Wood & Metal</p>
<p>Joining methods</p> <p>Nut and bolt</p>	<p>Solid riveting</p> <p>Rivet Ball Pein Hammer Steel block Rivet heads filed flat</p> <p>The rivet 'fills' the countersink Ready to be hammered over</p>

Tools and Equipment

Tonal shading of 3D objects.

Crosshatching



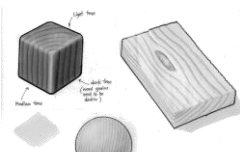
Scan the QR code to learn how to shade shiny surfaces like metal.



Blending



Shading an object to look like wood.



Stippling



Scan the QR code to learn how to shade a wooden texture.



Types of wood

Natural Woods

There are two basic types of tree: hardwood and softwood. Hardwoods are generally deciduous, while softwoods are generally coniferous (often called evergreen). The size of natural timber is determined by the size of the tree. All natural woods are seasons. Approximately 80% of the wood used in the UK comes from other countries.

Hardwoods- Hardwood trees grow more slowly than softwoods. Examples of hardwood trees grown in the UK include oak, ash, beech, sycamore and willow. Imported tropical hardwoods include teak and mahogany.

Softwoods- Softwood, which grows quickly, is often managed as a sustainable resource. There are a smaller number of useable softwoods than hardwoods. Some softwoods (larch, spruce and Scots pine) is grown in the UK.

Manufactured wood- Manufactured, or man-made, wood is board produced using industrial production techniques. It consists of gluing together wood layers or wood fibres. Manufactured boards are usually made in very large sheets. Designers choose manufactured boards when they require consistency in strength, workability and texture. Their plain appearance is often disguised by more decorative material.

Examples of Hardwoods

Mahogany- Is quite expensive and is used for good quality furniture and hardwood windows. It is light brown in colour and more difficult to use compared to pine.

Oak- This is an expensive material and is used in for making quality, expensive furniture. Steel fittings such as hinges will stain oak so it is important to use brass ones.

Teak- A hardwood that contains oils which means it is resistant to decay. This is often used to make garden furniture or for wood block flooring.

Examples of Softwoods

Pine- Is a relatively cheap wood used in the building trade and for furniture. It is pale in colour, quite easy to cut and shape, and machines relatively well.

Examples of Manufactured Boards

Block board- This is built up with a core of softwood strips bonded together with adhesive and covered with a sheet of plywood on either side. Used as a building material and for furniture manufacture including fitted kitchens/bedrooms.

Chip board- This is made up of small chips of wood bonded together with resin and formed into sheets by compression. It is not as strong as plywood and block board but it is not expensive. Chipboard is often covered with a plastic laminate or wood veneer and used in furniture.

Hardboard- This is made from wood fibres that have been pulped. The pulp is put under pressure until the fibres bond to produce a tough board that is smooth on one side and rough on the other. It is not as strong as the other boards.

Medium Density Fibreboard (MDF)- A quality board, relatively cheap. This board is composed of fine wood dust and resin pressed into a board. This material can be worked, shaped and machined easily. Paint can be applied to it without the need for an undercoat or primer. Used in the building and furniture trades.

Plywood- This is made from veneers (plies) of timber with each grain layer being at right angles to each other and bonded together by resin and pressure. A number of grades are available, designed to suit a variety of situations.

Types of metal

Metal is made from metal ores, which have to be mined and processed to transform them into usable materials. It is rare for metals to be used in pure form. Normally they are mixed with other metals to improve their properties: the mixture is called an alloy. Most metals are good conductors. There are two main types of metal alloys: **ferrous** and **non-ferrous**.

Ferrous Metals

Ferrous Metals mostly contain Iron. They have small amounts of other metals or elements added, to give the required properties. Ferrous Metals are magnetic and give little resistance to corrosion.

Mild steel- Tough. High tensile strength. Can be case hardened. Rusts very easily. Most common metal used in school workshops. Used in general metal products and engineering.

Carbon steel- Tough. Can be hardened and tempered. Cutting tools such as drills.

Stainless steel- Tough, resistant to rust and stains. Cutlery, medical instruments.

Cast iron- Strong but brittle. Compressive strength very high. Castings, manhole covers, engines.

Wrought iron- us, tough, ductile, resistant to rusting. Ornamental gates and railings. Not in much use today.

Non-Ferrous Metals

Non-Ferrous Metals do not contain Iron, are not magnetic and are usually more resistant to corrosion than ferrous metals.

Aluminium- Ductile, soft, malleable, machines well. Very light. Window frames, aircraft, kitchen ware.

Copper- Ductile, can be beaten into shape. Conducts electricity and heat. Electrical wiring, tubing, kettles, bowls, pipes.

Brass- Hard. Casts and machines well. Surface tarnishes. Conducts electricity. Parts for electrical fittings, ornaments.

Silver- Ductile, Malleable, solders, resists corrosion. Jewellery, solder, ornaments.

Lead- Soft, heavy, ductile, loses its shape under pressure. Solders, pipes, batteries, roofing.

Working properties of materials

The following key words all link to the working properties of various materials including metals.

Strength- is the ability of a material to withstand a force without breaking or bending

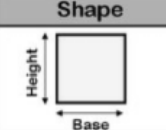
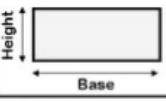

Toughness- is the ability of a material to withstand blows or sudden shocks without breaking

Tensile strength- the resistance of a material to breaking under tension.

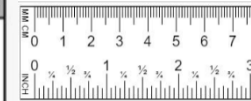
Brittle- hard but liable to break easily.

Maths in Design Technology

Area of 2D shapes

Shape	Name	Formula for Area
	Square	Base x Height
	Rectangle	Base x Height
	Triangle	Base x Perpendicular Height ÷ 2

Measuring



There are 10 mm in a cm.
Each small line on a ruler is a mm
5mm = 0.5cm
10mm = 1cm

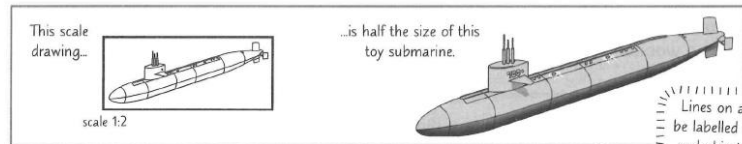
Scale

Scale Drawings are Used to Draw Big Things (but smaller)

- 1) To draw a **big object** on a small piece of paper, you have to **scale it down**.
- 2) The object's still drawn in **proportion** — it's just **smaller**.
- 3) The **scale** is shown as a **ratio**. For example:

- A scale of **1:2** means that the **drawing is half the size of the real object**.
- A scale of **1:4** means that the drawing is **a quarter of the size of the real object**.
- Anything drawn at **1:1** is **full sized**.

- 4) You can also **scale things up**. A scale of **2:1** means the **drawing is twice the size of the real object**.
- 5) The **scale** needs to be **clearly** shown on the diagram. It's a ratio, so it **doesn't have any units**.



Lines on a scale drawing should be labelled with the **lengths of the real object** — not the lengths of the lines on the paper.

EXAMPLE:

A jet ski is 1.2 m tall. A scale drawing of the jet ski has a height of 40 cm. What is the scale of the drawing?

First, convert the measurements to the same units.

Scale drawing height = 40 cm Jet ski height = 1.2 m = 120 cm

Write the measurements as a ratio — "scale drawing : real object" = 40 : 120
Simplify the ratio by dividing each side by the same number.

Both sides will divide by 40.

40 ÷ 40 = 1 and 120 ÷ 40 = 3, so the scale of the drawing is **1:3**

- 6) To **check** you've scaled an object down properly, **measure** the lengths of the lines in your **drawing**. If you **multiply** those lengths **by the scale**, you should get the dimensions of the **real object**.



Key Concepts	Key Contexts
Persuasion: the action or process of persuading someone or of being persuaded to do or believe something.	Inequality: when people are treated differently in society and as a result there is difference in the amount of power or influence they have.
Point of view/viewpoint: a particular attitude or way of looking at an issue	Stereotypes: a widely held but fixed and oversimplified image or idea of a particular type of person or thing.
Line of argument: the reasoning used to support a particular idea or view.	Discrimination: when people are treated negatively especially on the grounds of race, age, or sex.

Grammar and Punctuation

Colons	(:) used to mark a major division in a sentence, to indicate that what follows provides extra detail.	He got what he worked for: he really earned those GCSEs.
Semi-colons	(;) used to show a division in a sentence where a more distinct separation is felt between clauses or items. It is sometimes used to replace a connective in a sentence.	I love ice cream; it is my favourite food.
Modal verbs	A type of verb that expresses necessity or possibility. (must, shall, will, should, would, can, could, may, and might)	We <u>must</u> make a change to the way that we treat our planet so that future generations <u>will</u> be able to see how beautiful it is.
Pronouns	A word that refers to the participants in the conversation or to someone or something mentioned elsewhere (I, you, she, it, this)	I believe that if <u>we</u> work together, <u>this</u> world will be a better place.
Dashes	A horizontal stroke in writing or printing to mark a pause or break in sense or to represent omitted letters or words.	Education is a right that we should all have – it should not depend on our gender, race or background.
Brackets	A pair of marks () used to enclose words to separate them from the rest of the main clause.	It can be argued that (contrary to my own belief) that children should not be allowed to use mobile phones until the age of 16.

Rhetorical Techniques

Aspects of Structure

Anecdote	A short amusing or interesting story about a real incident or person.	<i>On the 9th of October 2012, the Taliban shot me on the left side of my forehead. They shot my friends too...</i>	Counter argument	What someone who disagrees with you might say in response to your ideas/argument.	<i>Admittedly, it has been argued that global warming is just a myth – but of course, such claims are completely absurd.</i>
Rhetorical Question	A question asked to produce an effect, not for replies	<i>Why has the word become such an uncomfortable one?</i>	Topic sentence	A sentence that identifies the main idea of the paragraph	<i>The facts about women and employment are clear.</i>
Litotes	An understatement.	<i>William Shakespeare was not a bad playwright at all.</i>	Discourse markers	A word or phrase used to organize what we are saying in sections.	<i>However, although, nevertheless</i>
Hyperbole	Obvious exaggeration.	<i>If I have to wait for an eternity for this, I will.</i>	Effective openings	Grabbing the audience's attention with techniques that stand out and make people listen (e.g. short successive sentences, rhetorical question, setting the scene)	<i>Imagine: a world with....</i>
Colloquialism	Ordinary or familiar conversation rather than formal speech or writing	<i>Boys can get a kick out of sewing.</i>	Bookending	When your speech introduction and conclusion support your speech in a way that provides balance and creates structure.	<i>Today we are launching a campaign called HeForShe. I am reaching out to you because we need your help. It is called HeForShe. I invite you to step forward, to be seen and to ask yourself, "If not me, who? If not now, when?"</i>
Direct Address	The use of a term or name for the person spoken to, as in securing the attention of that person.	<i>You can make a change to these distorted attitudes if you help to spread a positive word about it.</i>	Short sentences	A simple sentence, which often communicates clearly and is easily remembered.	<i>It's about freedom.</i>
Emotive language	Language used to create emotion in the audience.	<i>He was depressed, bedraggled and lonely.</i>	Single sentence paragraph	When one line of text is used on its own in a text, normally for emphasis.	<i>Dear sisters and brothers, now it's time to speak up.</i>
Repetition	Words or phrases that are used more than once.	<i>Both men and women should feel free to be sensitive. Both men and women should feel free to be strong.</i>			
List of Three	Three words or phrases used in a sentence for emphasis.	<i>Strength, power and courage was born.</i>			
Superlative	Expressing the highest of something.	<i>Most, least, best, worst</i>			

Great Expectations	Context
	The Victorian Era: the period of Queen Victoria's reign, from 20 June 1837 until her death on 22 January 1901. Despite the fact that Britain was seen as a strong global power, this era saw a large amount of social inequality. There was also a lot of change during this era as it saw the advancement of technology and industry with the Industrial Revolution. Charles Dickens wanted to show how difficult growing up was in these times as well as reveal the differences in the lives of the rich and the poor.
	Social class: In Victorian times, society was strictly layered - not only into rich and poor, or even upper, middle and lower class, but hundreds of 'grades'. People were expected to 'know their place', and the Church taught them to be content in their 'station'. There was a huge gap between the rich and poor; the poor were very poor and the rich did little to help the poor or alleviate their situation
	Social problems: At the time, many people were becoming aware of the need to improve the condition in which the poor found themselves. Dickens was a great supporter of social reform - especially in education and prisons.
	Church and religion: In Victorian times, Britain was overwhelmingly Christian. The Church dominated religion and the morals of the time. Dickens, however, disapproved of the power the Church had over people's lives.
	Charles Dickens: Dickens was born in England in 1812. He died in 1870. His first big success was The Pickwick Papers. This was in 1837, the year Victoria became Britain's Queen. Dickens lived through the Industrial Revolution. When he was 12, his father was imprisoned for debt. While his father was in prison, Dickens was sent to work in a boot-blackening factory. Even when his father came out of prison, Dickens' mother made him continue working in the factory - for which he never forgave her.
	Nineteenth century literary traditions: By 1860, although most people in Britain could read and write, books were well beyond the income of ordinary people. Because of this, Dickens' novels were serialised. Great Expectations was published in 36 weekly parts in All Year Round, priced 2d (two pence in old money).

Great Expectations Key Characters	
Pip	The hero, protagonist and narrator of Great Expectations who starts as an orphan and receives a large and unexpected fortune. (victimised, lonely, naïve)
Magwitch	A fearsome criminal, Magwitch escapes from prison at the beginning of Great Expectations and later becomes Pip's secret sponsor. (rough, complicated, generous)
Estella	Miss Havisham's beautiful young niece, Estella is Pip's unachievable dream throughout the story (beautiful, arrogant, cold)
Miss Havisham	The old woman who lives in Satis House. As a young woman, Miss Havisham was deserted by her fiancé minutes before her wedding, and now she hates all men. (bitter, angry, eccentric)

Great Expectations Plot
<ul style="list-style-type: none"> • Pip, an orphan, lives with his unkind sister and her husband • Pip meets a convict (Magwitch) who commands him to bring him food • The convict is later captured by soldiers and imprisoned • Pip is introduced to a lady called Miss Havisham at Satis House • He spends time at her home and falls in love with Estella • Miss Havisham pays for Pip to become a blacksmith • Pip is unhappy and wishes to become a gentleman and marry Estella • Pip is left a large fortune by an unknown benefactor • Pip believes that the benefactor is Miss Havisham • Pip learns that his benefactor is Magwitch • He also learns about Miss Havisham's ill-fated wedding day • Pip returns 11 years later and finds Estella at Satis House.

Great Expectations Key themes

<p>SOCIAL CLASSES: There was a big divide between the upper class and lower class people in the Victorian era. Dickens did not like the effects of social class. Pip sees that many of the people of 'high' social class have significant character flaws, and that people from other social classes are 'better' human beings. On the other hand, violent and surly lower working class people are to be feared and distrusted. Dickens' message is that the middle class values of godliness, hard work, temperance and the gentleness of a 'gentleman' are - with sufficient income - the way to happiness. This message would appeal to his middle class/upper working class readership.</p>
<p>CRIME AND THE LAW: Dickens had a social conscience and was deeply critical of the existing system of law and justice. (Remember that his father was imprisoned for debt.) Issues relating to crime and the law run throughout Great Expectations. For example: The story starts with Pip meeting a 'fearful' criminal in a cemetery, who makes him steal a file and food. Dickens' shocking conclusion is that, in Victorian England, some criminals were good men trapped by an unfair system, that punishment missed the guilty, that lawyers were rotters, and that prison was an inhuman place - in short, that England's system of justice was wholly unjust.</p>
<p>AMBITION AND SELF-IMPROVEMENT: In 1859, Samuel Smiles published his book Self-Help, which told people that if they worked hard they could improve their station in life. The 19th century was the age of the 'self-made man'. Most of Dickens' readers would have wanted to better themselves, and the author holds up a number of models of upper class life for Pip (and therefore the reader) to consider: Miss Havisham, Pip and Magwitch. Dickens' message is that 'character' is not about money or manners, but what is in your heart. The true heroes are Biddy and Joe. Dickens felt illusions make you unhappy, and ambition does not bring success. What matters to Dickens is not what you achieve, but what kind of person you are.</p>
<p>LOVE AND DECEPTION: Dickens explores love and loyalty in Great Expectations. He makes it clear that they underlie happiness (when things go well) and misery (when things go wrong). For example, Pip's unrequited love for Estella throughout the novel only brings misery for Pip. Miss Havisham's life is ruined when she is jilted on her wedding day.</p>

LYMM
HIGH SCHOOL

Great Expectations

Why is the genre of a Bildungsroman novel significant?

Pip is both the narrator of Great Expectations and its chief protagonist. His perspective both determines what we see and how we see it. The novel follows Pip from the age of about eight to his mid-thirties and qualifies as a bildungsroman. Great Expectations is divided into three parts corresponding to the phases of Pip's life. The first stage covers his childhood, during which he is 'brought up by hand' by his older sister, his parents having died. The second covers his apprenticeship in London, from his mid-teens to his coming of age, at which time he also comes into his mysterious inheritance, of which he has such great expectations (hence the novel's name). The third part of the novel shows Pip getting a better grip on who he is and who he wants to be, from his mid-twenties to his mid-thirties. It also covers how those 'great expectations' are - and are not - fulfilled. As Pip is our narrator, the reader lives Pip's life with him, and we see:

- the way contact with rich people makes him dissatisfied
- how coming into money makes him shallow and selfish, and unhappy
- how trying to find love with a beautiful, yet cruel, girl makes him unhappy - the plain, good girl would have been better
- how disappointments change his character for the better
- how Pip is happier when he settles down to a decent living through hard work - this is one of the main messages of the novel

Subject Terminology and Vocabulary

Foreshadowing: a clue, hint or warning about something which will happen in the future/ later in the text

Catalyst: something that causes a reaction to happen quickly

Exposition: a full-fledged and detailed explanation

Motif: a repeated image that helps to convey a theme

Semantic field: a set of words that are related in meaning

Benefactor: a sponsor

Naive: someone who is innocent and lacks experience

Eccentric: unusual and slightly strange

Grotesque: focuses on the human body, and all the ways that it can be distorted or exaggerated: its aim is to make us feel both empathy and disgust at the same time.

Bildungsroman: a coming of age novel which focuses on the development of the protagonist from youth to adulthood

Patriarchal: relating to a system/ society where men dominate

Protagonist: the leading character in the novel

Social Class: a section of society based on social and economic background

Narrative Perspective: the point of view from which the story is told. In the case of Great Expectations, Pip is the narrator so there is a 'First Person Narrative'

Serialisation: when stories were released in a series of weekly instalments instead of as a whole novel - they were serialised.

Key Quotes

Pip

- 'and that the small bundle of shivers growing afraid of it all and beginning to cry, was Pip'
- 'common labouring boy'
- 'coarse and common'
- 'Out of my thoughts! You are part of my existence, part of myself. You have been in every line I have ever read...'
- "Biddy," said I, after binding her to secrecy, "I want to be a gentleman."
- 'I could never, never, never undo what I had done.'
- 'No varnish can hide the grain of the wood; and that the more varnish you put on, the more the grain will express itself.' (A metaphor to suggest Pip cannot escape his past)
- 'I wanted to make Joe less ignorant and common, that he might be worthier of my society.'

Estella

- "Love her, love her, love her! If she favours you, love her. If she wounds you, love her. If she tears your heart to pieces - and as it gets older and stronger, it will tear deeper - love her, love her, love her!" (Ms Havisham instructing Pip to love Estella.)
- "her light came along the long dark passage like a star."
- "I am what you designed me to be. I am your blade. You cannot now complain if you also feel the hurt." (Estella to Ms Havisham)
- 'I loved her against reason, against promise, against peace, against hope, against happiness, against all discouragement that could be.' (Pip to Estella)

Miss Havisham

- 'I have sick fancies'
- 'Break his heart'
- 'had been white long ago, had lost its lustre, and was faded and yellow.'
- 'she was dressed in rich materials - satins, lace and silks - all of white'
- 'I stole her heart away and put ice in its place.'

Magwitch

- 'In jail and out of jail; in jail and out of jail. That's my life pretty much.'
- 'Hold your noise!' cried a terrible voice, as a man started up from among the graves.'
- 'My repugnance to him had melted away.'
- 'my convict'/ 'my gentleman'

London

- 'the shameful place, being all asmeared with filth and fat and blood and foam.'

Context
The Elizabethan Era: 1558-1603 this period is named after Queen Elizabeth I who reigned during this period. This is the period during which Shakespeare wrote and set the play. Also known as the Golden Age.
The court and the upper classes: the upper classes were educated and could read and write. They would dress very smartly and speak in a more formal manner. Those who were associated with the royal court were known as nobleman and aristocrats.
The watch and lower classes: the lower classes were not educated and many would not have been able to read and write. The watch was a sort of early police force made up of the lower classes. It is debatable as to how effective they were at preventing crime.
Women: in the Elizabethan era were submissive and maintained a domesticated role in life. It was thought that they should speak when spoken to by men. Usually a woman would not be witty – wit would be seen as being clever and women were not educated during this era. In many ways, Beatrice is unconventional of our expectations of an Elizabethan woman. Society was patriarchal which meant that men were in charge/ dominant and women were inferior to them.

Plot

ACT 1	<ul style="list-style-type: none"> •Beatrice and Benedick argue in a 'merry war'. Don Pedro hatches a plan to get Claudio and Hero together. •Don Jon plots to revenge on Claudio
ACT 2	<ul style="list-style-type: none"> •At the masked ball, Don Jon tells Claudio that Don Pedro intends to marry Hero himself. •After Don Jon's first revenge plan has failed, he plans to tell Claudio that Hero is having an affair. •Meanwhile, Benedick's friends trick Benedick and Beatrice into falling in love
ACT 3	<ul style="list-style-type: none"> •The second gulling scene – Hero tricks Beatrice into thinking that Benedick loves her. •The night before the wedding, Don John tells Claudio his wife-to-be is unfaithful.
ACT 4	<ul style="list-style-type: none"> •The next day, Claudio rejects Hero at the altar at their wedding calling her a 'rotten orange'. •Leonato sends Hero into exile, where everyone believed her to be dead. •Benedick confesses his love for Beatrice and she tests this by asking him to kill Claudio as proof of his love to her. •Meanwhile, Dogberry and Verges get a confession from Borachio and Claudio who admit that it was all part of their nasty plan.
ACT 5	<ul style="list-style-type: none"> •Claudio find out Hero is innocent but believes she is dead. Leonato orders Claudio to kill Hero's name by telling the entire city that she is innocent. Claudio agrees to make amends by marrying Antonio's 'daughter' without seeing her. •At the wedding Claudio is delighted to unveil his new bride and find Hero. •Benedick and Beatrice agree to marry.

Genre: comedy

Comedy, in the Elizabethan era, had a very different meaning from modern comedy. A Shakespearean comedy is one that has a happy ending, usually involving marriages between the unmarried characters, and a tone and style that is more light-hearted than Shakespeare's other plays.



Terminology		Characters	
Dramatic irony	This is when the audience knows more about a character's situation than the character themselves. It is often used by playwrights to create tension, or humour.	Beatrice	Niece of Leonato and cousin of Hero. She doesn't want to marry at the start of the play and is a scorner of love – she constantly fights verbal battles with Benedick.
Soliloquy	A speech in a play that the character speaks to himself or herself or to the people watching rather than to the other characters.		
Monologue	A long speech by one character in a play.	Benedick	An aristocratic and soldier and a friend of Claudio and Don Pedro. He argues with Beatrice and is against the idea of marriage at the beginning of the play (he is a scorner of love)
Act	The division of a play (all of Shakespeare's plays have 5 acts).		
Scene	A sequence of actions in a play. Acts are divided up in to scenes.		
Stage directions	An instruction in the text of a play indicating the movement, position, or tone of an actor, or the sound effects and lighting	Claudio	A young soldier who falls in love with Hero. However, he is suspicious and quick to believe rumours.
Tension	An event which causes the audience to experience excitement and anticipation regarding an outcome		
Wit	A natural aptitude for using words and ideas in a quick and inventive way to create humour.	Hero	The beautiful daughter of Leonato and cousin of Beatrice. She suffers a lot in the play.
Scorner of love	Someone who believes that love is silly and they look at it in a disdainful way. They think that love is beneath them.		
Gull	A trick	Don Jon	The illegitimate brother of Don Pedro. He is the villain of the play and envious of his brother's success.
Double entendre	A word or phrase open to two interpretations.		
Malapropism	The mistaken use of a word in place of a similar-sounding one, often with an amusing effect	Don Pedro	A nobleman from Aragon. He is the most politically and socially powerful character in the play and led the army to quash Don Jon's rebellion.
Comic fool	A character who, at the expense of their intellect, provides comic relief for the audience. These characters often come in pairs known as 'comedy duos'.		

Key themes

Love: is a main idea in this play and is shown through the partnerships between Claudio and Hero, Benedick and Beatrice and also through the love that Leonato shows for his daughter and niece. Claudio's love for Hero is questionable. He seems to fall in love with her because she fits the model of an ideal woman: modest, beautiful and obedient. Beatrice and Benedick, on the other hand, are each in denial of their love and need to be tricked by their friends into realising their true feelings. Ultimately their love seems more real and true. In the end, both pairs are married and love is triumphant.

Appearance V reality :Shakespeare uses this play to show how appearance and reality are not always the same thing. At the beginning we see the apparent enemies, Benedick and Beatrice, engaging in witty banter that verges sometimes on the cruel. However, they are tricked into acknowledging their real feelings of love for one another. Other examples of this theme can be seen in the masked ball, where mistaken identity is the cause of confusion and upset for both Claudio and Benedick. In the gulling scene, Benedick appears to hear his friends talk about Beatrice's love for him, but in reality the audience knows they are playing a trick. In darker examples of the theme, Don John fools Claudio into believing his wife-to-be is untrustworthy by apparently showing him a scene of unfaithfulness. When Hero is accused, Leonato makes it appear that his daughter is dead.

Fantastic and Forbidden Places

What do we mean?

There are many different definitions but fantastic and forbidden places are areas of the world that can trigger inspiration, intrigue, danger and excitement. Many have been shaped by nature, some created by humans. Everyone has places they consider to be fantastic; what are yours?

Las Vegas

Las Vegas is located in the south east of the Nevada State in the Nevada desert. It has a dry desert climate which makes it particularly difficult for humans. However, engineering of huge dams and diversion of surrounding rivers have enabled settlements to form. It was officially established as city in 1905 Las Vegas is also known as the 'city of sin' due to the number of casinos and bars that have been built in the area.



The fast population growth has put enormous strain on water and food resources. In 1972 the population was less than 300,000 but by 2010 it was more than 2 million

Death Valley

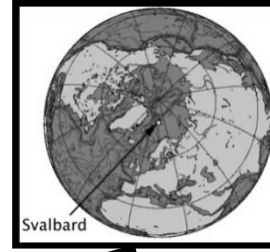
Death Valley is located in western USA in the state of California. It got its name from those people who crossed it during the Gold Rush as it is the lowest, driest and hottest valley in the United States. For many years scientists were baffled by strange rocks that appeared to have moved across the floor leaving trails behind the. The mysterious moving rocks are also known as sailing stones. They move when ice and water build around and underneath the rock. This allows the wind to push them along the dry, cracked surface of the desert floor.



Arctic - Svalbard

Svalbard is a remote Norwegian Island located in the Arctic Ocean. The population of Svalbard is only 2600. Most people are employed in mining or tourism.

Due to its location, Svalbard experiences polar night in winter when there is no sunlight for 84 days. The sun stays below the horizon and creates a cold, dry arctic desert. It is so cold because it has very little solar radiation. The area is a breeding ground to many birds, polar bears, reindeers and marine mammals.

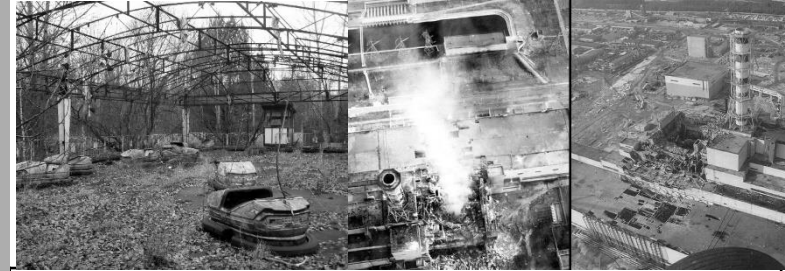


Chernobyl

Chernobyl is located in the Ukraine.

The disaster was a catastrophic nuclear accident that occurred on 26 April 1986 at the Chernobyl Nuclear Power Plant in Ukraine which was under the jurisdiction of the Soviet Union. An explosion and fire released large quantities of radioactive particles into the atmosphere, which spread over much of the western USSR and Europe.

Since the disaster it has become a no go zone. Populations of people were forced to move away due to the contamination. Nature has since reclaimed the land affected and some species of animals such as Eurasian lynx, wild boar, grey wolf, elk, red deer, moose, brown bear, turtle, have thrived in the absence of humans.



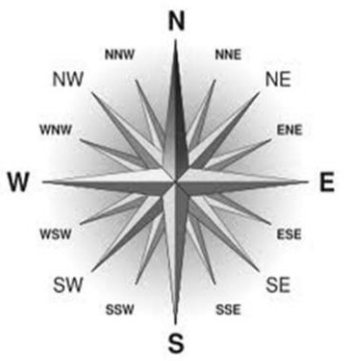
Totem pole and the tooth fish

The Totem Pole is a sea stack at popular amongst rock climbers in the Tasman National Park, Tasmania off the south coast of Australia. It is part of the many miles of rugged coastline and diverse forest ecosystems, which contain several species of rare plant. The park also includes many small islands and the southern end of the park has some of the highest and most spectacular cliffs in Australia. The National Park is a very popular area for tourism as it is within a few hours drive of the main city on the island, Hobart.

The overfishing and conservation of the endangered Tooth fish are also linked to the totem pole as activists from Greenpeace have used the pole to try and raise public awareness about the fishing industry in this area.

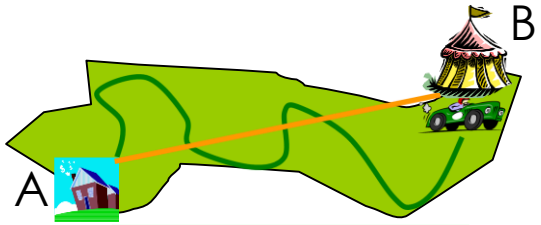


The Compass Rose



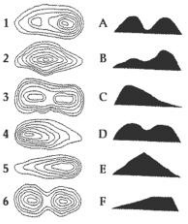
Distance can be measured in 2 ways:-

1. As the crow flies (in a straight line) - this is the direct and shortest distance from A to B
2. Actual distance following every twist and turn in the road or path

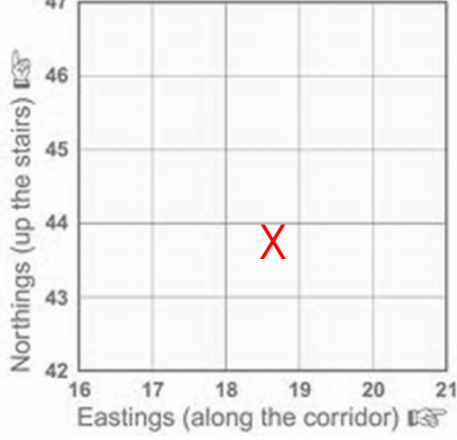


Contour Lines

- They show the **height** and **relief (shape)** of land.
- On most OS maps the lines are drawn every 10m.
- Several contours together make up a pattern which show the **steepness** and **shape** of the land.
- **Remember** the **closer** the **contour lines**, the **steeper** the **slope**.



Four Figure Grid References

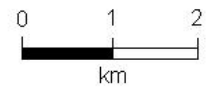


A four figure reference will point you to a square on the map.
X = 1844

Scale

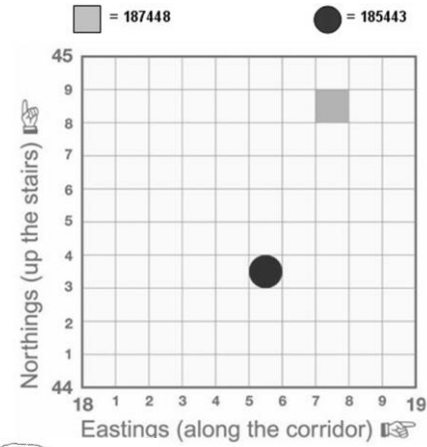
1:25,000

One inch to one mile



Map Skills

Six Figure Grid References

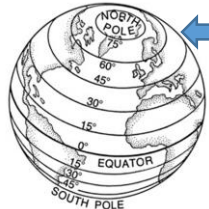


1: 25,000 This means 1 centimetre/ metre/kilometre on the map represents 25,000 centimetres/ metres/kilometres on land

Six figure grid references are used to pin point a location within a square.

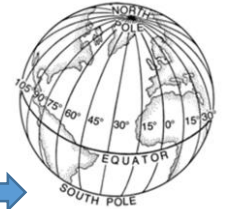
Important Lines of Latitude and Longitude

Equator 0° Latitude
 Greenwich Meridian 0° Longitude



LATITUDE
 Lines Around the earth!

LONGITUDE
 Lines Over the top of the earth!



OS Map Symbols

Ordnance Survey Map Symbols

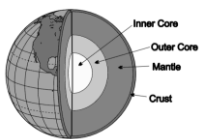
Maps give us a lot of information and there is not much room for labels. So we use symbols to save space and make the map easier to read. Symbols may be simple drawings, letters, shortened words or coloured shapes or areas.

Restless Earth

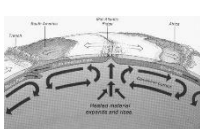


Structure of the Earth

The earth has 4 layers:
 Inner core – Solid
 Outer core – Liquid
 Mantle – Semi-liquid
 Crust- Solid



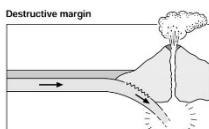
The crust is split into major sections called tectonic plates. These plates move due to convection currents in the mantle. They move in different directions causing various processes and different landforms to occur.



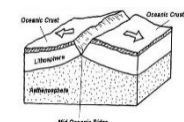
There are 2 types of crust:

Oceanic
 Thinner
 Younger
 More dense
 Made of Basalt

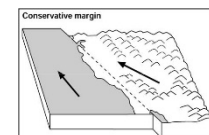
Continental
 Thicker
 Older
 Less dense
 Made of Granite



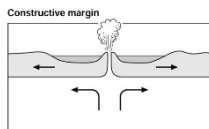
The heavier oceanic crust gets pushed underneath the lighter continental crust. The rock jolts and grinds as it's pushed down, causing earthquakes. Some of the rock gets so hot it melts and forces its way through cracks to form a volcano.



When two continental plates move towards each other the crust gets pushed and folded upwards to form mountain ranges.



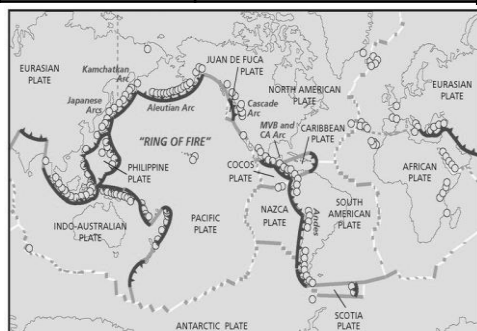
Two plates move past each other either in the same or opposite direction. Parts of the plates get stuck, then lurch free causing earthquakes.



Two oceanic plates move apart, magma rises between the plates to form new ocean floor.

Distribution of tectonic activity

Along plate boundaries. On the edge of continents. Around the edge of the Pacific.

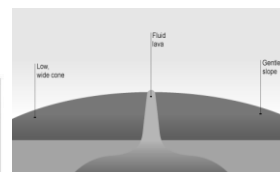


○ earthquake activity
 Arcs in the "Ring of Fire"
 Convergent (teeth) on overriding plate
 Divergent Transform

Volcanoes

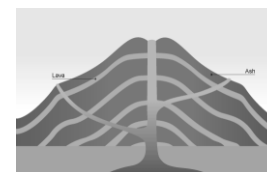
A volcano is an opening or vent in the earth's surface through which molten material erupts and solidifies as lava.

Shield Volcano



Form at Constructive plate margins. They are made up of layers of lava. Shield like shape – Wide & gentle slopes. Eruptions are frequent and non-violent.

Composite Volcano



Form at destructive plate margins. Made up of layers of lava and ash. Steep sided, cone shape. Very violent eruptions.

Active volcano = likely to erupt

Dormant volcano = hasn't erupted for many years

Extinct volcano = hasn't erupted for thousands or millions of years.

Montserrat Volcanic Eruption

Before the eruption: 11,000 people lived on the island of Montserrat in the Caribbean. In 1995 the volcano became active after 400 years of being dormant. Most people left the southern part of the island, moving to the north or abroad. On the 25th June 1997 the volcano erupted killing 19 people who had stayed behind. The capital city (Plymouth) and airport was destroyed

After the eruption: Only 4,500 people are left on Montserrat, based in the north of the island. The south of the island is completely restricted (exclusion zone)– fines are given if people go there. They are now promoting tourism again as there is little land left to farm. New capital city (Little Bay) and airport built.

Earthquake	The shaking of the Earth's crust caused by the release of pressure which builds up as tectonic plates move.
Shockwaves	Pulses of energy that make the ground shake
Focus	The point where the Earthquake happens underground
Epicentre	The point on the surface above the focus
Richter Scale	A scale for measuring the energy given out in an Earthquake - Scientific
Mercalli Scale	A scale (1-12) used to measure the effects caused by an Earthquake

Reducing the impact of tectonic hazards	
Monitoring	Prediction
Seismometers and Tilt meters measure earth movements. Volcanoes give off gases. Animals may act strangely.	By observing monitoring data, this can allow evacuation before event.
Protection	Prepare
Reinforced buildings and making building foundations that absorb movement. Building regulations. Automatic shut offs for gas and electricity. Items screwed to walls.	Avoid building in at risk areas. Training for emergency services and planned evacuation routes and drills.

Haiti Earthquake	Epicentre: Near the town of Leogane, 25km from capital of Port-au-Prince Focus: 13km below ground When: 12 th January 2010 Magnitude: 7.0
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Primary Effects	Secondary Effects	Immediate Responses	Long term Responses
Several hospitals collapsed 3 million people affected Over 220,000 deaths and 300,000 injured Airport and port badly damaged. Roads blocked 30,000 buildings collapsed, many of which were government buildings.	1.3 million people made homeless. Aid supplies delayed because of airport and port closures. 2 million people left without food or water, so looting became a big problem. Lack of government buildings limited the control government had within the country. There were frequent power cuts. There were many dead bodies in the street causing a health hazard.	Neighbouring Dominican Republic provided emergency water and medical supplies and heavy machinery to help with search and rescue efforts. Most people dug through the rubble by hand. Emergency rescue teams arrived from many countries E.g. Iceland Temporary field hospitals were built to treat injured people. (Red Cross) GIS was used to provide satellite images and maps of the areas to help assist aid organisations. People from all over the world pledged money after seeing the disaster reports on the news or via social media. United Nations troops and police were sent to help distribute aid and keep order.	Money was pledged by organisations and governments to assist with rebuilding (slow progress was made). After 1 year there were still 1,300 temporary camps. 'Cash for work' programmes were set up to pay locals to clear the rubble. Small farmers were supported – so crops could be grown to feed the population. Schools were rebuilt.

How do waves form?

Waves are created by wind blowing over the surface of the sea. As the wind blows over the sea, friction is created - producing a swell in the water.

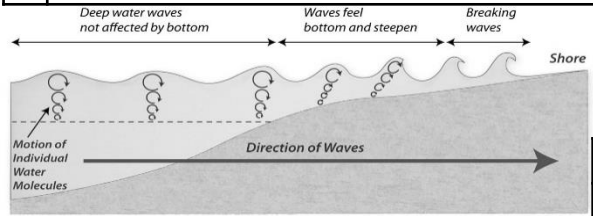
Size of waves

Affected by:

- Fetch how far the wave has travelled
- Strength of the wind.
- How long the wind has been blowing for.

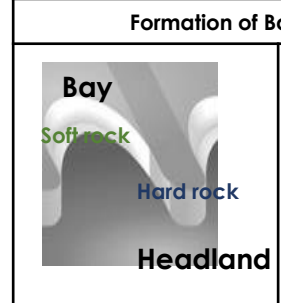
Why do waves break?

- 1 Waves start out at sea.
- 2 As waves approaches the shore, friction slows the base.
- 3 This causes the orbit to become elliptical.
- 4 Until the top of the wave breaks over.



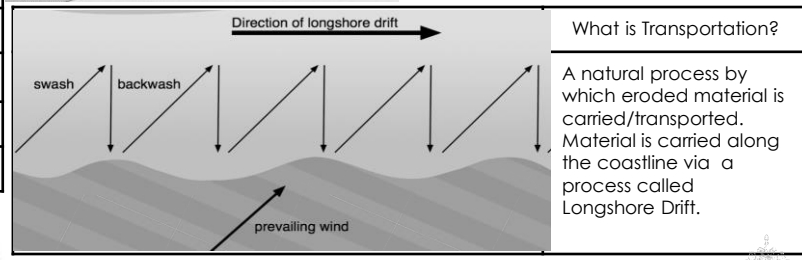
Types of Erosion	
The break down and transport of rocks – smooth, round and sorted.	
Attrition	Rocks that bash together to become smooth/smaller.
Solution	A chemical reaction that dissolves rocks.
Abrasion	Rocks hurled at the base of a cliff to break pieces apart or scraped against the banks and bed of a river.
Hydraulic Action	Water enters cracks in the cliff, or river bank, air compresses, causing the crack to expand.

Formation of Bays and Headlands



- 1) Waves attack the coastline.
- 2) Softer rock is eroded by the sea quicker forming a bay, calm area causes deposition.
- 3) More resistant rock is left jutting out into the sea. This is a headland and is now more vulnerable to erosion.

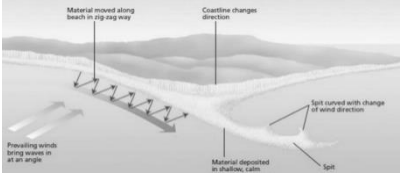
Types of Waves	
Constructive Waves	Destructive Waves
This wave has a swash that is stronger than the backwash. This therefore builds up the coast.	This wave has a backwash that is stronger than the swash. This therefore erodes the coast.



Year 7 - Coasts

What is Deposition?

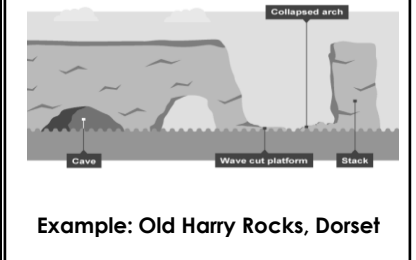
When the sea loses energy, it drops the sand, rock particles and pebbles it has been carrying. This is called deposition. Heaviest material is deposited first.



Formation of Coastal Spits – Depositional landforms	
<ol style="list-style-type: none"> 1) Swash moves up the beach at the angle of the prevailing wind. 2) Backwash moves down the beach at 90° to coastline, due to gravity. 3) Zigzag movement (Longshore Drift) transports material along beach. 4) Deposition causes beach to extend, until reaching a river estuary. 5) Change in prevailing wind direction forms a hook. 6) Sheltered area behind spit encourages deposition, salt marsh forms. 	Example: Spurn Head, Holderness Coast.

Erosional landforms

Formation of Coastal Stacks



- 1) Hydraulic action widens cracks in the cliff face over time.
 - 2) Abrasion forms a wave cut notch between high tide and low tide.
 - 3) Further abrasion widens the wave cut notch to form a cave.
 - 4) Caves from both sides of the headland break through to form an arch.
 - 5) Weather above/erosion below – arch collapses leaving stack.
 - 6) Further weathering and erosion leaves a stump.
- Example: Old Harry Rocks, Dorset**

Coastal Defences		
Hard Engineering Defences		
Groynes	Wood barriers prevent longshore drift, so the beach can build up.	<ul style="list-style-type: none"> ✓ Beach still accessible. ✗ No deposition further down coast = erodes faster.
Sea Walls	Concrete walls break up the energy of the wave. Has a lip to stop waves going over.	<ul style="list-style-type: none"> ✓ Long life span ✓ Protects from flooding ✗ Curved shape encourages erosion of beach deposits.
Gabions or Rip Rap	Cages of rocks/boulders absorb the waves energy, protecting the cliff behind.	<ul style="list-style-type: none"> ✓ Cheap ✓ Local material can be used to look less strange. ✗ Will need replacing.

Soft Engineering Defences		
Beach Nourishment	Beaches built up with sand, so waves have to travel further before eroding cliffs.	<ul style="list-style-type: none"> ✓ Cheap ✓ Beach for tourists. ✗ Storms = need replacing. ✗ Offshore dredging damages seabed.
Manage a Retreat	Low value areas of the coast are left to flood & erode.	<ul style="list-style-type: none"> ✓ Reduce flood risk ✓ Creates wildlife habitats. ✗ Compensation for land.

Case Study: Holderness Coastline

Location and Background

Located on the North East coast of England. It has one of the highest rates of coastal erosion in Europe. The coast is made up of mainly Boulder clay, with a chalk headland to the north.

Geomorphic Processes

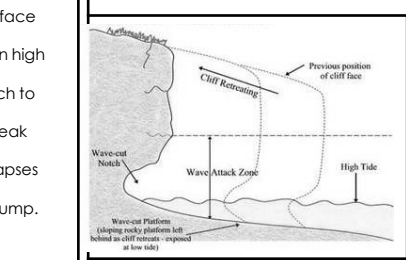
-1.8m of land is lost to the sea every year.
 -In Great Cowden the rate of erosion is 10m per year due to management strategies further north.
 -Longshore drift travels from south from Flamborough Head to Spurn Head where it forms a spit. .

Management - Over 11km of the coastline is managed

- Mappleton – 450m of coastline protected costing £2million.
- 2 rock groynes to create beach and protect town.
- rock armour along base of cliff to absorb wave power

Hornsea – Seawall and groynes
 Withernsea – Sea wall, groynes and rock armour.

Formation of Wave cut notches and platforms

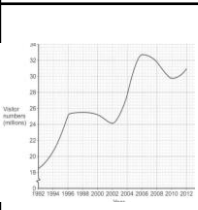


- 1) Waves attack the coastline.
- 2) Waves cut a notch into the bottom of the cliff face
- 3) The rock above collapses.
- 4) This process repeats, leaving a wave cut platform

What is tourism?

Tourism is the business or act of people visiting a different place for pleasure or recreation.

Is tourism growing?



Tourism is generally growing around the world. However there are some anomalies to this trend- some times external factors have caused small dips in tourism such as terrorism, economic crashes.

Tourism



Why is tourism growing?

1. More holidays. All countries in the developing world have increased the number of holidays a person can expect to receive by law.
2. Elderly population. Numbers of retired people in the developed world are higher than ever before. They have cash and are living longer than ever before. Early retirement, pensions and better health care has meant that the pensioner pound is a very important
3. Income. We earn more than ever before. Prices are comparatively cheaper than ever before. Consequently we have a greater disposable income than ever before
4. Communication. The communications revolution is the next big thing in tourism. Companies like GO and Last minute.com are already developing the Internet as a tool for booking holidays.
- 5.) Technology- Improvements in technology such as computers have revolutionised the way we shop for holidays. Price comparison sites and the internet are replacing the high street travel agent, lowering prices.
- 6.) Media- This has also revolutionised our tourism tastes and trends. Travel blogs

Extreme tourism

Extreme tourism, is a type of tourism which involves visiting a place that is difficult to get to, dangerous or has certain challenges.

Tourism in Antarctica - Extreme tourism

Why do people go on extreme tourism holidays?
Risk; Physical challenge; Adrenaline rush; showing off to their mates

Why do people visit Antarctica?
Glacier Walks; Wildlife Watching; Sight Seeing; historical visits

Positive Impacts:	Negative Impacts
<ul style="list-style-type: none"> • Helps scientists to discover vital information about wildlife. • Increase the appreciation of the nature in Antarctica. 	<ul style="list-style-type: none"> • Cruise ships have struck icebergs causing oil spills which damages the environment and poisons the wildlife • Discharge of sewage into the sea and leaving rubbish behind - pollution • Animals become stressed because of the crowds of people causing them to abandon eggs – impact on breeding patterns • Penguins in Antarctica are frightened by large numbers of people and this interrupts their breeding.

Managing Antarctica tourism

The Antarctic Treaty is an international agreement that came into force in 1961 and has now been signed by 47 countries. The Treaty is designed to protect and conserve the area and its plant and animal life.

New limits on tourism in Antarctica:

- Only ships with fewer than 500 passengers are allowed to land there and a maximum of 100 passengers are allowed on shore at a time.
- Specially protected areas- these are off limits to tourists
- Wildlife- wildlife must not be disturbed when being observed.
- Litter- nothing can be left behind by tourists and there must be no smoking during shore landings
- Supervision- tourists must stay with their group and each group must have a qualified guide
- Waste- sewage must be treated biologically and other waste stored on board the ships

Ecotourism

Ecotourism, is a type of tourism which involves protecting the environment and the way of life of local people. E.g. Yachana lodge, in the Amazon.

People camp or stay in single storey lodges. Buildings are environmentally friendly. There is limited transport available. Only small sized groups stay at any one time. Local guides are used and the wages they get improve the local economy. Activities are nature based e.g. walking tours, cultural experiences, animal experiences, river rafting.

Mass tourism

Mass tourism is a type of tourism which involves lots of people visiting a destination in great numbers. They are often cheap places to visit.

Tourism in Kenya- Mass tourism

Background: Kenya is in East Africa. It has 333 miles of coastline on the Indian Ocean. It has a GNI per capita of \$760.

Attractions: The Big 5 animals for safaris, Mt Kenya, Mombasa coast for white, sandy beaches and coral reefs Hot climate.
Cultural tours of the Maasai Mara tribe and hot air balloon rides over the savannah

Positive Impacts:	Negative Impacts
<p>Economic impacts: Tourism contributes 15% of the country's GNP In 2003, around 219,000 people worked in the tourist industry</p> <p>Social impacts: The culture and customs of the native Maasai tribe are preserved because things like traditional dancing are often displayed for tourists</p> <p>Environmental impacts: There are 23 national parks in Kenya, e.g. Nairobi National Park. Tourists have to pay entry fees to get in. This money is used to maintain the National Park which help protect the environment and wildlife</p>	<p>Economic impacts: Only 15% of the money earned through tourism goes to locals. The rest goes to big companies</p> <p>Social impacts: Some Maasai tribespeople were forced off their land to create National Parks for tourists Some Muslim people in Kenya are offended by the way female tourists dress.</p> <p>Environmental impacts: Safari vehicles have destroyed vegetation and caused soil erosion Wild animals have been affected e.g. cheetahs in the most heavily visited areas have changed their hunting behaviour to avoid the crowds Coral reefs in the Malindi marine national park have been damaged by tourist boats anchoring</p>

Managing Kenya's tourism

Kenya is trying to reduce the negative impacts of tourism through:

- Walking or horseback tours are being promoted over vehicle safaris
- Alternative activities that are less damaging than safaris are also being encouraged e.g. climbing and white water rafting
- Kenya is also trying to maintain tourism
- Kenya's tourist board and ministry of tourism have launched an advertising campaign in Russia called 'Magical Kenya'
- Kenya Wildlife Service is planning to build airstrips in Ruma National Park and - Mount Elgon national Park to make them more accessible for tourists. It also plans to spend £8 million improving roads, bridges and airstrips to improve accessibility
- Visa fees for adults were cut by 50% in 2009 to make it cheaper to visit the country. They were also scrapped for children under 16 to encourage more families to visit.

Who were the claimants to the English throne?

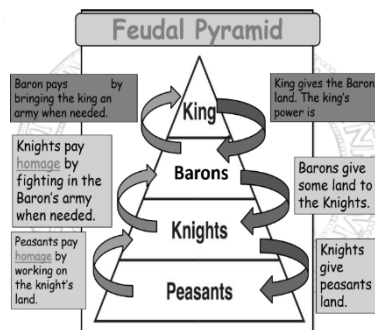
Edward the Confessor died on 5 January 1066. He had no children. Three men wanted to be king of England. Each man thought he had the best claim to the throne. The next king of England would have to win it in a war. The main three contenders to the throne were:

William, Duke of Normandy. The Norman chroniclers reported that Edward had promised his distant relative, William, the throne in 1051. William was the only blood relative of Edward, but the English throne was not hereditary anyway. Claims that Edward promised the throne were probably made up by the rival sides after the event. The Bayeux Tapestry, which was made after the Conquest, shows Godwinson swearing an oath of support to William in a visit to Normandy in 1064. William was supported by the Pope.

Harold Godwinson, Earl of Wessex. Harold Godwinson was a powerful and rich English nobleman. According to the Anglo-Saxon Chronicle, Edward named Godwinson as his successor on his deathbed. The next day, the royal council, known as the Witan, met and declared Godwinson king. An English king was proclaimed by the Witan - this gives Harold Godwinson the only claim to the throne by right.

Harald Hardrada, King of Norway. Harald was a Viking warrior. Hardrada based his claim on the fact that his ancestor, King Cnut, had once ruled England (1016–1035). He was helped by Godwinson's brother, Tostig.

Knowledge Organiser - The Norman Conquest



Harrying of the North

The biggest rebellion was in the north of England in 1069. It was led by Edgar the Atheling who, as the only son of Edward the Exiled, had a blood-claim to the throne. He was joined by Danish and Scottish armies.

William defeated the rebellion but he still didn't trust the English people. In the north-east of England, from 1069 to 1070, he ordered villages to be destroyed and people to be killed. Herds of animals and crops were burnt. Most people who survived starved to death; there were even stories of people turning to cannibalism. William did not care if they had rebelled or not.

Not only was the population reduced by 75% but land was salted (poisoned) to prevent people growing crops in the future. This is called the Harrying of the North.

Even by the standards of the time, the Harrying was seen as excessively cruel. A Norman writer said God would punish William for his brutal slaughter, but William had achieved his main aim. He was in control of the North, and he had prevented a future rebellion. Now William was able to place loyal nobles in charge to look after his lands. William could then set about keeping control of his new conquest.

The Domesday Book

The Domesday Book was a survey designed to record everything that people owned in England. It was ordered by William the Conqueror so that William could determine how much money in taxes he could raise and to give William a better sense of the territory he had just conquered.

The Domesday Book recorded who owned the land as well as the size of the land that they owned. In addition it looked at how the land was used. It recorded how much of the land was used for farming, how much was woodlands and even recorded whether there were fish ponds on the land. The survey also looked at the number of workers on the land as well as the number of animals. The survey also counted the number of buildings on the land and what they were being used for.

Battle of Stamford Bridge: The first to try and seize the crown and invade England was Harald Hardrada of Norway. He was helped by Harold's brother Tostig, who was exiled from England. Harald Hardrada and Tostig landed with a massive army of over 8,000 Norwegians in the North of England. They took York and declared Harald Hardrada King of England. On hearing of the Viking (Norse) invasion, Harold Godwinson quickly gathered what men he could and marched 187 miles north to face him. They marched 37 - 45 miles a day, going as fast as they could and carrying their heavy kit with them. The two armies met at Stamford Bridge, just outside York, on 25 September 1066. It was a bloody battle and one in which Harold's army (the Saxons) broke through the Viking invaders front line to go on and win the battle.

The Battle of Stamford Bridge was one of the most impressive victories any Saxon King ever won. The Vikings didn't know what hit them. Harold's men killed Harald Hardrada and Tostig. It was such a fierce battle that only twenty four of the three hundred ships, that came to England carry the 8,000 soldiers, returned to Norway. King Harold's celebrations of victory were cut short as news came of the impending Norman invasion and no-one was left along the south coast of England to stop them!

What problems did William face after the conquest?

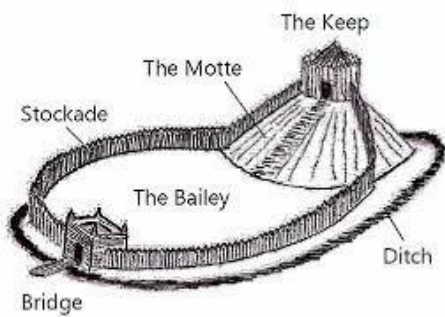
1. There were still soldiers in Dover who were loyal to Harold Godwinson even though he was dead – they could cause William problems.
2. There were still some soldiers in London who were loyal to William and he needed to be in control of London as it was England's capital.
3. There were some Vikings still in the north of England. William was worried that they might try and join up with English soldiers and attack him.
4. Many of the English Lords did not want William Conqueror to be King of England and he could not expect them to be loyal to him or even keep their men under control and many Normans did not speak English.
5. William needed to have money to control England and he had none.

The Battle of Hastings

William's army had been ready since August, but strong winds stopped him sailing until late September. There have been many accounts of the Battle of Hastings. It is difficult to be sure of what happened, but there are some good guesses. William gathered an invasion fleet of 700 ships and a large army. William landed at Pevensey on 29 September, built a castle and raided the surrounding area. Harold marched quickly south from Stamford Bridge. He left many of his foot soldiers behind and exhausted the others. The two sides met at Senlac Hill, near Hastings. Harold's army were at the top of Senlac Hill. They formed a shield wall to protect themselves. The Norman knights could not charge uphill. Some of the Norman soldiers began to flee because they thought William had been killed. William took off his helmet to show them he was still alive. The Normans pretended to run away, then turned and cut down the Saxons when the inexperienced fyrd chased them. William had a well-equipped army. He had knights on horseback and archers with crossbows. Harold had a traditional Saxon army – his housecarls fought on foot with axes, the fyrd were just farmers with any weapons they could get. William used archers to break up the Saxon shield wall. The housecarls formed a ring round their king. Harold was killed. It is impossible to know how Harold died. Most people believe that he was killed by an arrow in the eye. This theory is based on a scene in the Bayeux Tapestry. The tapestry has the words 'Harold is killed' next to a man with an arrow in his eye, but it is impossible to know which soldier is Harold because all the Saxon soldiers are dressed identically. William's victory can be categorised into 3 reasons:

Luck : The wind across the Channel changed at the right time for William. He was able to sail across to England just when Harold was in the north fighting Harald Hardrada. Harold was killed at a key moment in the battle. This left the English with nothing to fight for.

William's Leadership: William was very brave. At a difficult time in the battle he led his men back up the hill to attack the English. William used a very clever tactic of making his army pretend to run away so the English would chase after them. This allowed the Normans to turn around and surround them. William arranged his army in a clever formation, with the archers, foot-soldiers and cavalry in rows. William had assembled a very strong army with good weapons and plenty of cavalry (knights on horses).



Development of Castles

In the 1080s the Normans began replacing motte-and-bailey castles with stone castles and these had a number of advantages over the previous wooden motte and bailey structures:

- They could be built inside the walls of the motte and bailey castle, this meant that the castle was still operational whilst it was being rebuilt.
- Unlike a wooden castle the new stone keeps did not rot or go up in flames.
- Stone castles were very expensive to build but they demonstrated the wealth and power of the lord that built it.

Between 1070 and 1087 85 stone castles were built across England. The most visible part of a stone castle was the central stone tower. This was built at the highest point of the fortification. This had a number of advantages:

- The height of these towers meant they could be seen by people from miles away, this demonstrated the power of Normans. It also gave look outs and archers excellent defensive positions, these castles were rarely attacked without warning and they were an excellent base to attack from.
- Although they seemed impenetrable at first, attackers quickly realised the weaknesses of many stone keep castles.
- They were expensive to build and to maintain and so only the wealthiest lords could afford to build very secure stone castles. - Stone castles were built on a square or rectangular plan.

Knowledge Organiser - The Norman Conquest

Events


4th Jan 1066	The death of Edward the Confessor King of England.
6th Jan 1066	Harold Godwinson is crowned King of England
25th Sept 1066	The Battle of Stamford Bridge, near York. King Harold's army defeat Harald Hardrada and his army.
27th Sept 1066	Duke William of Normandy sets sail for England with his army.
28th Sept 1066	Duke William lands at Pevensey on the South coast of England.
1st Oct 1066	King Harold receives news of the Norman invasion. He begins to march his army South to defend England from the Norman invasion.
Early Oct 1066	The English army arrive in the South.
14th Oct 1066	The Battle of Hastings begins. King Harold is killed.
25th December 1066	William, Duke of Normandy is crowned King William I of England.
1069-1070	The Harrying of the North
1078	White Tower built in London. Tower of London.
August 1086	First draft of the Domesday Book completed
9th September 1087	William I dies

Keywords	Definitions
Heir	The person who is to be the next king or queen when the present monarch dies
Monarch	The King or Queen who rules a country
Oath	A solemn promise that should not be broken
Conquer	To bring an army and take over an area by force
Invasion	To bring an army to attack another country
Anglo-Saxon	The name given to the people who lived and ruled England before 1066
Housecarls	Well-trained, full-time Anglo-Saxon soldiers who were paid for their services
Fyrd	Farmers who fought for the Anglo-Saxons
Cavalry	Knights on horses
Trebuchet	Like a giant catapult that could launch large items at the castle
Siege	Where the attackers of the castle would starve the defenders by stopping any food or resources from entering the castle.
Barons	An important person who was wealthy and powerful. They were below the King in the Feudal System.
Knights	A man of noble birth, who served his king or lord or baron in battle in return for land.
Peasants/Serfs	The group of people at the bottom of the Feudal System. They would be ordinary people who would work on a knight's land in return for land/accommodation/food.
Keep	A type of fortified tower built within castles
Motte	A large mound of earth where the keep would be placed.
Bailey	An enclosed courtyard at the bottom of the motte.
Rebellion	To fight back against a ruler. Such as the rebels in the north rebelling against William I
Siege Tower	This consisted of a wheeled wooden tower with ladders inside, which was parked next to walls so the attackers could scale them.
Portcullis	A heavy metal gate with holes in to protect the entrance to a castle. This could also trap attackers inside.
Drawbridge	A bridge, especially one over a castle's moat, which is hinged at one end so that it may be raised to prevent attackers crossing.
The Bayeux Tapestry	A piece of artwork/cloth that depicts the events leading up to the Norman Conquest, including the Battle of Hastings.
Murder Holes	Holes in the walls of castles where defenders would drop rocks, and pour hot tar onto attackers.
Moat	The ditch surrounding a castle to stop attackers from crossing. Usually filled with water.

CAUSES OF THE ENGLISH CIVIL WAR

Parliamentarian	Royalist
The king ruled England without Parliament for 11 years. Parliamentarians were angry about this.	Charles believed in the divine right of kings and that no one should challenge his authority.
Most Parliamentarians were strict Protestants. Charles had married a Catholic princess. They were worried that he may turn England into a Catholic country.	Parliament were withholding money from the king and ordered the execution of two of his advisors.
Charles had introduced a ship tax which was very unpopular with lots of English people.	Some people believed that if parliament was against the king then they must also be against god.
Charles would not let parliament make any decisions and would only cooperate when he wanted money.	

January 1642—preparation for war	Charles sent his wife Henrietta Maria to the Continent to enlist Catholic support for his cause against Parliament. She was also to pawn the crown jewels to buy arms. Although both sides were now preparing for war, negotiations continued.
22nd August 1642—war is declared	Charles raised his standard at Nottingham formally declaring war. However, both sides hoped that either war could be averted or that one decisive battle would put an end to the matter.
23rd October 1642—The Battle of Edgehill	In the early afternoon, Charles sent his army down the hill to meet the Parliamentary army commanded by Essex. On the royalist right was Prince Rupert who broke Essex's left flank. In the centre, reinforcements arrived and they managed to push forward putting the lives of the King's sons, Charles and James, in danger. The battle was a stalemate with neither side able to advance.
13th July 1643—the Battle of Roundway Down	The Royalists were the first to charge but there was no counter-charge. After two more charges the Parliamentary cavalry had fled. Waller then turned his attention to the Parliamentary infantry who stood firm until a force led by Hopton attacked them from behind. Caught between two Royalist armies the majority of Parliamentarian soldiers simply fled from the battlefield giving the Royalists victory.
June 1644—The Battle of Marston Moor	This was the largest single battle of the Civil War involving 45,000 men. Although the Royalists were outnumbered, they decided to fight. They were defeated by Parliament. For the first time since the Civil War had began Rupert's cavalry were beaten by a Parliamentarian cavalry charge.
14th June 1645—The Battle of Naseby	The Parliamentarians broke their siege on Oxford and forced the Royalists into battle. Initially the Royalists took up a defensive stance but later the order to attack was given. The battle lasted just three hours and saw the death of most of the Royalist foot soldiers. It was a decisive victory for Parliament. Charles fled the battlefield as soon as it was apparent that he had lost both the battle and the war.
6th May 1646—surrender	Charles surrenders and the fighting ends. Charles was imprisoned in Holdenby House, Northamptonshire.
Nov 1647—Charles escapes	Charles I escaped imprisonment and fled to Carisbrooke Castle, Isle of Wight. He was recaptured in December and sent to be locked up in Windsor Castle.
20th January 1649—trial begins	King Charles was tried for treason by a High Court of Justice specially set up for the trial. The court found Charles guilty and sentenced him to death.
30th January 1649—execution	King Charles I was executed by beheading, outside Whitehall Palace, London. He was buried in St George's Chapel, Windsor.

KEY WORDS	DEFINITIONS	<u>Key individuals</u>
Civil War	a war between citizens of the same country	 <p>King Charles II</p> <ul style="list-style-type: none"> Became King of England in 1603 Three months after his accession he married Henrietta Maria of France. They had a happy marriage and had five children. There was ongoing tension with parliament over money - made worse by the costs of war abroad. In addition, Charles favoured a High Anglican form of worship, and his wife was Catholic - both made many of his subjects suspicious, particularly the Puritans. Charles dissolved parliament three times between 1625 and 1629. In 1629, he dismissed parliament and resolved to rule alone. Started the Civil War in 1642 but surrendered to Parliament in 1646. Executed in January 1649 <p>Oliver Cromwell</p> <ul style="list-style-type: none"> English MP who became leader of the Parliamentarians and New Model Army during the Civil War. He was a strict Puritan. During the interregnum period he became Lord Protector of England and it is argued that he was 'king in all but name' during this time. In the summer of 1649 Cromwell invaded Ireland to place it under English control. He took 40% of the land from Catholics and gave it to Protestants. It was a brutal attack and Cromwell ordered the massacres of thousands of Irish Catholics. He died on 3rd September 1658 and was buried in Westminster Abbey. His son Richard took over the role of Lord Protector but was forced to step down in 1659. The monarchy was restored and Charles II became king in 1660. In 1661, Cromwell's body was exhumed and beheaded for the crime of treason.
Parliamentarian	a supporter of Parliament in the English Civil War; a Roundhead.	
Royalist	a supporter of the King against Parliament; a Cavalier	
Ship Tax	a charge for living by or near to the sea	
Cavalry	soldiers who fought on horseback	
Infantry	soldiers marching or fighting on foot	
Pikeman	a soldier armed with a pike (a long pole with a metal tip)	
Musketeer	a soldier armed with a musket (a gun)	
Professional Army	a permanent army of full-time soldiers which is not disbanded during times of peace	
Desertion	the action of illegally leaving the armed forces	
Blasphemy	something that you say or do that shows you do not respect God or a religion	
Death Warrant	an official order for the execution of a condemned person	
Execution	carrying out the death penalty	
Tyrant	a bully	
Republic	a country which has an elected or nominated president rather than a monarch	
Interregnum	the period in English history from the execution of Charles I in 1649 to the Restoration of Charles II in 1660	

Who held the power in the Middle Ages?	Timeline	
	1170	Murder of Thomas Becket
	1215	Magna Carta
	1348	The Black Death
	1381	The Peasants' Revolt
	1351	Statute of Labourers
1377	Poll Tax introduced	

Timeline	
Baron	An upper class person who has land and a noble title.
Doom Painting	A painting in a Medieval Church that shows what happens to a person when they die.
Purgatory	The belief in the Catholic Church that if someone dies with some sin they have to prove themselves in the afterlife before going to heaven.
Heaven	The place where Christians believe you go if have led a holy and good life after death.
Hell	The place where Christians believe you go after death if you have committed many sins during your life and have not asked for God's forgiveness.
Pilgrimage	A journey to a religious place of importance.
Monk	A male member of a religious community who give up all possessions to live a pure life worshipping God.
Monastery	A place where monks live and worship.
Nun	A female member of a religious community who give up all possessions to live a pure life worshipping God.
Revolt	To take violent and aggressive action against a country's ruler e.g. a King
Black Death	An infectious disease in the Middle Ages—The Plague.
Epidemic	When a disease is infectious and widespread.
Poll Tax	An unpopular payment that all Medieval people had to pay whether they were rich or poor.

Key Events	Notes	significance	Who held the power?
Magna Carta	<p>The Barons were so fed up of King John's rule that they created a set of rules for him and future monarchs to follow. The rules included:</p> <ul style="list-style-type: none"> · The King must not interfere with the church · The king mustn't collect any new taxes without the agreement of the barons and bishops. · Everybody should be free to enter or leave the country. 	<p>This was the first document that protected the rights and freedoms of the people (mainly the barons and bishops).</p> <p>Some of the rules still apply today e.g. The right to a trial without delay (habeas corpus)</p> <p>It was the first time a document had been forced on a King therefore challenging his authority.</p>	The People (barons and bishops)
The Murder of Thomas Becket	<p>King Henry II and Thomas Becket were close friends, but their friendship was destroyed by an argument over the church when Henry made Thomas Archbishop of Canterbury. Henry did this because he thought with his friend in charge of the church in England it would give him as king more power and authority. Thomas refused to allow Henry power over the church.</p> <p>In a fit of rage Henry said 'Will no one rid me of this troublesome priest?'. His knights overheard this and went to Canterbury Cathedral where they murdered Thomas.</p>	<ul style="list-style-type: none"> · Henry was shocked at his friends murder and asked the Pope for forgiveness. He went on a crusade to prove his loyalty to the church. · To prove he was sorry to his people—he went on a pilgrimage to Canterbury Cathedral barefoot. · Henry visited Thomas' tomb and the monks and bishops there took it in turns to whip him. · Thomas was made a saint in 1173. 	The church as Henry was fearful that without forgiveness from the Pope he wouldn't go to heaven or have the authority to rule his people.
The Black Death	<p>This was the most serious epidemic in the Middle Ages. It killed almost one third of the population of England. People were frightened of it as they didn't know what caused it or how to treat it.</p> <p>The symptoms were :</p> <p>Large lumps under the arms and between the legs (sometimes as large as an apple). They turned black as the blood in the dried, hence the name 'The Black Death'. High temperatures and within 5 days a person would die</p> <p>People thought it was caused by God, cats and dogs, alignment of the planets or poisoned water.</p>	<ul style="list-style-type: none"> · It challenged religious beliefs—people were told it was caused by sins but churchmen died too. People began to question whether paying churchmen to pray for you would really get you to heaven,. · Some villages were completely abandoned e.g. Wharram Percy · Peasants were in a powerful position after the Black Death and demanded more pay and better working conditions. · The feudal system started to break down—landowners were not happy! They could no longer expect free labour from peasants. · 1351—the Statute of Labourers was passed to control rising peasant wages. 	The people gained some power from this but nothing that challenged the authority of the king.
The Peasants' Revolt	<p>Causes: The Statute of Labourers—peasants who moved areas to get higher wages were branded with a hot iron. 1377—Poll Tax introduced which everyone had to pay. Everyone had to pay the same amount which was seen as unfair. Peasants tried to avoid paying poll tax but in 1381 inspectors were sent to villages to make people pay.</p> <p>Events: Tax collectors in Essex were attacked. This then spread to East Anglia and surrounding counties. The group was led by men called Wat Tyler and John Ball. They decided to march to London and confront the King. There was about 50,000 of them. The King went to meet them but turned back when he realised how many there was. The rebels broke into Fleet Prison and freed prisoners and burned Savoy Palace. The King met with them later at Mile End just outside London and agreed to the peasants' demands. The rebels broke into the Tower of London and cut the heads off the Archbishop of Canterbury and the king's advisor.</p> <p>Many rebels went home but Wat Tyler stayed and was murdered, which ended the revolt.</p>	<ul style="list-style-type: none"> · The army went through East Anglia and executed rebels. In Essex 500 were executed and 1500 in Kent. · John Ball was arrested and then hung, drawn and quartered. · The king went back on his promises and this was the last major example of resistance against the King. · The Statute of Labourers was ended. · The king and barons regained control. · It took 500 years for peasants to get the same rights as the rich. 	The peasants attempted to take control but ultimately it proved the King's power.

Knowledge Organiser - Slavery

African Civilisation

Before the Slave Trade, West Africa was a highly civilised country. This means that it contained a number of kingdoms, tribes and had its own culture.

Examples of Kingdoms—Mali, Songhai, Nok, Ife, Benin

Examples of Tribes—Mandingo, Serer, Fulani, Felup, Susa, Baga, Chamba, Mende, Kru, Ashanti, Fanti

Examples of culture—Art, Trade (People in West Africa traded with people in North Africa. They exchanged gold and slaves for salt, spices and books) , Education, Wealth (The city of Timbuktu in Songhai. There were many shops of craftsmen and merchants and the people were very rich. There were many doctors, judges and priests), Books, Medicine, Buildings (The Great Mosque (Muslim temple) of Djenne in Mali. This is built from mud which dries hard in the sun. Each year after the rainy season the mosque has to be rebuilt)



Plantation Life

On the plantation slaves continued their harsh existence. They often worked from dawn until dusk under the order of their overseers. Arriving for work at dawn, the slaves only stopped for their living quarters, they would often still have chore to do. Slaves were whipped by overseers if they did not work fast enough.

Type of work

Slaves' duties could include sowing, hoeing, harvesting, chopping, butchering, preserving meats and a variety of other tasks. Slaves were given their family' rations.

Culture

There were some aspects of life not controlled by the plantation owners. Slaves expressed themselves through music, dance and religion. They often expressed themselves through music, dance and religion. Slaves often expressed themselves through music, dance and religion. Slaves often expressed themselves through music, dance and religion.

Children in slavery

Girls worked on estates from the early age of four. They had many duties. Mature women often worked as midwives, nurses, and cooks. Children working in the fields. Other children were also put in to work. One of their jobs was to cut grass for the animals and feed them).

Mistreatment and punishment of slaves

White masters had complete control over the lives of slaves. Slaves were not free to act as dictators. Slaves who disobeyed or resisted were punished. The punishments handed out to slaves varied in severity. Any wrongdoing – the number of lashes that they received.

Health

The slaves' poor diet, living conditions and hard work led to many health problems. Many babies died of tetanus before they were 10 days old. Some babies died of tetanus before they were 10 days old. Some babies died of tetanus before they were 10 days old.

Middle Passage

The voyage from Africa to the New World of the Americas was called the Middle Passage. Slave ships usually took between six and eleven weeks to complete the voyage. Slave ships made large profits by carrying as many slaves as possible across the Atlantic to sell at auction. There were two methods of loading the ship:

Conditions on board—Slaves were chained and movement was restricted. Slaves were unable to go to the toilet and had to lie in their own filth. Sickness quickly spread. Slaves were all chained together. If a slave died, the body could remain in the hold for hours, still chained to other living slaves. The state of the hold would quickly become unbearable – dark, stuffy and stinking. The heat and the foul air were so bad that a candle would not burn. African slaves were often unable to digest the food carried by the European crew, making the sickness worse. Many weakened quickly and died. Sick slaves were often denied food and left to die. The crew often mistreated the slaves – women could be subject to rape. Slaves were usually forced to dance on deck for an hour a day to keep them fit. Any resistance was dealt with harshly by floggings from the crew. Some slaves became suicidal. There are accounts of slaves drowning by throwing themselves overboard rather than enduring any more. Sickness was common and would spread to the crew as well.

Sickness
Sickness on board a slave ship would often spread to the crew as well, killing many. The death rate among the slaves however, was horrific. It is estimated that 15–16 per cent of slaves died on the Middle Passage.

Slave Auction

Once a slave ship made it to America or the Caribbean, the cargo of slaves would be sold at auction. Slave auction posters would be displayed in public places. The posters would describe the slaves and their skills. The posters would describe the slaves and their skills. The posters would describe the slaves and their skills.

Why was Slavery Abolished?

Arguments for Slavery

- Slavery supporters said that if they were to lose their slaves, the economy would collapse due to the heavy reliance on slavery. The economy would collapse due to the heavy reliance on slavery. The economy would collapse due to the heavy reliance on slavery.
- Slavery was no longer profitable. The tobacco crop would dry because there were no slaves as many people picking it.
- The supporters also felt that large amounts of free slaves would lead to unemployment.

Arguments against Slavery

- They argued that slavery is something that has existed since the beginning of time. Romans, and up until recently, the British had slaves.
- Many believed that slaves lacked the ability to run their own lives. Slaves were therefore happier in a system where their lives are run by their masters.
- Many believed slavery was anti-Christian, so should be abolished.
- It was inhumane and it dehumanised human beings.
- Many people were against the poor conditions slaves had to live in. The treatment/punishments some also suffered.
- There was much unrest throughout the period of slavery with rebellions and uprisings which made people realise it could not last forever.

Topic 1: Introduction to Philosophy – Epistemology Knowledge Organiser

Topic	Knowledge
Philosophy & Epistemology	<p>Philosophy is the search and love of wisdom, always asking why and searching for meaning in all that humans do, one part of philosophy is epistemology the study of knowledge and truth, this field of study aims to understand where knowledge comes from, what can really be understood and what, if anything can we say is true. Truth is something that is fact and in unchanging to matter the circumstances. However, this causes problems as people can disagree, misinterpret and make errors when relying on their senses.</p> <p>Truth can be categorised into three types: Historical, Scientific and Spiritual</p> <ul style="list-style-type: none"> * Historical Truth: We know that something happened because we have seen evidence, such as archaeological or films or documents * Scientific Truth: Scientists can only say that something is true if they can prove it by experiment * Spiritual Truth: This is the sort of truth which we find in religion. This sort of truth deals with faith and belief
Descartes & Truth	<p>We all have 5 senses, taste, smell, hearing, touch and sight, we use these senses to help us understand the world and find out what is true and false. However, our sense can be fooled and tricked, optical illusions such as a stick looking bent in water, or the argument over the colour of 'the dress' all question what is true – can we really trust our senses to find truth? If we can't – everything we believe about the world may be wrong!</p> <p>Descartes was a French scientist, mathematician and philosopher who lived from March 1596 – February 1650, he wrote many books on epistemology including his most famous called 'Meditations'. He is often known as the father of modern philosophy as he had such an impact on other thinkers, one of his methods is universal doubt, he spent his life questioning everything he believed in.</p> <p>His key ideas suggested that we should doubt everything, including our senses as they are unreliable and can be fooled. He questioned reality and claimed we could not prove everything wasn't a dream, or if we were being tricked by something evil. However – even though we cannot believe anything our senses tell us, we can be certain that we exist. Descartes stated that as we are doubting, we are thinking – this thinking proves we must exist! We could not be questioning everything if we didn't exist in the first place, it is one of only a few things we can be certain of.</p>
Dawkins & Science	<p>Richard Dawkins is a scientist who rejects all religious belief, he has spent his life researching evolutionary biology and disproving the claims of religion. He claims that we can find out truth and facts by applying the scientific method time and time again to find out what is true or not.</p> <p>The scientific method is a recognised method of proving or disproving theories and ideas:</p> <ol style="list-style-type: none"> 1. Question: Choose something you are curious about. 2. Hypothesis: Make an educated guess at your questions answer. 3. Experiment: Put your hypothesis to the test 4. Data: Record the outcome of your experiment and observations. 5. Analyse: Review the Results. 6. Report: Show the results of the experiment and consider if your hypothesis is correct. Come to a true / false conclusion <p>Dawkins argues we can learn facts about the world by applying the scientific method. By testing hypothesis time and time again we can come to undoubtable conclusions. For Dawkins if something is true, it must have evidence. He trusts our senses to provide this evidence. Dawkins suggests we should not live our lives doubting and questioning everything, but that we should take the time to find evidence for our beliefs. We can trust our senses to find truth that is tested time and time again, it is clear to see in the modern world that we are surrounded by the wonders and achievements of science.</p>
Plato & Truth	<p>Plato was born in 428/427 BC to a noble family and died in 348/347 BC, he lived primarily in Athens, Greece. He dedicated his life to philosophy and the search of Eudaimonia, his friend and fellow philosopher Socrates was a big influence on his writings and Plato uses Socrates as a character in many of his books. In total he wrote 36 dialogues, all discussions between characters on philosophical issues, most famously The Republic, The Symposium, The Laws, The Meno and The Apology.</p> <p>Plato created The Allegory of the Cave, a short story that carried deeper meaning about knowledge, truth and our reality. The story starts with three prisoners who have been chained in a cave facing the wall for their whole lives, they have never known anything different. Behind them is a fire that burns day and night, when people and animals walk past the opening of the cave it casts shadows on the wall for the prisoners to see. The prisoners, knowing nothing else, assume these shadows are real, that the shadows are real objects and things and they give them names like 'dog', 'tree' and 'hat'. One day a prisoner escapes the cave and sees the real world for the first time, he is blinded by the sun but eventually adjusts and learns the truth about the world. He runs back to the other prisoners and tells them all about the true world – they laugh and think he's crazy!</p> <p>Plato allegory has a deeper meaning, the prisoners = people, the cave = our reality, the shadows = what we think is real, the sun = truth, Plato believed that we could not trust our senses to find out truth, he believed that everything we know and understand are just shadows of the truth, he believed there was another reality (outside the cave) The World of Forms where only real truth can exist, we as humans only see a poor copy, a shadow of that.</p>
Kant & Ultimate Questions	<p>Kant was born in 1724 in Prussia to a modest family with little money, they were very religious and strict but Kant is not known to have any religious belief, instead he focussed his life and philosophies on what it means to be a good person. He died in 1804 and is one of the most influential philosophers in the history of Western philosophy. His contributions to metaphysics, epistemology, ethics, and aesthetics have had a profound impact on almost every philosophical movement that followed him.</p> <p>Kant was an empiricist, he believed that we could trust our sense to find truth, however he argued there were some things we would never know, some things our senses could not tell us. He claimed the world was divided into two:</p> <ul style="list-style-type: none"> * The Phenomenon: The world we can understand through our senses * The Noumenon: The world we can never understand <p>We cannot access the noumenon as it is beyond our human understanding, answers to ultimate questions such as 'what is the meaning of life' all exist there and can never be accessed by humans using our senses.</p>

Key Word	Meaning
Philosophy	The search and love of wisdom
Epistemology	The study of knowledge and truth
Truth	Something that is fact. It is correct in all times and all places no matter the circumstances
Empirical Evidence	Evidence that relies on our senses
Doubt	To be unsure or uncertain of something, to question if something is true
Universal Doubt	The method of doubting everything you believe in to find out what is true
Anti-Theist	Active opposition and rejection of religion
Scientific Method	The process of finding out what is true by applying 6 steps involving observation, testing and critical thinking
Eudemonia	The term used by Plato when a person finds fulfilment and happiness in their life
Allegory	A story, picture or poem which has a hidden meaning
Ultimate Question	A question with many, or no answer
Phenomenon	The world we experience through our senses
Noumenon	The world we can never understand

Quotes
'I think therefore I am' Descartes
'An experiment done in a lab in New York can be replicated in a lab in New Delhi, and if it's all done correctly in the same way they'll get the same result. Science's belief in truth works.' Dawkins
'The only reason to believe anything is true is that there's evidence, and everybody should either look at the evidence for themselves or they should trust that the person they're talking to has looked at the evidence in a scientific, logical, rational, critical way.' Dawkins
'Reality is created by the mind, we can change our reality by changing our mind.' Plato
'All our knowledge begins with the senses' Kant

Key Definitions:

Factors: The numbers we can divide by with no remainder. The factors of 12 are: 1,2,3,4,6,12

Multiples: Another word for a times-table. The first 6 multiples of 8 are: 8,16,24,32,40,48,...

Primes: Can only be divided by 1 and itself. The first 8 primes are: 2,3,5,7,11,13,17,19... (Note: 2 is the only EVEN prime!)

Integers: Another word for a whole number: -100, -5, 0, 27, 462 etc.

Product: \times
Sum/Total: $+$
Quotient: \div
Diff. Between/Subtract: $-$

John is x years old. Tom is 4 years older than John. Adam is 5 years younger than John and Carl is 3 times as old as Tom. Their ages are:
John: x ,
Tom: $x + 4$
Adam: $x - 5$
Carl: $3(x + 4)$

Algebraic Notation:

$ab = a \times b$
 $5x = 5 \times x$
 $m^2 = m \times m$
 $t^5 = t \times t \times t \times t \times t$
 $\frac{x}{y} = x \div y$
 $1 \times y = y$
 $-1 \times t = -t$
 $x^3 y = x \times x \times x \times y$

Division with no remainders

$23 \overline{) 9423}$
 $4 \overline{) 3807}$
Answer = 423

Powers and Roots:

A Square number is formed by multiplying a number by itself. We use the notation $1^2, 7^2$ etc.
 $1 \times 1 = 1, 2 \times 2 = 4, 3 \times 3 = 9, 16, 25, \dots$

A Cube number is made by multiplying a number by itself and again. We use the notation $6^3, 12^3$ etc.
 $1 \times 1 \times 1 = 1, 2 \times 2 \times 2 = 8, 27, 64, \dots$

Higher powers also exist. Eg $3^4 = 3 \times 3 \times 3 \times 3 = 81$

The square root of 25 is 5, since $5 \times 5 = 25$.
We use the notation: $\sqrt{25} = 5$
The cube root of 64 is 4, since $4 \times 4 \times 4 = 64$.
We use the notation: $\sqrt[3]{64} = 4$
The fourth root of 16 is 2, since $2 \times 2 \times 2 \times 2 = 16$
We use the notation: $\sqrt[4]{16} = 2$

RIDMAS

Brackets
Indices (Powers/Roots)
Division/Multiplication
Addition/Subtraction

Equivalent Fractions

$\frac{3}{7} = \frac{24}{56}$
 $\frac{9}{7} = \frac{9}{7} \times \frac{5}{5} = \frac{45}{35}$

Simplifying Fractions

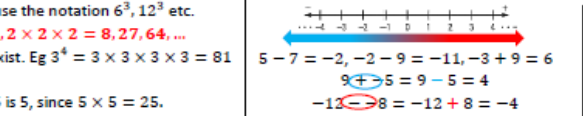
$\frac{24}{36} = \frac{12}{18} = \frac{2}{3}$

Probability:

Probabilities should be written as a Fraction, Decimal or Percentage.
NEVER as a ratio!
A bag contains 3 red, 2 blue and 4 yellow counters.
 $P(\text{Red}) = \frac{3}{9}$
 $P(\text{Red or Yellow}) = \frac{7}{9}$

Adding and Subtracting Directed Numbers:

Always draw a number line if you are unsure or think of a Thermometer. Subtract means to get colder. Add means get warmer etc.



Lowest Common Multiple (LCM)

- List the multiples (at least 10) of all numbers
 - Find the numbers in both lists
 - Select the smallest circled number
- 8: 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, ...
6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, ...
LCM(6, 8) = 24

Multiplying and Dividing Directed Numbers:

Numbers:
 $- \times - = +$ $+ \div - = -$
 $- \times + = -$ $- \div + = -$
 $+ \times - = -$ $+ \div - = -$
 $-7 \times -8 = 56, 6 \times -12 = -72, (-3)^2 = 9$
 $-42 \div 6 = -7, -32 \div -8 = 4, 9 \div -9 = -1$

Multiplication:

391×39

Division with remainders

$12 \overline{) 127145}$
0595 r5
Write the answer as: $595 \frac{5}{12}$

Perimeter: Total distance around a shape. (Add up all sides). Units are cm, m etc.

Substitution

Find the value of $a^3 + 2b$, when $a = 2, b = 3$,
 $2^3 + (2 \times 3) = 8 + 6 = 14$
If $y = 5x - 7$, find the value of y when $x = 1$
 $y = (5 \times 1) - 7 = 5 - 7 = -2$

Angle Properties:

Acute angle: Less than 90°

Obtuse angle: Greater than 90° , but less than 180°

Reflex angle: Greater than 180°

Vertically Opposite angles are equal

Angles on a straight line add up to 180°

Angles inside a triangle add up to 180°

Angles around a point add up to 360°

Angles inside a quadrilateral add up to 360°

Adding and Subtracting Fractions

$\frac{2}{3} + \frac{1}{7} = \frac{14}{21} + \frac{3}{21} = \frac{17}{21}$
1.) Find the common denominator by finding the LCM
 $\frac{3}{4} - \frac{1}{5} = \frac{15}{20} - \frac{4}{20} = \frac{11}{20}$
2.) Write equivalent fractions
3.) Add/Subtract the numerators

Multiplying and Dividing Fractions

$\frac{8}{3} \times \frac{6}{17} = \frac{48}{51} = \frac{16}{17}$
1.) Write both fractions as improper fractions
2.) Multiply the numerators together and the denominators together
KFC
Keep First Fraction
Flip the Second Fraction
Change to a \times
 $\frac{11}{5} \div \frac{7}{4} = \frac{11}{5} \times \frac{4}{7} = \frac{44}{35}$
Remember to simplify your answers if you can!

Properties of Quadrilaterals

Quadrilateral	Properties
Rectangle	4 right angles and opposite sides equal
Square	4 right angles and 4 equal sides
Parallelogram	Two pairs of parallel sides and opposite sides equal
Rhombus	Parallelogram with 4 equal sides
Trapezium	Two sides are parallel
Kite	Two pairs of adjacent sides of the same length

Types of Triangles

Scalene Triangle
 All 3 sides have different lengths. Its angles are also all different.

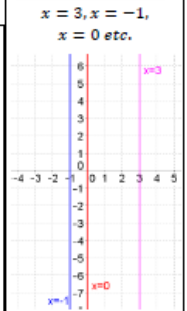
Isosceles Triangle
 2 sides have equal lengths. 2 of its angles also measure equal.

Equilateral Triangle
 All 3 sides are of same length. All three angles are equal, 60°

Fraction, Decimal and Percentage Conversions

Frac.	Dec	Perc.
$\frac{1}{100}$	1.0	100%
$\frac{1}{10}$	0.5	50%
$\frac{1}{20}$	0.25	25%
$\frac{1}{30}$	0.33...	$33\frac{1}{3}\%$
$\frac{1}{80}$	0.125	12.5%
$\frac{1}{10}$	0.1	10%
$\frac{1}{100}$	0.01	1%
$\frac{3}{10}$	0.3	30%
$\frac{19}{100}$	0.19	19%
$\frac{7}{100}$	0.07	7%
$\frac{213}{100}$	2.13	213%

Vertical Line Graphs



Area of Squares and Rectangles

$A = \text{base} \times \text{height}$
Units are cm^2, m^2 etc.

Converting Fractions to Percentages:

$\frac{17}{20} = \frac{85}{100} = 85\%$
 $\frac{31}{50} = \frac{62}{100} = 62\%$

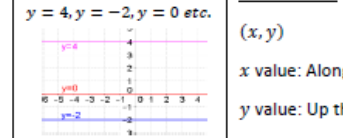
Fraction Notation

$\frac{x}{y}$
Numerator
Denominator

Averages and Range

Mode: The most common item
Median: The middle item after the data has been ordered.
Mean: Add up and divide by how many pieces of data
Range: Largest Value - Smallest

Horizontal Line Graphs



Coordinates



Ratio:

Tom has 24 Xbox games and 38 PS4 games.
The ratio of PS4 games to Xbox games is:
PS4: Xbox
 $38:24$
 $\div 2$
 $19:12$
There are 31 games altogether so, $\frac{19}{31}$ of the games are PS4 games.

Rounding:

If digit is 0, 1, 2, 3 or 4, then **round down** and the digit in front stays the same
 If digit is 5, 6, 7, 8 or 9, then **round up** and the digit in front increases by 1
 $4.54 \rightarrow 5$ (Nearest Integer)
 $3.14 \rightarrow 3.1$ (1 decimal place (1dp))
 $5.9967 \rightarrow 6.00$ (2 decimal places (2dp))

GENERAL "TRANSFERABLE"

VOCABULARY

(YOU WILL MEET THESE WORDS AND PHRASES VERY OFTEN!)

et = and

mais = but

ça va? = how are you?

oui = yes

non = no

ça va = OK

car = because

très bien = very well

parce que = because

c'est = it is

mal = not good

s'il vous plaît = please

merci = thanks

voici = here is

les jours de la semaine = the days of the

week

lundi = Monday

mardi = Tuesday

mercredi = Wednesday

jeudi = Thursday

vendredi = Friday

samedi = Saturday

dimanche = Sunday

les mois de l'année = the months of the year

janvier = January

février = February

mars = March

avril = April

mai = May

juin = June

juillet = July

août = August

septembre = September

octobre = October

novembre = November

décembre = December

les nombres = the numbers

1 un

2 deux

3 trois

4 quatre

5 cinq

6 six

7 sept

8 huit

9 neuf

10 dix

11 onze

12 douze

13 treize

14 quatorze

15 quinze

16 seize

17 dix-sept

18 dix-huit

19 dix-neuf

20 vingt

21 vingt et un

22 vingt deux

30 trente

31 trente et un

32 trente-deux

Key phrases

Bonjour

Ça va?

Je m'appelle

Mon anniversaire c'est

le...

Quelle est la date de

ton anniversaire?

J'ai ... ans

Et toi?

As-tu...?

J'ai...

Je n'ai pas de...

USEFUL CLASSROOM PHRASES :

Je ne sais pas = I don't know

Je ne comprends pas = I don't understand

Est-ce que je peux...? = Can I...?

avoir un stylo = have a pen

avoir un bâton de colle = have a glue stick

enlever ma veste = take off my blazer

avoir un bâton de colle = have a glue stick

enlever ma veste = take off my blazer

Merci madame / monsieur = thank you

miss / sir

avoir un bâton de colle = have a glue stick

enlever ma veste = take off my blazer

Merci madame / monsieur = thank you

miss / sir

Grammar

All nouns in French are either masculine (le / un) or feminine (la une). All plural nouns become les.

Le frère = the brother un frère = a (one) brother les frères = the brothers

La soeur = the sister une soeur = a (one) sister les soeurs = the sisters

Mon / ma / mes = my

Ton / ta / tes = your

There are 3 ways to say my / your:

mon / ton frère = my / your brother (masculine noun)

ma / ta soeur = my / your sister (feminine noun)

mes / tes parents = my / your parents (plural noun)

Making plurals:

Most nouns add an S (like in English) e.g. une soeur, deux soeurs

Nouns that end in -al change to -AUX e.g. un cheval, deux

chevaux

Nouns that end in -eau, add an X e.g. un oiseau, deux oiseaux

Topic specific vocabulary

une / la famille = the family

un cousin = a cousin (male)

un père = dad

une cousine = a cousin (female)

une mère = mum

qui s'appelle (nt) = who is called...

Les parents = parents

Les grands-parents = grandparents

un frère = brother

un demi-frère = half brother

Une soeur = sister

une demi-soeur = half sister

un oncle = uncle

une tante = aunt

un fils unique = only child (male)

une fille unique = only child (female)

un copain / un ami = friend (male)

amie = friend (female)

une souris

une tortue (s)

un oiseau(x)

une araignée (s)

un poisson (s)

un hamster(s)

un serpent (s)

un cheval / des chevaux

un cochon d'inde

un lapin(s)

un chat(s)

un chien(s)

une copine / une

Je n'ai pas d'animal

**GENERAL "TRANSFERABLE" VOCABULARY
(YOU WILL MEET THESE WORDS AND PHRASES VERY OFTEN!)**

et = and trop = too
 mais = but très = very
 s'il vous plaît = please assez = quite
 merci = thanks un peu = a little
 au revoir = goodbye

Les opinions

c'est = it is nul = awful
 super = great ennuyeux = boring
 bon = good barbant = boring
 génial = excellent mal = poor
 excellent = excellent difficile = difficult
 chouette = great
 formidable = fabulous
 fantastique = fantastic

j'aime = I like
 je n'aime pas = I don't like
 j'adore = I love
 je déteste = I hate

Les couleurs

bleu = blue rouge = red
 noir = black vert = green
 brun = brown jaune = yellow
 blanc = white orange = orange
 violet = purple

La Famille

Une/ma mère = a/my mum
 Un/mon père = a/my dad
 un/mon frère = a/my brother
 une/ma sœur = a/my sister
 un fils unique = only child (boy)
 une fille unique = only child (girl)
 une/ma tante = an/my aunty
 un oncle/mon = an/my uncle
 un/mon copain = a/my friend (male)
 une/ma copine = a/my friend (female)
 un/mon demi-frère = a/my half-brother
 une/ma demi-sœur = a/my half-sister
 une/ma grand-mère = a/my grandma
 un/mon grand-père = a/my granddad
 mes grand-parents = my grandparents
 qui s'appelle = who is called
 qui s'appellent = who are called

La Famille- grammaire

Mon = my (masc) ma = my (fem) mes = my (pl)
 Ton = my (masc) ta = my (fem) tes = my (pl)

KNOWLEDGE ORGANISER - YEAR 7 FRENCH – HALF TERM 2 (OCT - DEC)

Topic specific vocabulary

J'ai / il a / elle a = I have / he has / she has
 les yeux bleus = blue eyes
 les yeux verts = green eyes
 les yeux gris = grey eyes
 les yeux marron = brown eyes
 les cheveux longs = long hair
 les cheveux courts = short hair
 les cheveux frisés = curly hair
 les cheveux mi-longs = mid-length hair
 les cheveux noirs = black hair
 les cheveux blonds = blonde hair
 les cheveux roux = red / ginger hair
 Je suis / il est chauve = I am / he is bald

Je suis / Il est / Elle est.. = I am / he is / she is..

petit (e) = small
 grand(e) = tall
 de taille moyenne = average height
 actif / active = active
 sportif / sportive = sporty
 bavard / bavarde = chatty
 gourmand / gourmande = greedy
 marrant / marrante = funny
 paresseux / paresseuse = lazy
 intelligent / intelligente = clever
 timide = shy
 sympa = kind / nice

Les animaux = pets

un chat / deux chats = a cat / 2 cats
 un lapin / deux lapins = a rabbit / 2 rabbits
 un poisson / deux poissons = a fish / 2 fish
 un chien / deux chiens = a dog / 2 dogs
 un serpent / deux serpents = a snake / 2 snakes
 un oiseau / deux oiseaux = a bird / 2 birds
 une araignée = a spider
 une tortue = a tortoise
 une souris = a mouse
 un hamster = a hamster

Grammar

Adjectives – in French, lots of adjectives change their spelling and pronunciation depending on the nous they are describing.
 Look at the examples to help:

Il est petit = he is small **BUT** elle est petite = she is small
 Il est marrant = he is funny **BUT** elle est marrante = she is funny
We have added an E when the noun is FEMININE.
 Il est paresseux = he is lazy **BUT** elle est paresseuse = she is lazy
 Il est sportif = he is sporty **BUT** elle est sportive = she is sporty

We have changed the ending of the adjective

NB: Some adjectives don't change!

Il est timide **AND** elle est timide

Plurals

In English, most of the time we add an S to make a noun plural but not always in French :

Examples:

Un chien – deux chiens = 1 dog – 2 dogs
 Un lapin – deux lapins = 1 rabbit – 2 rabbits

BUT

un oiseau – deux oiseaux = 1 bird – 2 birds
 un animal – deux animaux = 1 pet – 2 pets

NEGATIVES – Using Ne and Pas. To make a sentence negative, we use Ne and PAS. Ne / n' goes IN FRONT OF the verb and pas goes AFTER the verb:

J'ai = I have	Je n'ai pas = I don't have
Il a = he has	Il n'a pas = He doesn't have
Je suis = I am	Je ne suis pas = I am not
Il est = He is	Il n'est pas = He is not (isn't)

KEY VERBS – Avoir & Etre

J'ai = I have
 Nous avons = we have
 Tu as = you have
 Vous avez = you have
 Il / elle a = he has / she has
 Ils / elles ont = they have
 Je suis = I am
 Nous sommes = we are
 Tu es = you are
 Vous êtes = you are
 Il / elle est = he / she is
 Ils / elles sont = they are

KNOWLEDGE ORGANISER - YEAR 7 FRENCH – HALF TERM 3 (Jan-Feb)

GENERAL "TRANSFERABLE" VOCABULARY

et = and
au revoir = goodbye
mais = but
trop = too
s'il vous plaît = please
très = very
merci = thanks
assez = quite
un peu = a little

Mon quartier – my area

J'habite – I live
à la campagne – in the countryside
à la montagne – in the mountains
au bord de la mer – by the seaside
dans une ville – in a town
dans un village – in a village
au nord – in the north
au sud – in the south
à l'est – in the east
à l'ouest- in the west

Ma maison – my house

une grande maison – a big house
une petite maison – a small house
un appartement – a flat
une maison jumelle – a semi-detached
une ferme – a farm

Les pays - countries

en Afrique – in Africa
en Belgique – in Belgium
en Tunisie – in Tunisia
en France – in France
en Guadeloupe – in Guadeloupe
au Canada – in Canada

Les pieces – the rooms

Il y a – there is/are
Il n'y a pas de – there isn't/aren't
au rez-de-chaussée – on the ground floor
au premier étage – on the first floor
une entrée – a hall
une cuisine – a kitchen
une salle à manger – a dining room
un salon – a living room
une chambre – a bedroom
la chambre de mes parents – my parents' bedroom
une salle de bains – a bathroom
un garage – a garage
un jardin – a garden
une cave- a cellar

Le meuble – the furniture

une chaise – a chair
un lit – a bed
une table – a table
une télévision – a television
une armoire – a wardrobe
un chien en peluche – cuddly toy dog
un ordinateur – a computer
un bureau – a desk
une lampe – a lamp
une commode – a chest of drawers
une étagère – bookshelf
une moquette – carpet
des rideaux – curtains

Prepositions – prepositions

sur – on
sous – under
dans – in
devant – in front of
derrière- behind

Le soir – the evening

On regarde la télé- we watch TV
On joue au foot - we play football
On mange- we eat
On écoute de la musique - we listen to music
On téléphone à des copains- we phone friends
On travaille- we work
On prépare le diner- we prepare dinner
On range la cuisine- we tidy the kitchen
Quelle heure est-il? – telling time
Quelle heure est-il?- What time is it?
et quart- quarter past
moins le quart- quarter to
et demie- half past
il est 8 heures- it is 8 o'clock
il est- it is
à- at

Grammar

Les adjectifs – adjectives

Most adjectives go after the noun
and must agree with the noun it is describing.
eg. une **maison intéressante**

Exceptions are grand, petit and joli which go before the noun

une **grande** maison
une **jolie** chambre
grand (e) – big
laid(e) - ugly
petit(e) – small
joli(e)– pretty
tranquil (le) – peaceful
intéressant (e) – interesting
touristique – touristy
historique – historic

Au centre-ville- in the town centre

Un café- a cafe
Un cinéma- a cinema
Un marché- a market
Un musée- a museum
Un tabac- a newsagents
Un hôtel- a hotel
Un hôpital- a hospital
Une église- a church
Une poste- a post office
Une banque- a bank
Une gare- a train station
Des magasins- some shops
Ma ville idéale- my ideal town
Je voudrais- I would like
Il y a un café- there is a cafe
Il n'y a pas de café- there isn't a cafe
Dans ma ville- In my town
On peut- you can
On ne peut pas- you can't
Visiter- to visit
Aller- to go
Le temps - weather
Quand/Si – When/If
Il fait beau – the weather is nice
Il fait mauvais – the weather is bad
Il fait froid – it's cold
Il fait chaud – it's hot
Il pleut – it rains
Il neige – it snows
Il y a du soleil – it's sunny
Il y a du vent – it's windy

Les directions - directions

Où est...?- where is...?
Où sont...?- where are...?
C'est à gauche- it's on the left
C'est à droite- it's on the right
C'est tout droit- it's straight on
Tu tournes- you turn (informal)
Vous tournez- you turn (polite)
Est-ce que je peux vous aider?- can I help you?
Excusez-moi- excuse me

Le stade- the stadium
La fête-foraine- the funfair
Le centre-commercial- the shopping centre
La patinoire- the ice-rink
Le parking- the car park
Les toilettes- the toilets
Le camping- the campsite
La bibliothèque- the library
Le bowling- the bowling alley
Le collège- the school
Le parc- the park
Le magasin de vélos- the bike shop
La piscine- the swimming pool
Les magasins- the shops

Les opinions – opinions

J'aime bien ça- I really like it
Ça m'est égal- I don't mind
C'est nul- it's rubbish
C'est affreux- it's awful
C'est ennuyeux- it's boring
Si tu veux- if you want to

Les monuments de Paris

La Tour Eiffel- the Eiffel Tower
Le Louvre- the Louvre (art museum)
La cité des Sciences-
Notre-Dame de Paris- Notre-Dame (cathedral)
L'Arc de Triomphe- the Arc de Triomphe (famous war monument)
Le stade de France- French national football stadium
Le Centre Pompidou- the Pompidou centre
La basilique du Sacré-Cœur- the Sacré-Cœur church

Grammar

The verb 'aller' - to go

Je vais- I go/I am going

How to say 'to the' or 'at the' in French

The word for 'to' and 'at' in French is 'à' but depending on the type of noun, the way we use the expressions 'to the' and 'at the' changes.

Masculine- au

e.g. Je vais au café

Feminine – à la

e.g. Je vais à la banque

Nouns starting with a vowel- à l'

e.g. Je vais à l'église

Plural- aux

e.g. Je vais aux magasins

Using 'on peut' to say what you can do in your town

On peut means 'you can'. We can add an infinitive verb to this expression to say what you can do in your town.

E.g.

On peut + faire = You can do

On peut + aller= You can go

On peut + visiter= You can visit

On ne peut pas = you can't e.g. on ne peut pas visiter= you can't visit

KNOWLEDGE ORGANISER - YEAR 7 FRENCH – HALF TERM 5 (April-May)

Subjects

le français -French
le dessin -Art
l'EPS -PE
le théâtre -Drama
la technologie -DT
la musique -music
l'histoire -history
l'anglais -English
l'informatique -IT

les maths -maths
les sciences -science

Key Vocab

le/ la prof -teacher
le collège -school
les élèves -pupils
la classe -class
la récréation -break
les devoirs -homework
les cours -lessons
trop -too
beaucoup de -lots of
très -very
aussi -also
un peu -a bit
car -because
parce que -because
la cantine -canteen
le garçon -boy
la fille -girl
commencer -to start
j'étude -I study

Days of the week

lundi -Monday
mardi -Tuesday
mercredi -Wednesday
jeudi -Thursday
vendredi -Friday
samedi -Saturday
dimanche -Sunday

Adjectives

amusant -funny
facile -easy
utile -useful
intéressant -interesting
sympa -kind
difficile -difficult
nul -rubbish
ennuyeux -boring
sévère -strict

Giving opinions

J'adore -I love
J'aime -I like
Je préfère -I prefer
Je n'aime pas -I don't like
Je déteste -I hate
Ma matière préférée est... -my favourite subject is...

How er verbs work!

eg. **détester – to hate**

je **déteste** -I hate
tu **détestes** -you hate
il **déteste** -he hates
elle **déteste** -she hates
nous **détestons** -we hate
vous **détestez** -you hate (polite)
ils **détestent** -they hate

Daily routine

Je me réveille- I wake up
Je me lève- I get up
Je me lave- I wash
Je me douche- I shower
Je me brosse les dents- I brush my teeth
Je m'habille- I get dressed
Je prends le petit déjeuner- I have breakfast
Je vais au collège- I go to school

After school

Je rentre à la maison- I go home
Je prends le goûter- I have a snack
Je fais mes devoirs- I do my homework
Je regarde la télé- I watch TV
Je fais du vélo- I go bike riding
Je mange- I eat
Je fais la vaisselle- I do the washing up
Je me couche- I go to bed

Grammar

The verb 'faire' - to do

Je fais	I do
Tu fais	you (friendly) do
il fait	he does
elle fait	she does
nous faisons	we do
on fait	we do
vous faites	you (polite) do
ils font	they do
elles font	they (female) do

KNOWLEDGE ORGANISER - YEAR 7 FRENCH – HALF TERM 6 (May-July)

Le sport – sport
Je joue – I play ..
au football – football
au rugby – rugby
au basket – basketball
au tennis – tennis
au volley – volleyball
au hockey sur glace – ice hockey
au ping-pong – table tennis
aux cartes –cards
aux échecs –chess
Je fais... I do/I go
du vélo –cycling
du skate – skateboarding
de la voile – sailing
du canoë -canoeing
de la danse – dancing
du patin à glace – ice-skating
du ski – skiing
de la natation –swimming
de l'équitation – horse-riding
Les opinions – reminder
J'aime – I like
J'adore – I love
Je n'aime pas – I don't like
Je déteste – I hate
Mon sport préféré est- my favourite sport is
Eg J'aime faire la natation
Eg Je déteste jouer au rugby
Parce que/car... because...
C'est marrant – It's funny
C'est intéressant – It's interesting
C'est passionnant –It's exciting
C'est bien – It's good
C'est affreux – It's awful
C'est nul – It's rubbish
C'est utile – It's useful

Les instruments - instruments
Je joue...
du violon – violon
du piano – piano
du clavier – keyboard
de la guitare – guitar
de la trompette – trumpet
de la batterie – drums
Je ne joue pas d'un instrument – I don't play an instrument
La télévision – television
Les jeux-télévisés – game shows
Le feuilleton – soap
Les émissions de sport – sport programmes
Les émissions de musique – music programmes
Le documentaire – documentary
Le dessin animé – cartoon
La série policière – crime series
Les informations – news
Le temps - weather
Quand/Si – When/If
Il fait beau – the weather is nice
Il fait mauvais – the weather is bad
Il fait froid – it's cold
Il fait chaud – it's hot
Il pleut – it rains
Il neige – it snows
Il y a du soleil – it's sunny
Il y a du vent – it's windy

Quand? – When?

En été – In summer
En hiver – in winter
Tous les jours – every day
Une fois par semaine – Once a week

Quelle heure? –What time?

Il est deux heures – It is 2 o'clock
Il est deux heures et quart – It is quarter past two
Il est deux heures et demie – It is half past two
Il est trois heures moins le quart – It is quarter to three
Il est deux heures dix – It is 2.10
Il est deux heures vingt – It is 2.20
Il est trois heures moins dix –It is 2.50

Time/frequency phrases

le weekend – at the weekend
normalement – usually
de temps en temps – from time to time
quelquefois – sometimes
pendant les vacances – during the holidays

Grammar

The verb 'aller' - to go

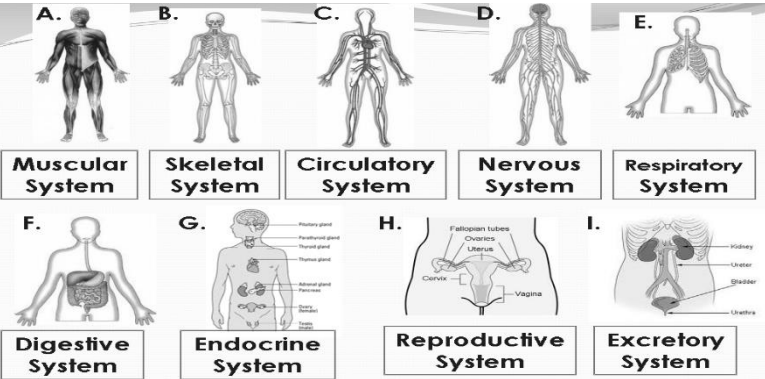
Je vais- I go/I am going	Nous allons- we go/we are going
Tu vas- You go/you are going	Vous allez- you go/you are going (pl)
Il va- he goes/he is going	Ils vont- they go/they are going (masc)
Elle va- she goes/she is going	Elles vont- they go/they are going (fem)

Key infinitive verbs

Faire- to do/to make
Aller- to go
Manger- to eat
Visiter- to visit
Rester- to stay
Passer- to spend
Regarder- to watch
Jouer- to play

5 functions of the Skeletal System

1. Framework gives **shape & support** to the body.
2. Bones **protect** the **internal** organs.
3. Major **muscles** of the body are attached to the bones for **movement**.
4. **Blood** cells are formed in **marrow** of some bones.
5. Skeleton is a place where **calcium** and **phosphorus** compounds are **stored**.



Muscles

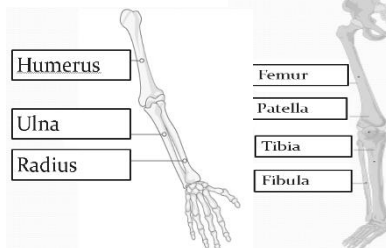
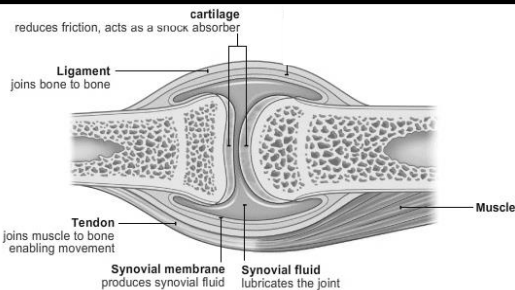
Muscles are the **organs** that **move** body parts. Bones **protect** the **internal** organs.

Two Groups of Muscles:

Voluntary—You **can** control these. **Arms, legs, hands, face**

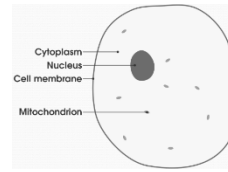
Involuntary—You **can't** control these; you don't have to decide to make these muscles work. Muscles around the **heart**

Antagonistic muscles occur in pairs. These pairs of muscles work **together** to create movement. As one muscle **contracts** (shortens) the other muscle **relaxes** (lengthens). They swap actions to reverse the movement.



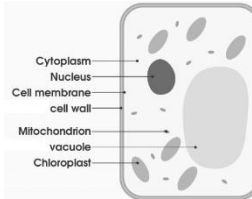
Y7 Biology T1- Living systems

Animal cell



Cell Part	Function
Nucleus	<ul style="list-style-type: none"> • Controls the cell • It contains DNA
Cytoplasm	<ul style="list-style-type: none"> • Where chemical reactions take place
Cell membrane	<ul style="list-style-type: none"> • Controls the passage of substances into and out of the cell
Mitochondrion	<ul style="list-style-type: none"> • Where energy is released by respiration

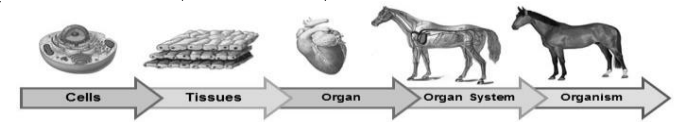
Plant cell



Cell Part	Function
Cell wall	<ul style="list-style-type: none"> • Gives the cell structure
Vacuole	<ul style="list-style-type: none"> • Contains water & nutrients
Chloroplast	<ul style="list-style-type: none"> • Absorbs light for photosynthesis

Drawing of the cell	Function	Specialised Features
Red blood cell	Transports oxygen around the body	<ul style="list-style-type: none"> -No nucleus so can carry more oxygen -A biconcave shape so is flexible to squeeze through small blood vessels
Nerve cell (neuron)	Transmits nerve impulses	<ul style="list-style-type: none"> -Long and thin -Contains fibres which connect to other nerve cells -Surrounded by a cover which insulates it and speeds up transmission of nerve impulse
Muscle cell	Contracts (to provide muscle movement)	<ul style="list-style-type: none"> -Contain many mitochondria to provide energy for movement
Sperm cell	Fertilises the female egg	<ul style="list-style-type: none"> -Has a long tail to swim to the egg. -The mid piece is packed with mitochondria to provide energy for movement. -Streamlined shape to help it swim -Head contains enzymes to break into the egg

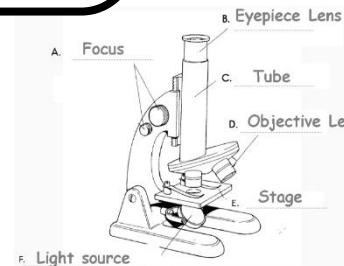
Drawing of the cell	Function	Specialised Features
Palisade cell	Absorbs light for photosynthesis	<ul style="list-style-type: none"> -Packed with chloroplasts which contain the pigment chlorophyll. -Packed together to absorb as much light as possible
Root hair cell	Absorbs water and minerals from the soil	<ul style="list-style-type: none"> -Thin membrane -Large surface area which enables the cell to absorb more water from the soil
Guard cell	Allows gases in and out the leaf	<ul style="list-style-type: none"> -Able to change their shape -Found in pairs
Sieve cell	Transport water, nutrients and minerals through the plant	<ul style="list-style-type: none"> -Hollow -Form long tubes



Scientific Drawing rules

- Use simple clear lines
- Draw only what you see (in proportion).
- Ensure diagram is the right size.
- No shading
- Draw labelling lines using a ruler (NO crossing)
- Include a scale or magnification

$$\text{Magnification} = \frac{\text{Eyepiece lens}}{\text{Objective lens}} \times \text{Objective lens}$$



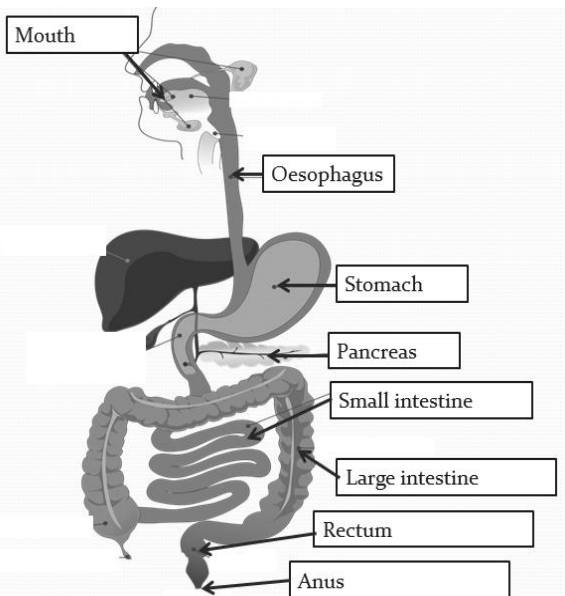


Digestive system

Large molecules are broken down into **small** molecules which can be absorbed into the blood.

There are two types of digestion:

- Physical breakdown- Structures like teeth and muscular walls physically break up molecules
- Chemical breakdown- Enzymes break up molecules



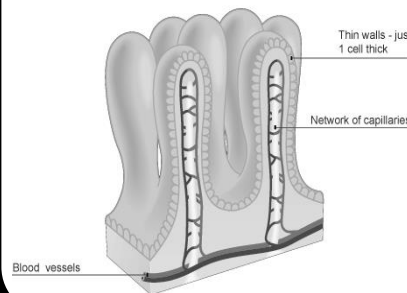
Organ	Function
Mouth	Chew food into smaller pieces
Oesophagus	Muscular tube which moves food to the stomach
Stomach	Produces acid (HCl) to kill any bacteria. Muscular walls to churn food.
Pancreas	Produces enzymes
Small intestine	Digested food absorbed into the blood
Large intestine	Water reabsorbed
Rectum	Faeces is stored
Anus	Faeces leave the body

Food tests

Test for sugars	Add Benedict's solution and heat. Positive test for simple sugars: Changes colour (blue to green/ yellow/ red).
Test for starch	IODINE test: Add iodine Positive test for starch: From orange/brown to Blue/black colour.
Test for fats	EMULSION test: Add ethanol, then add water. Positive result for fats: A cloudy white suspension .
Test for protein	BIURET test: Add biuret solution Positive result for protein: Turns lilac colour.

Inside the small intestine there are small hair like structures called villi. Villi are adapted for absorption:

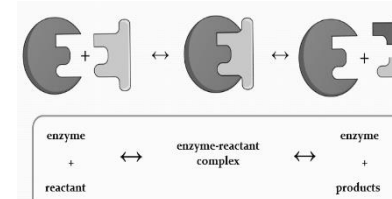
- Provide a large surface area
- Thin membrane
- Good blood supply



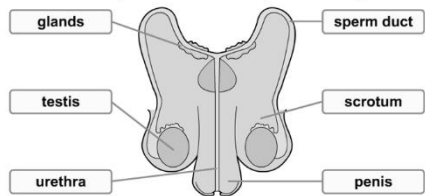
Food Group	Effect on the body	Example
Carbohydrates	Provides the body with the most energy	Bread, rice, pasta
Fats	Second best provider of energy, insulation.	Butter, oils
Protein	Growth and repair of cells	Meat, fish, eggs
Vitamins	Stay Healthy. Vit A= Eyes, Vit C= Immunity, Vit D= Bones	Fruit & Vegetables
Minerals	Stay Healthy. Iron= blood, Calcium= Teeth & bones	Milk, meat
Fibre	Prevents constipation	Cereal
Water	Hydrates cells, chemical reactions	Water

Lack of ...	Problems caused
Energy	- Weight loss, lack of growth - Starvation - E.g. Marasmus
Protein	- Lack of growth - Less repair of body tissues - E.g. Kwashiorkor
Fats	- Dry skin & fatigue - Less insulation - Loss of menstrual cycle
Vitamins & minerals	- Lack of formation of bones - Bleeding gums & loss of teeth - E.g. Rickets, Scurvy
Overnutrition	- Overweight & obesity - Cardiovascular disease - E.g. Type 2 diabetes

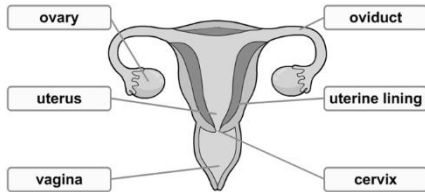
Enzymes are chemicals that speed up reactions. They help us break down food molecules:



What are the parts of the male reproductive system?



What are the parts of the female reproductive system?



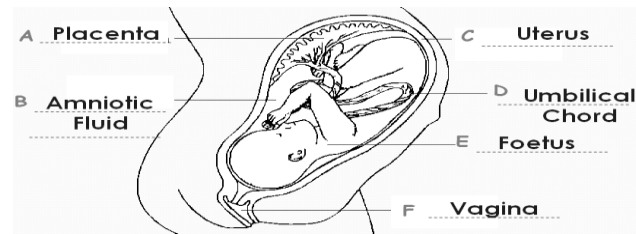
What is the function of each body part?

testes	to produce sperm
ovary	to produce eggs
urethra	to carry sperm out of the body
oviduct	to carry eggs to the uterus
glands	to add fluid to sperm
sperm duct	to carry sperm from the testes
scrotum	to protect the testes

What does each reproductive process involve?

- ovulation** - The release of an egg from the ovary.
- ejaculation** - The ejection of sperm through the penis.
- fertilization** - The egg and the sperm nuclei fuse.
- implantation** - The embryo sinks into the uterus lining.

A woman is pregnant for 9 months



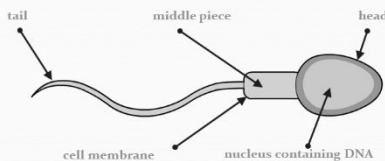
Adolescence is the period of life between child and adulthood

Puberty is the time when sex organs begin to work

The changes that happen during puberty are caused by **hormones**

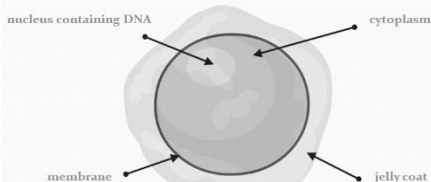
Changes in boys	Changes in girls
sudden increase in height (growth spurt)	sudden increase in height (growth spurt)
hair starts to grow on body, including pubic hair	hair starts to grow on body, including pubic hair
voice deepens	breasts grow
testes start to make sperm and hormones	ovaries start to release eggs and make hormones
shoulders broaden	hips widen
sexual organs get bigger	periods start

In males, the sex cells are called **sperm**.

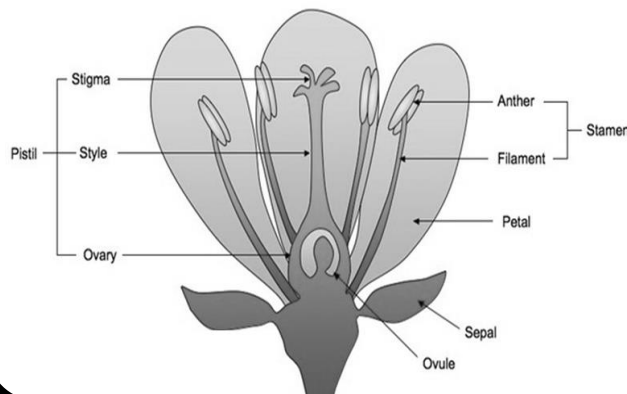


Sperm are produced in sex organs called **testes**.

In females, the sex cells are called **eggs**.



Eggs are produced in sex organs called **ovaries**.



Menstrual cycle:

Day 1-7: the lining of the uterus comes away and exits through the vagina.

Day 8-13: The lining of the uterus begins to build up again. At this time an egg starts to mature in one of the ovaries.

Day 14: An egg is released by an ovary into the oviduct. (Ovulation).

Day 15-17: The egg travels down the oviduct and into the uterus hoping to be fertilized.

Day 18-28: If the egg is not fertilised then the lining of the uterus begins to break down again.

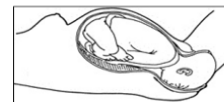
After about 9 months the baby is ready to be born. However, before it can be born, the baby must make sure it is the correct way up.



Before birth, the baby usually turns itself round so that his/her head lies above the cervix



The mother starts to feel small contractions of the uterus wall. These gradually become stronger and happen more often. Eventually the amniotic sac breaks and the amniotic fluid escapes.



The muscles of the uterus wall now contract very strongly and start to push the baby out. As the baby is pushed out, the cervix widens and the baby's head is pushed out through the vagina.

As the baby is born it breathes air for the first time - the umbilical cord is tied and cut. After a few minutes the placenta comes away from the uterus wall. This is pushed out as the **afterbirth**.





State	Particle arrangement	How the particles move	Properties
Solid		Particles are held in a fixed position and vibrate on the spot.	Solids cannot be squashed, do not flow, have a fixed shape and volume, and have a high density.
Liquid		Particles are free to move past each other but are still very close.	Liquids cannot be squashed, flow quite easily, and have a fixed volume but no fixed shape.
Gas		Particles are far apart and can move anywhere by themselves.	Gases are quite easy to squash, flow easily, have no fixed volume and no fixed shape.

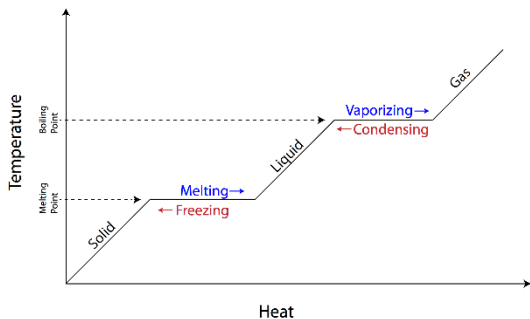
Key words	
Particle	The tiny pieces that everything is made out of.
Pure	A substance made up of only one type of particle.
Mixture	A substance made up of two or more different types of particles that are not chemically joined.
Melting	When a solid changes state to a liquid.
Freezing	When a liquid changes state to a solid.
Condensing	When a gas changes state to a liquid.
Boiling	When a liquid changes state to a gas.
Sublimation	A solid changing straight to a gas.
Melting point	The temperature at which a solid turns into a liquid, this is the same as the temperature that a liquid turns in to a solid.
Boiling point	The temperature at which a liquid turns into a gas, this is the same as the temperature that a gas turns in to a liquid.

Separation technique	What it separates	Diagram	How it works
Filtration	Insoluble solid from a liquid		The particles of the liquid and any dissolved particles are small enough to fit through the filter paper, however any solid particles cannot pass through and become trapped in the paper.
evaporation	Soluble solid from a liquid		The boiling point of the liquid is much lower than that of the dissolved solid, the liquid evaporates when heated and the solid is left behind.
Distillation	A liquid from a solution		The liquid is heated and evaporates, the vapours are trapped and cooled, condensed and collected.
Chromatography	A mixture of dyes or colours		The different colours in the inks have different solubilities and are transported different distances up the paper.

Changing State

Substances must be heated to make them melt or boil and cooled to make them condense or freeze.

Heating makes particles move faster and weakens the forces of attraction between the particles. Cooling slows the particles down and strengthens the forces of attraction between the particles. Substances melt and boil at different temperatures called the melting point and boiling point. These are different for each substance.



Solutions

A **solution** is a liquid containing dissolved substances. The substance being dissolved is called the **solute** and the liquid in which it is being dissolved is the **solvent**.

Solute + solvent → solution

A substance that will dissolve is **soluble**, one that will not is **insoluble**.

The amount of solute that will dissolve is effected by the **type of solute, the type of solvent and the temperature**.

When no more of a substance will dissolve in a solvent the solution is **saturated**.

Pressure

Pressure is a measure of how hard a gas pushes against its surroundings.

The pressure may increase because:

- the container has been squashed, making the volume smaller; this means that the particles will be hitting the walls more often.
- the number of particles has been increased, which means there are more particles moving around to hit the walls.
- the temperature of the particles has increased, so they will move around faster and hit the walls harder and more often.

If the particles are in a container which is flexible, like a balloon or a syringe, an increase in pressure will make the volume increase.

Diffusion

The natural mixing of substances is called **diffusion**. Diffusion occurs because particles in a substance are always **moving** around. Diffusion is fastest in **gases**, and slower in liquids. Diffusion in solids is extremely slow. Brownian motion is the random movements of particles in liquids and gases.



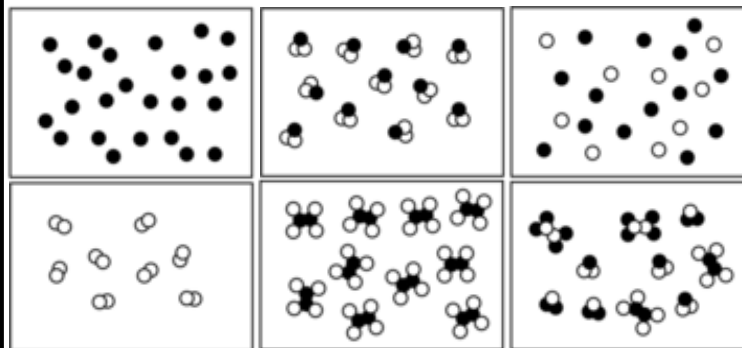
Atoms and elements

An **element** is a simple substance that cannot be split into anything simpler by chemical reactions. **Atoms** are the smallest particles of an element that can exist. Atoms of one element are all the same, and are different from atoms of all the other elements.

There are over 100 different elements. All the elements are shown in the **Periodic Table**. Each element has a **chemical symbol**, which is usually one or two letters.

A symbol is written with the first letter as a capital, and the second letter is small.

carbon C	oxygen O
nitrogen N	hydrogen H
gold Au	silver Ag
copper Cu	aluminium Al



Element

Compound

Mixture

Chemical reactions

In a **chemical reaction** a new substance is always formed. Most chemical changes are not easily reversed; they are **irreversible**. In a **physical change** no new substance is formed. Melting and evaporation are examples of physical changes. Physical changes are usually reversible. You can tell that a reaction has occurred if there is a **colour change** or when a **gas** is given off. Most chemical reactions also involve an **energy change**. This is usually in the form of heat, but can also involve light being given off (for example, when something burns).

Compounds

Elements can join together to make compounds. The name of the compound tells you the elements that are in it.

Compounds made from two elements always have a name which ends in '**-ide**'. For example, sodium chloride contains sodium and chlorine.

Compounds made from three elements, one of which is oxygen, always have a name which ends '**ate**'. For example, calcium carbonate contains calcium, carbon and oxygen.

A compound always contains the same elements in the same ratio so can be represented by a chemical formula.

Mixtures

Mixtures are different substances that are combined physically, but not chemically. They can be separated by physical techniques (filtration, evaporation, distillation etc).

Elements and compounds can also be mixed together. A **mixture** is easier to separate than the elements in a compound. Soil, river water and sea water are examples of mixtures that occur naturally.

Elements and compounds melt and boil at a fixed temperature. Mixtures do not have definite **melting points** and **boiling points**.

Conservation of mass

In a chemical reaction, the mass of the reactants is always the same as the mass of the products. This is because atoms are not created or destroyed in chemical reactions; they are just rearranged into different compounds.

Sometimes the chemicals in a reaction seem to gain or lose mass. If you heat copper it reacts with oxygen from the air to form copper oxide, which has a greater mass than the original copper. However, if you could find the mass of oxygen that had reacted, you would find that the total mass of the reactants (copper and oxygen) was exactly the same as the mass of the product (copper oxide).

When you burn a piece of wood, the ashes that are left have a smaller mass than the wood you started with. This is because one of the products of the reaction is carbon dioxide gas, which has escaped into the air.

Chemical Formula

A chemical formula tells you the name and number of atoms in a compound. The smallest particle of many compounds is called a **molecule**. Molecules are made up of atoms. Some elements are also made of molecules. For example, a molecule of oxygen contains two oxygen atoms joined together. The formula is O₂.

If there is only one atom of a particular element we simply write its symbol, if there is more than 1 atom of a particular element we write its symbol followed by the number of atoms hanging of the line. For example, CO₂ contains 1 carbon atom and 2 oxygen atoms.

Word equations

We can write **word equations** to show a chemical reaction. The chemicals that you start with are called the **reactants**. The chemicals at the end are called the **products**.

When writing word equations, the reactants are on the left and the products are on the right, separated by and arrow.

Reactants → Products

hydrogen + oxygen → water

Word equations should only contain the names of the elements and compounds, not a mixture of names and formula.



Chemical reactions

Elements and compounds can react chemically by mixing them with other chemicals, or by using heat or electricity. You can tell that a **chemical reaction** has occurred if a new substance has been formed. This might be observed through a colour change, a gas being given off (bubbles), a solid being formed (eg a precipitate) or an energy change.

Most chemical reactions involve an energy change. This is usually in the form of heat, but can also involve light being given off, for example, in burning (**combustion**).

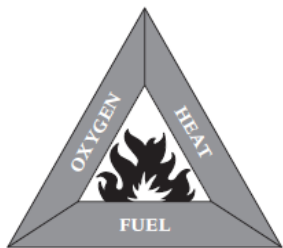
In a chemical reaction a new substance is always formed. Most chemical reactions are not easily reversed (they are **irreversible**).

Some chemical reactions take place just by mixing. When you make a solid by mixing two liquids, the solid is called a **precipitate**.

Other chemical reactions need energy to start them off. This energy can be in the form of heat, light or electricity. When you use energy to split up compounds they are **decomposed**.

Combustion reactions

Combustion is the chemical name for burning. A fire needs three things to keep burning: fuel, oxygen and heat. We show these three things on the Fire Triangle.



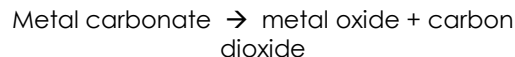
If any one of these three things runs out, the fire will go out. When a metal burns, the metal combines with oxygen from the air to form a chemical called an **oxide**.
magnesium + oxygen → magnesium oxide
reactants products

Fossil fuels contain a lot of carbon and hydrogen. When they burn they use up oxygen from the air and produce water and carbon dioxide. We can show the reaction using a word equation. Energy is in brackets in this equation because it is not a chemical substance.
fuel + oxygen → carbon dioxide + water (+ energy)

Thermal decomposition

In a thermal decomposition reaction, a substance splits in to less complex substances when heated.

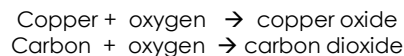
Metal carbonates undergo thermal decomposition.



You can test for carbon dioxide being given off by bubbling it through limewater. If the limewater goes cloudy carbon dioxide is present.

Oxidation

Combustion is an example of a type of reaction called oxidation. In an oxidation reaction, a substance gains oxygen. Most oxidation reactions give out heat energy.



Exothermic and Endothermic reactions

An **exothermic** reaction is a reaction that gives out heat energy. The temperature of the surroundings increases. Combustion is an example of a type of exothermic reaction.

Exothermic reactions are useful as fuels, they can also be used in hand warmers and self-heating cans.

An **Endothermic** reaction is a reaction that absorbs heat energy.

Thermal decomposition is an example of an endothermic reaction. The temperature of the surroundings decreases. Endothermic reactions can be used in cold packs to treat sports injuries.

To find out if a reaction is exothermic or endothermic you need to find the initial temperature of the reactants, then mix the chemicals and record the new temperature. If the temperature has gone up the reaction is exothermic, if the temperature has gone down the reaction is endothermic.

Word equations

We can write **word equations** to show a chemical reaction. The chemicals that you start with are called the **reactants**. The chemicals at the end are called the **products**.

When writing word equations, the reactants are on the left and the products are on the right, separated by and arrow.
Reactants → Products



Word equations should only contain the names of the elements and compounds, not a mixture of names and formula.

Changing rates of reaction

Some chemical reactions occur slowly like rusting other chemical reactions are much quicker like explosions. The speed of a chemical reaction can be altered by changing the conditions of the reaction.

If the temperature of the reaction is increased the reaction gets faster. This is because the reactant particles have more energy to react.

If the surface area of a solid is increased the reaction will get faster. This is because more of the reactant particles are available to react.

A catalyst can be added to a reaction. This is a chemical that makes the reaction faster without being used up in a reaction. Catalysts can be used again and again.

What is a force?

A force is something that causes a change in the position of an object.

A force can be described as a push, a pull or a turn.

Forces have both size (magnitude) and direction.

The unit of measurement of a force is the Newton (N)

Forces can be measured using Newton meters.



Year 7 Physics T1 - Forces

Forces can be categorised as contact or non-contact forces.

Contact forces require physical interaction for the force to be exerted (e.g. friction)

Non-contact forces can act at "a range". For example gravity and magnetism.

Friction is a contact force. Friction occurs when an object is moving and is in contact with another substance.

For example, if you push a book across a table, friction acts in the opposite direction to this motion.

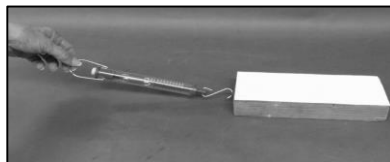
Adding a lubricant can decrease the effect of friction. Friction can generate heat.

Air resistance is also a form of friction.

When a plane flies through the air, the air particles collide with it and apply a force in the opposite direction to the motion of the plane.

Air resistance can be decreased by making an object more streamlined/aerodynamic. This works by decreasing the size of the force acting on the object.

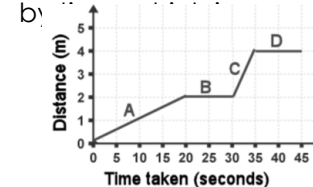
Friction can be investigated by dragging friction blocks across a table.



Adding more mass to the block will increase the amount of friction generated. This means a greater force needs to be applied to move the block.

Changing the surface of the block and/or the table will also change the amount of friction generated.

Distance time graphs show the distance that an object is travelling and the time it is taking to do so. The gradient of a distance time graph (the change in the y-axis divided by the change in the x-axis) is a measurement of distance divided



Section A shows a speed of 2m in 20s = 0.1m/s

Section B shows no change in distance which means it is stopped.

Section C shows a greater speed than section A because the gradient of section C is steeper than section A. Section C shows 2m travelled in 5s = 0.4m/s

Section D also shows a stopped object.

Speed is a measurement of how much distance is travelled in a certain amount of time.

Distance is measured in metres (m)

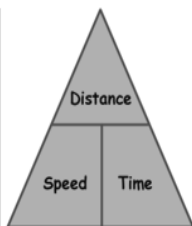
Time is measured in seconds (s)

Speed is measured in metres per second (m/s)

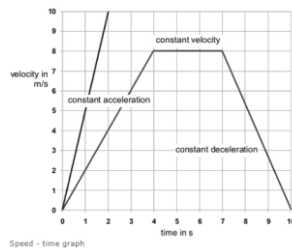
$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

$$\text{Distance} = \text{Speed} \times \text{Time}$$

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$$



Speed/velocity time graphs show how the speed of an object varies over time. The gradient (line) of the speed time graphs shows an object speeding up, slowing down or going a constant speed. This is therefore a measurement of the acceleration of the object.



Acceleration is measured in m/s²

Mass and Weight are two different things. The mass of an object is its ability to resist change (inertia). Mass is measured in kilograms (kg). The weight of an object is the force that the object exerts straight downwards because of both its mass and because of the strength of gravity.

Weight is measured in Newtons (N) because it is a force.

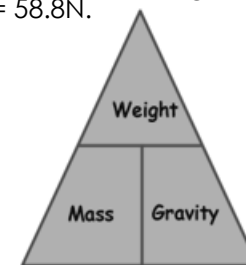
Weight (N) = mass (kg) x gravitational field strength (N/kg)

Gravitational field strength on earth is 9.8N/kg, so to find the weight of a 6kg box on earth: Weight = 6kg x 9.8N/kg = 58.8N.



$$\text{Weight} = 6\text{kg} \times 9.8\text{N/kg}$$

$$\text{Weight} = 58.8\text{N}$$



Year 7 Electricity & magnetism

Materials can be categorised as either conductors or insulators.

An electrical conductor will allow current to flow through it.

An electrical insulator will not allow current to flow through it.

Some conductors will be better at conducting than other conductors. The higher the current passing through a conductor, the better it is at conducting.

Resistance is a measure of how much current is "hindered."

In series, adding more resistors decreases the overall current

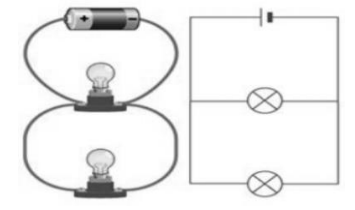
Electricity is the flow of electrons through a conductor.

Potential difference (Voltage) is the energy given to the electrons. The higher the voltage, the more energy the electrons have.

Current is a measure of how fast the electrons are flowing. If the electrons have more energy (higher voltage), then they flow faster (higher current)

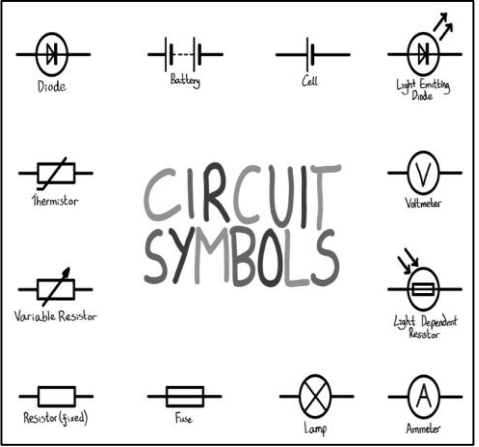
The higher the voltage, the higher the current.

Parallel circuits are circuits where components may be on different loops. If the cell provides, for example, 1.5v, then each loop gets its own 1.5V. Voltage is not shared in parallel.



Current, however is shared in parallel. The total current divides out between the branches. If one bulb breaks in the diagram above, the other one stays on because it gets its own voltage and current.

Resistance in parallel is very strange. Adding more and more resistance in parallel results in the total resistance going down!



Series circuits are circuits where all the components are in the same "loop":

In series circuit, the current is the same everywhere, and the voltage that is provided by the cell must be shared out amongst all the components.

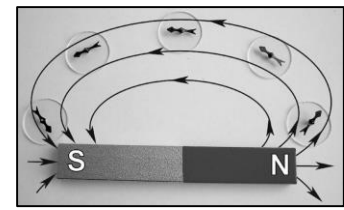
If more and more components are added in series, then more and more resistance is added. To find the total resistance in series, you add together the resistances of all the components.

Permanent magnets are magnets that are magnetic all the time.

Bar magnets are an example of permanent magnets. These have a north pole and a south pole.

The north pole of one magnet points towards the south pole of the closest, strongest magnet.

A compass needle will move to point towards the south pole of a magnet that it is near to so long as it is within the magnets magnetic field.



Electromagnets are not permanent magnets. We can make electromagnets by passing an electric current through a wire.

This makes the wire magnetic.

By coiling lots of wires around an iron core (e.g. a nail), we can make a very strong magnet. This will then pick up other magnetic materials. To turn the electromagnet off, we simply turn off the electric current.

Resistance is a measure of how hard it is for electrons to move in an electrical circuit

voltage = current x resistance

$V = I \times R$

• Voltage is measured in volts (V).

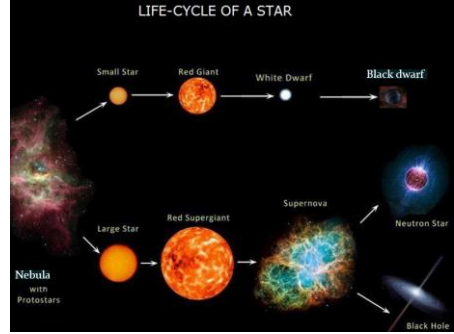
• Current is measured in amps (A).

• Resistance is measured in ohms (Ω).

When using electricity, it is important to be safe. Mains electricity can shock and even kill a person.

When working around electricity it is important to follow the following safety rules:

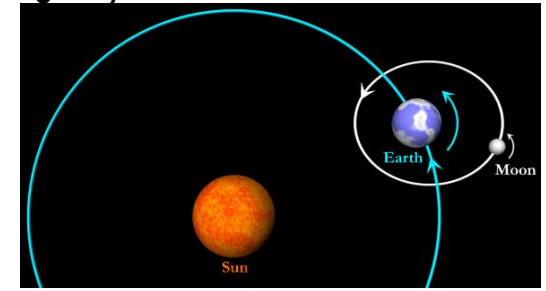
- Don't jam anything metal in to an electrical appliance
- Don't put liquids near electrical appliances.
- Don't overload plug sockets.
- Don't use electrical appliances that have damaged wires.



The geocentric model of the solar system was the model of the solar system which placed the earth at the centre. According to this model, everything orbits around the earth. The heliocentric model is the model that places the sun at the centre of the solar system instead.



The orbits of planets and moons is because of **gravity**.



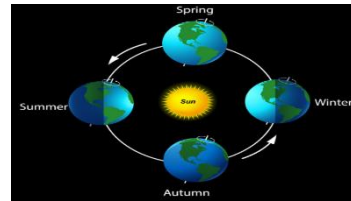
Stars are born and die in space. Stars can be categorised as either normal stars or massive stars. Normal stars like ours follow the life cycle shown at the top (Nebula – average star – red giant – white dwarf – Black dwarf)

The earth orbits around the sun, which takes 365.25 days to complete.

The moon orbits around the earth which takes about 29.5 days.

Massive stars (stars that are at least 1.4 times more massive than our sun) will go from being a massive star to a red supergiant, followed by a supernova. Then, it will either become a black hole or a neutron star.

The seasons come about because the earth is slightly tilted. It is summer in the northern hemisphere when the northern hemisphere is tilted towards the sun. This results in greater intensity of solar radiation and longer days. When it is summer in the northern hemisphere, the southern hemisphere is tilted away from the sun, therefore the sun's rays are less intense and this makes it colder (winter).



Since a calendar year is based on 365 days and not 365.25, every 4 years we have a leap year. This is where we have an extra day in February.

The earth also spins on its axis. It takes 24 hours for it to spin once, hence the length of a day is 24 hours.

Alien life is something that many astronomers are interested in. To date, scientists have discovered around 3,900 exoplanets. Exoplanets are planets which have been discovered orbiting around other stars.



Some of these planets are too close to their parent star and so would be too hot for life. Some are too far away from their parent star and so would be too cold. Planets that are at just the right distance are in what we call the "habitable zone." Scientists are very interested to find out if these planets could contain life.



To view distant planets we use space-based telescopes.



We can also gather information about planets in our own solar system using rovers and probes.



Our solar system is made up from planets, satellites (both natural and man-made) and dwarf planets.

Dwarf planets are planets that are too small to become spherical under the force of gravity.

The sun is actually a star, and is one of billions of stars that make up our galaxy (The Milky Way).

The universe is made up of billions of galaxies of different sizes.

Space is very big and so metres and kilometres tend to be too small to be practical in astronomy. Instead, we use units such as light years and astronomical units:

- o 1 light year is the distance that light travels in 1 year.
- o 1 Astronomical Unit (1AU) is the distance from the sun to the earth.

The universe is about 13.75 billion years old and began with an event called the "big bang".

The universe has been expanding ever since and it appears to be speeding up in its expansion. Whilst there are theories about what will happen to our universe, no one knows for certain what the ultimate fate of the universe will be!

Key Term	Definition
E-safety	Internet safety or online safety is trying to be safe on the internet
Cyber bullying	Is the use of electronic communication to bully a person, typically by sending messages of an intimidating or threatening nature.
Virus	A virus is a type of malware that spreads through normal programs. Once your device has a virus it may spread easily and quickly. A virus might just slow down your device - or it might be so severe you lose all your applications and documents!
Social networking	Social networking is the use of internet-based social media programs to make connections with friends, family, classmates, customers and clients.
Worm	Worms can spread from device to device, but unlike a virus they don't need to attach themselves to other programs. Worms can copy themselves hundreds of times, so they can very quickly harm your device and other devices. A worm might copy itself onto your email account and then send a copy to all of your email contacts!
Trojan	A trojan horse (or just a trojan) pretends it will be a useful and safe program, when actually it will try to attack your device.
Key Logging	A keylogger records all of the keys that you press on your computer system. Keyloggers can be installed by viruses or trojan horses. This is a major security risk as you will be typing a lot of personal information: Usernames, Passwords, Credit card numbers and Email addresses. The 'log' created by the keylogger can be sent to the programmer, used by them or even sold to a third party.
Spam	Nearly everyone has an email address. Email is a useful tool at home and in work but spam and junk mail can be a problem. Spam emails offer all kinds of things like money, prizes and very low prices for products that are normally very expensive. They can contain malware too.
Phishing	This is an attempt by someone to get you to send them personal information, such as usernames, passwords, email addresses and bank account details. Often an email will be sent that asks you to update your details, contribute to charities or claim cash prizes. The website that the email asks users to access will often be a replica of a similar legitimate site.
File	An object on a computer that stores data, information, settings, or commands used with a computer program.
Folder	A way to organise computer files. A folder is a storage space that many files can be placed into to group them together and organise the computer.
Email	Electronic mail - a method of exchanging messages between people using electronics and email addresses.
Domain	The group to which an email address belongs.
Carbon Copy	(CC) used to add more than one recipient to an email.
Blind Carbon Copy	(BCC) used to hide recipients from one another.

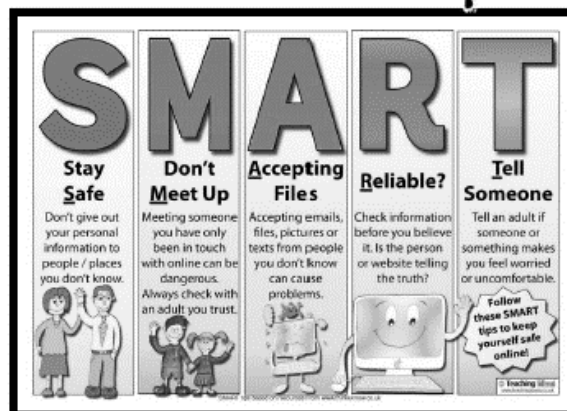
Cyber bullying means to try to hurt someone's feelings by using technology such as the internet, email, chatrooms and texting.

Dealing with cyber bullying:

- Don't give out personal information in chatrooms, social websites, blogs, etc.
- Don't tell anyone, even your best friends, your passwords. They might be your best friend now, but what if you have an argument. They might log into your account and post really mean things and make it look like it was you.
- Don't respond - if you receive any mean or threatening messages in the chatroom, text or email, don't ever respond. You might be tempted to delete the message but don't. Save it and show an adult - you might need the message to use as evidence against the person who sent it.
- Contact the website - if you find mean things have been said about you on a website, for example, Facebook, you can ask to have the comments removed. The same is true if you find out that photographs or videos have been posted without your permission.
- Tell someone
- Don't suffer in silence. If you are being bullied then tell your parents. If you don't feel that you can talk to them then tell a teacher or an adult that you trust. You mustn't keep it to yourself because if you do, the bully has got exactly what they want.



ESafety

S Stay Safe
Don't give out your personal information to people / places you don't know.

M Meet Up
Meeting someone you have only been in touch with online can be dangerous. Always check with an adult you trust.

A Accepting Files
Accepting emails, files, pictures or texts from people you don't know can cause problems.

R Reliable?
Check information before you believe it. Is the person or website telling the truth?

T Tell Someone
Tell an adult if someone or something makes you feel worried or uncomfortable. Follow these SMART tips to keep yourself safe online!

E-safety Rules

- Never give out your password – this doesn't matter who asks!
- Don't give out your contact details
- Don't download any software without permissions!
- Respect people's privacy
- Copying and pasting could be breaking the copyright law – make sure you always reference where you got that information from!

Chatrooms: The main reason that your parents and teachers worry about you using chatrooms is because you can't always tell who you are talking to. Most of the time, someone you chat to will be genuine. You can have a conversation with them, have a laugh, tell each other about things and over time build up a real friendship. But, you do need to be aware that not everyone in a chatroom is really who they say they are.

Saying safe in chatrooms:

- Tell your parents if you are planning to use a chatroom.
- Use a nickname, so your real identity remains protected.
- Never give out personal details!
- Never send your picture to anyone!
- Always stay in the public chatroom
- Don't meet up in real life – if you do really want to arrange to meet someone always take a responsible adult.
- This shouldn't be a problem because you won't give anyone your email address, will you? But, if for some reason you did give it out and you find someone is sending you emails with mean or rude pictures, don't open them and tell your parents immediately



Key term	Description
Worksheet	A worksheet is a single sheet (page) of rows and columns in a workbook. A worksheet consists of all of the cells on that single sheet.
Workbooks	A workbook is a collection of worksheets which are stored together in a single file and given a single name
Row	A row is the range of cells that go across (horizontal) the spreadsheet/worksheet.
Column	A column is a range of cells that go down (vertical) in a spreadsheet/worksheet.
Cell	A cell is an individual box within a worksheet.
Spreadsheet	Software application used to list, analyse, and perform calculations on data
Formula	Mathematical expression, such as adding or averaging, that performs calculations on data in a spreadsheet
Function	Predefined formula in a spreadsheet
Equal sign	Identifies the cell as containing a formula that the computer needs to calculate

Year 7 Spreadsheet knowledge organiser

Function	Description
=SUM(A1:A7)	This would add up the cells from A1 to A7
=AVERAGE(A1:A7)	This would work out the average of cells A1 to A7
=MIN(A1:A7)	This would find the lowest value from cells A1 to A7
=MAX(A1:A7)	This would find the highest value from cells A1 to A7

Comparison Operator	Description
>	Greater than
<	Less than
=	Equal to
>=	More than or equal to
<=	Less than or equal to
<>	Not equal to

Operator	What does it do?
+	Addition
-	Subtraction
*	Multiply
/	Division
All formula must start with =	

Key Words

CPU	Central Processing Unit – the brain of the computer.
RAM	Random Access Memory – where programs are loaded when they are in use.
I/O Devices	The input devices send data to the CPU, the output devices receive information from the CPU.
Hard Drive	The computer's long term storage for programs and files
Hard Drive (Hard Disk)	This is the long term storage for programs and files.
Output device	A device which receives information from the CPU (e.g. monitor, speakers etc)
Input Device	A device which sends data to the CPU (e.g. mouse, keyboard etc)
Motherboard	Main circuit board – components are connected to this
Process	Decisions and Calculations made by a computer

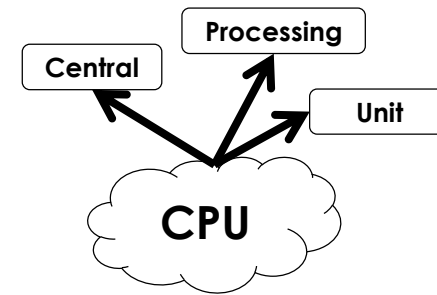
Assessment topics – what you need to know

Explain what a computer is	Explain what clock speed is and explain the clock speed of a modern day CPU.
Explain what an input and output device is and give examples of them.	Explain what a CPU is.
Explain how the CPU works	Identify a range of components of a PC, e.g. motherboard, RAM, hard drive, etc. Explain their purpose.
Explain how input devices, CPU, hard drive, RAM and output devices work together.	Explain what happens during the process of opening a program – Fetch, decode and execute.

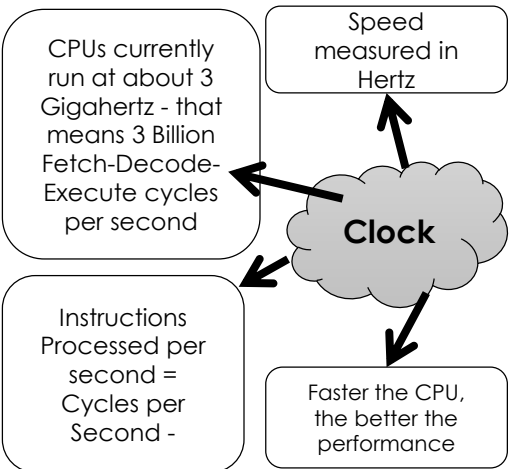
A general purpose computer is a computer that is designed to be able to carry out many different tasks. A PC is an example of a general purpose computer.

The CPU is the most important hardware component in a computer. It has two main functions:

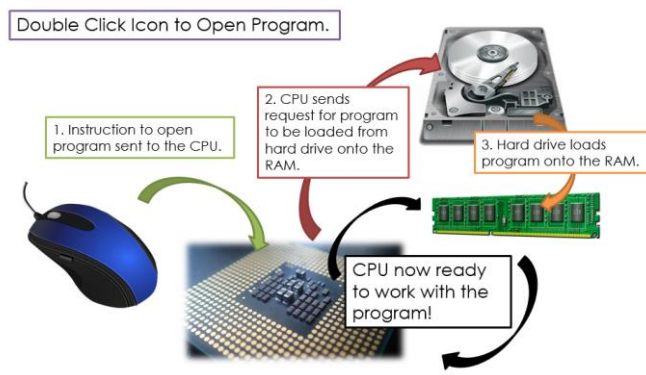
- to process data and instructions
- to control the rest of the computer system



A computer is a type of machine. It doesn't have a brain like us and it can't think or have ideas, but it can follow stored instructions and do lots of useful things.

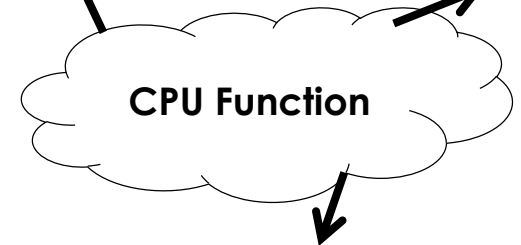


The CPU, RAM and I/O Devices



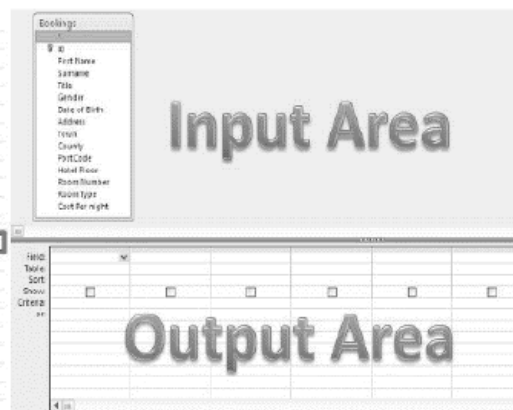
Fetch - The CPU will FETCH program instructions from the RAM

Decode -The CPU DECODE the instructions - will then make sense of instructions



Execute - The CPU will then EXECUTE (perform) difficult calculations or move data from one memory place to another

First Name	Surname	Title	Gender	Date of Birth	Address	Town
1 Layla	Fong	Mrs	F	20/07/1992	27 Park Lane	Birmingham
2 Page	Turner	Prof	F		78 Manor Road	Chertsey
3 Americk	Patzl	Dr	M		24 York Avenue	York
4 Terry	McDougal	Dr	M		19 South Avenue	London
5 Sam	Smith	Prof	M		65 Park Road	Credon
6 Mark	Smith	Prof	M	08/01/1954	38 The Lane	Worthing
7 Sarah	Scott	Miss	F	11/09/1990	75 Alexander Road	Burdon
8 Mark	Smith	Mr	M	20/02/1990	44 School Road	Tonbridge
9 Richard	Dean	Prof	M	08/08/1978	2 Main Road	Deeside
10 Bethany	Jones	Miss	F	07/04/1997	69 Cross Land Road	Peterborough
11 Chloe	Thomas	Dr	F	15/01/1975	62 York Lane	London
12 Veronica	Brown	Prof	F	16/03/1974	68 Netherlands Close	Woking
13 Stephen	Jones	Prof	M	01/04/1997	2 Windsor Street	Liverpool
14 Leah	Jackson	Dr	F	04/05/1984	81 Highwayman Road	Berhill-On-Sea
15 Simon	Morgan	Prof	M	24/08/1978	47 Manchester Road	Croydon
16 Stephen	Douglas	Mr	M	20/02/1988	70 Mill Way	Liverpool
17 Nichola	Wilson	Prof	F	17/04/1963	18 Marlborough	Bradford
18 Emily	Ging	Prof	F	11/05/1962	51 Kings	Wallsend
19 Chloe	Davies	Prof	F	27/03/1968	55 D	
20 Liam	Wright	Dr	M	01/12/1957	50 M	



Database Knowledge Organiser



	Advantages	Disadvantages
Paper based	<ul style="list-style-type: none"> • Can carry them around with you. • Don't need training to learn how to use them. • Cheap to set up. 	<ul style="list-style-type: none"> • Can be lost. • Can't easily make back-up copies. • Hard to update or make changes.
Computerised	<ul style="list-style-type: none"> • Can easily make back-up copies. • Can easily make changes. • Can easily sort data into order e.g. Alphabetic. • Can search for particular records very quickly. 	<ul style="list-style-type: none"> • Can be expensive to set up if you have to get a professional to make it. • If there is a power-cut, you can't use it. • You need to have a computer.

Key terms	Definition
Flat file database	When a database has only one table and everything is stored in that one table it is called a "flat-file database".
Relational database	Many databases which are used in organisations are known as "relational databases". This means that the database contains more than one table and these are linked together.
Unique/primary field	A "Primary Key" is a field which allows the user to uniquely identify a record in a table.
Foreign Key	A link to a primary key in a relational database table.
Entity	An object, eg a person or film. In databases, entities are the subjects whose attributes are stored as records.
Query	A search or question performed inside a database.

Data Types		
Type	Examples	Description
Text	Smith, Red, PE23 5AW	Strings of letters or a mixture of letters and number or just numbers that do not need to be used in calculations
Number	1, 23.67, -0.23	Numbers can include positive or negative numbers and decimal places
Date/Time	15/2/2001, 12:45 am	Dates in many different formats or time values
Currency	£45.99	Numbers including the symbol for monetary values
Boolean	Yes or No, True or False	Values which are either Yes or No, True or False or On or Off
AutoNumber	1,2,3	Generates a number automatically