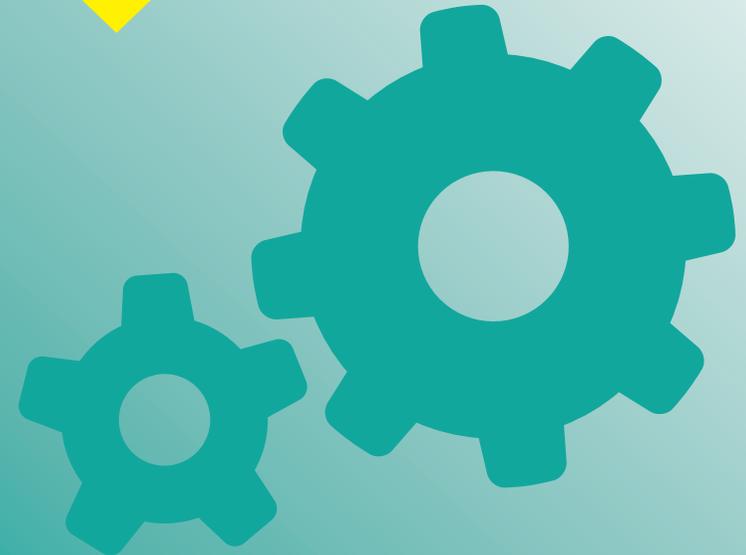


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Maths



Imperial measures

Length

$25 \text{ cm} \approx 1 \text{ inch}$

$1 \text{ foot} = 12 \text{ inches}$

Mass

$1 \text{ pound (lb)} = 16 \text{ ounces}$

$1 \text{ stone} = 14 \text{ pounds (lbs)}$

Capacity

$1 \text{ gallon} = 8 \text{ pints}$

$5 \text{ miles} \approx 8 \text{ kilometres}$



In 1965 Britain converted to the metric system for measurement to fall in line with the rest of Europe. We still use an imperial measurement of miles for distance and speed on our roads.

Keywords

Length

Distance from one point to another

Mass

How much matter is in an object

Capacity

Amount an object can contain

Volume

Amount of 3-dimensional space and object takes up

Metric measures

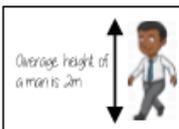
Length Common units of length or distance are

Millimetres (mm) - "Milli" prefix means one thousandth or $\div 1000$

Centimetres (cm) - "Centi" prefix means one hundredth or $\div 100$

Metres (m)

Kilometres (km) - "Kilo" prefix means a thousand $\times 1000$



Mass (Weight)

Grams (g)

Kilograms (kg) - "Kilo" prefix means a thousand $\times 1000$

Tonnes (t)



Capacity

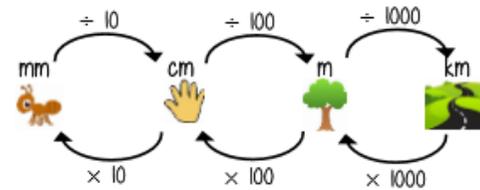
Millilitre (ml) - "Milli" prefix means one thousandth or $\div 1000$

litre (l)

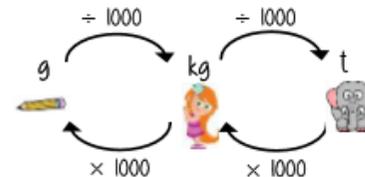


Metric conversions

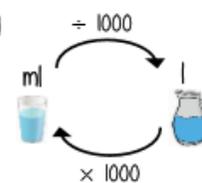
Length



Mass



Capacity



Milli - thousandth
Centi - hundredth
Kilo - thousand



Square numbers

$1^2 = 1 \times 1 = 1$	
$2^2 = 2 \times 2 = 4$	
$3^2 = 3 \times 3 = 9$	
$4^2 = 4 \times 4 = 16$	
$5^2 = 5 \times 5 = 25$	
$6^2 = 6 \times 6 = 36$	
$7^2 = 7 \times 7 = 49$	
$8^2 = 8 \times 8 = 64$	
$9^2 = 9 \times 9 = 81$	
$10^2 = 10 \times 10 = 100$	

Factors

The numbers that are multiplied to get a given number

factors of 12:
(1, 2, 3, 4, 6, 12)

There will always be *fewer factors*, because there are a set number of ways to multiply to get a given number.

Multiples

The numbers you say when you skip-count by a given number

multiples of 12:
12, 24, 36, 48, 60, 72, 84, 96, 108, etc.

There will always be *more multiples*, because numbers are infinite!

Square roots

Square roots are the inverse operation of squaring a number.

Prime numbers

A Number is Prime if it has exactly 2 factors:
1 and itself

No other number can divide into it exactly

1 is not a prime number

2 is the only even prime number

Prime numbers up to 50
2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47



Like and unlike terms

Like terms are those whose variables are the same

♥ and 3♥ are **like** terms
 the variable is the same

★ and 3♥ are **unlike** terms
 the variables are NOT the same

Examples and non-examples

<p style="text-align: center;">Like terms</p> <p style="text-align: center;">y, 7y $2x^2, x^2$ ab, 10ba 5, -2</p>	<p style="text-align: center;">Un-like terms</p> <p style="text-align: center;">y, 7x $2x^2, 2c^2$ ab, 10a 5, -2t</p>
--	--

Note here ab and ba are commutative operations, so are still like terms

Collecting like terms \equiv symbol

The \equiv symbol means equivalent to.

It is used to identify equivalent expressions

Collecting like terms

Only **like terms** can be combined

$$4x + 5b - 2x + 10b$$

$$2x + 15b$$

Common misconceptions

$$2x + 3x^2 + 4x \equiv 6x + 3x^2$$

Although they both have the x variable x^2 and x terms are unlike terms so can not be collected



Multiply expressions with indices

$4b \times 3a$ $\equiv 4 \times b \times 3 \times a$ $\equiv 4 \times 3 \times b \times a$ $\equiv 12ab$	$5t \times 9t$ $\equiv 5 \times t \times 9 \times t$ $\equiv 5 \times 9 \times t \times t$ $\equiv 45t^2$
--	---

$2b^4 \times 3b^2$ $\equiv 2 \times b \times b \times b \times b \times 3 \times b \times b$ $\equiv 2 \times 3 \times b \times b \times b \times b \times b$ $\equiv 6b^6$	<p>There are often misconceptions with this calculation but break down the powers</p>
---	---

Substitution into expressions

$4y$ ← 4 lots of 'y'

If $y = 7$ this means the expression is asking for 4 'lots of' 7

-28

4×7 OR $7 + 7 + 7 + 7$ OR 7×4

eg: $y - 2$
 $= 7 - 2 = 5$

Substitution into an expression

Put the expression into a function machine

$2(x + 3)$

INPUT →

$+3$

$\times 2$

→ OUTPUT

if $x = 10$
 $10 + 3 = 13 \dots 13 \times 2 = 26$

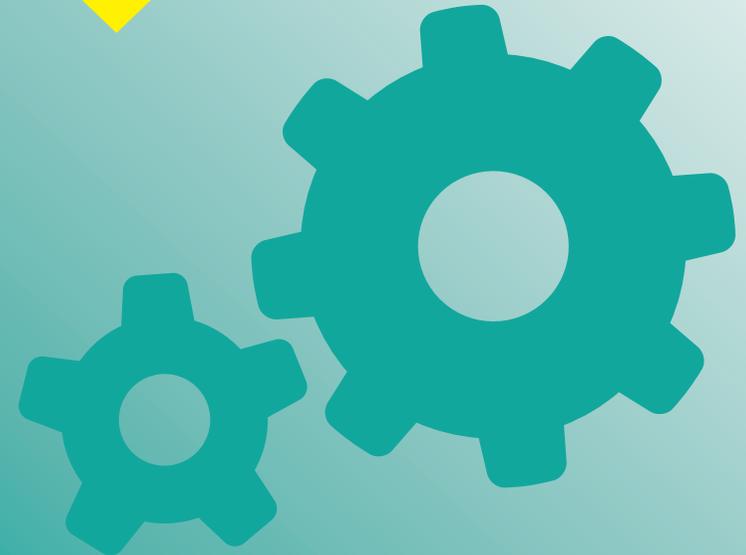
Add 3 to the input then times 2

Forming a sequence

$2(x + 3)$

INPUT	1	2	3
OUTPUT	8	10	12

← The substitution is the 'input' value
The OUTPUT becomes the sequence



English



Quote Explosion – Example

AO1: knowledge of character & plot

- Warning given to Alex Rider
- Sets the tone of jeopardy and danger

“You’re never too young to die”

AO2: writer’s methods (language and structure)

- “young” – adjective - highlights Alex Rider’s youth and inexperience
- “die” – verb – sense of finality and danger emphasises the risk of his mission

AO3: Context and Themes

Fits in with the typical tropes of the spy story – involves danger, action and tension

What/How/Why

The three key questions in English:

What is the writer doing?

- In this extract, the writer presents...

How is the writer doing this?

- For example, the writer says “_____”
- This suggests...
- The word “_____” implies...

Why is the writer doing this?

- Horowitz does this to highlight...
- This could link to...
- This creates an impression of...

Key Vocabulary

Tension	A feeling of nervous anticipation
Jeopardy	Being in danger
Assignment	A task allocated to somebody to complete
Narrative	The plot of a story
Dialogue	When characters in a story speak aloud

Characterisation

Useful questions for understanding characters are:

1. What do they look like?
2. What does their appearance tell me about them?
3. How do they speak?
4. How do they move?
5. Who are they close to?
6. Who are their enemies?
7. How do I feel about them?
8. How do other characters feel about them?



Analysing the Text

The shelves closed in on the car like a **monster insect folding its wings**. There was a **grinding** sound as the car was **crushed** until it was no bigger than a **rolled-up carpet**. Then the operator threw a gear and the car was **squeezed** out, metallic **toothpaste** being **chopped** up by a **hidden blade**. The slices **tumbled** on to the ground.

The simile creates fear.

The verbs show violent destruction.

The simile shows size and shape.

The verbs show the danger of the situation.

The 'hidden' blade reflects the mystery surrounding Alex.

Key characters

Alex Rider
Mr. Blunt
Jack Starbright
Mr. Grin
Nadia Vole
Herod Sayle
Mrs. Jones
Yassen Gregorovich

Who are they and what do we know about them?

Meet the Author
Anthony Horowitz, OBE is an English novelist and screenwriter specialising in mystery and suspense. His work for young adult readers includes The Diamond Brothers series, the Alex Rider series, and The Power of Five series.



How it all starts...

Alex is drugged and wakes up at one of MI6's training centres, Alan Blunt asks him to investigate Herod Sayle who is behind Stormbreaker, the name on the file he saw in his uncles office

Alex wakes up at 3 am when the doorbell rings, he finds out that his uncle Ian Rider is dead, His uncle is due to be buried near the Chelsea football ground

Alex notices a van observing his house, he decides to investigate the breakers yard where his uncle's car was taken and discovers that the van outside his house came from there

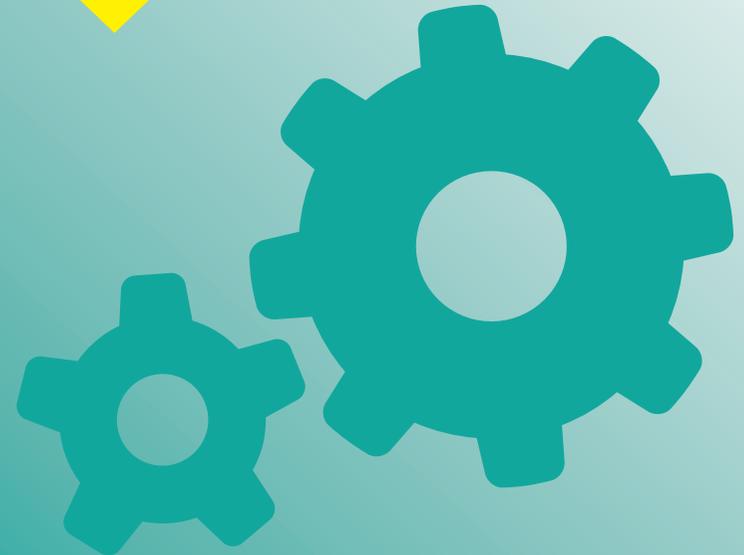
At the funeral a strange yet ordinary looking man appears called Mr Blunt he describes himself as the chairman of the bank at which his uncle worked.

When Alex refuses to work for MI6 they threaten him by planning to send him away and sell his house, so he agrees to work for them

Alex is asked to visit the bank the day after he visits the breakers yard, he investigates his uncles office and finds out he was a spy and that his last file was named Stormbreaker



Subject – Verb – Object				
Sentences in English generally follow a set order – subject → verb → object				
Subject: The person or thing (noun/noun phrase) which is carrying out the verb	Verb: What the subject does	Object: The person/thing (noun/noun phrase) being acted upon		
Alex Rider	trained	with MI6.		
Ian Rider	worked	as a spy.		
All sentences must have a subject and a verb , but not all sentences need an object – this is determined by the type of verb the sentence has				
Transitive Verbs (verbs that require an object)		Intransitive Verbs (verbs that don't require an object)		
<ul style="list-style-type: none"> I made a cake. She sent a letter. They took the last slice. 		<ul style="list-style-type: none"> It rained. I walked. They sang. 		
Word Classes			Clauses	Homophones
Noun	Identifies a person, place or thing	<i>Ryan, Chester, sky</i>	Main Clause Sentence that makes sense on its own <i>Ian Rider worked as a spy.</i> Subordinate Clause Part of a sentence that doesn't make sense on its own <i>Ian Rider worked as a spy but hid his profession from Alex.</i>	<u>There</u> He is stood over there <u>They're</u> They're best friends <u>Their</u> It is their favourite TV show
Verb	Describes an action	<i>run, cook, sing</i>		
Adjective	Describes a noun	<i>big, red, beautiful</i>		
Adverb	Describes the way a verb is carried out	<i>quickly, carefully</i>		
Pronoun	Replaces a noun	<i>he, she, they, it</i>		



Science



Keyword	Definition
Cell	Basic unit of life. Unicellular organisms only have one cell. Multicellular organisms have many cells.
Cell Membrane	Controls the movement of substances in and out of the cell.
Cytoplasm	Jelly-like substance where chemical reactions take place.
Nucleus	Carries genetic information and controls the cell.
Mitochondria	Where respirations takes place.
Cell Wall	Made of cellulose, provides support to the cell.
Vacuole	Contains cell sap.
Chloroplasts	Contains the green pigment chlorophyll, the site of photosynthesis.
Tissue	Something made from just one type of specialised cell.
Organ	Something made from different groups of specialised cells all working together.
Organ System	When a number of organs work together.
Synovial Joint	A freely moveable joint. Examples include the hip, shoulder, elbow and knee joints.

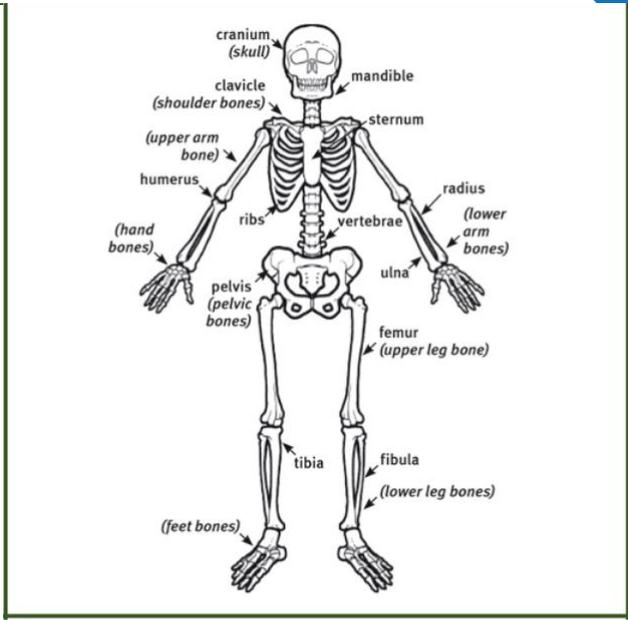
Further Reading:
<https://www.bbc.com/bitesize/guides/z9hyvcw/revision/2>

Light Microscope: A device which uses light and a series of lenses to produce a magnified image of an object.

Magnification = How much bigger a sample/object appears under the microscope than it is in real life.

Total magnification = Eye-piece lens x Objective lens

Diffusion: The movement of particles from an area of high concentration to an area of low concentration. Substances diffuse into and out of cells.



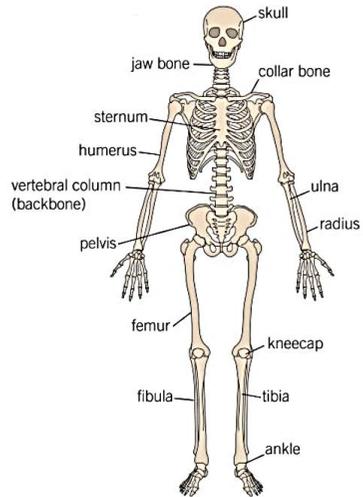
Antagonistic Muscles:

- Muscles work by getting shorter.
- Muscles can only pull and can't push.
- Muscles work in pairs.
- When you raise your forearm, the biceps contract and the triceps relax.
- When you lower your forearm, the biceps relax and the triceps contract.

Red Blood Cell	Sperm Cell	Root Hair Cell	Palisade Cell	Nerve Cell	Egg Cell
Carries blood around the body. Adaptations: No nucleus, large surface area and biconcave shape.	Carries the male genes. Adaptations: Tail for swimming, mitochondria for energy, acrosome to break down the egg cell.	Take in water from the soil. Adaptations: Long & thin; large surface area for maximum water absorption. Thin cell walls.	Production of food for the plant. Adaptations: Tall and thin. Lots of chloroplasts to absorb sunlight for photosynthesis.	Carry signals around the body. Adaptations: Long axon. Myelin sheath.	Carries the female genes. Adaptations: Lots of mitochondria. Outer layer hardens once fertilised.



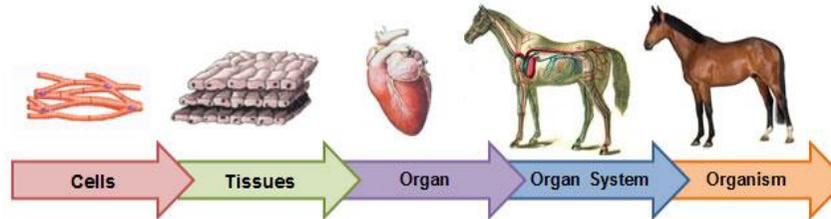
SKELETON AND ITS FUNCTION



1. **Support** → for the body and holds internal organs in place. Hard and strong bones create a framework for your muscles and organs.
2. **Protection** → of vital internal organs from being damaged; the skull is protected by the skull.
3. **Movement** → when a muscle pulls on a bone. The skeleton moves at joints.
4. **Making blood cells** → bone marrow in some bones produce red blood cells and some white blood cells.

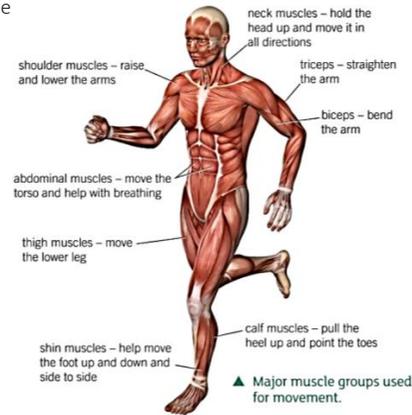
LEVELS OF ORGANISATION

Multicellular organisms have five layers of organisation.



MUSCLES IN THE BODY

Muscles are a type of tissue – lots of muscle cells work together to cause movement. Muscles can only pull – they work by getting shorter (contract). Muscles are attached to bones by tendons. When a muscle contracts, it pulls on a bone. If the bone is part of a joint, the



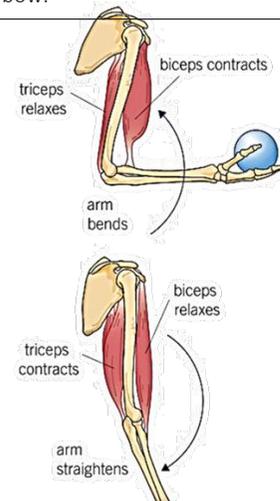
How do muscles work to bend and straighten the arm?

To bend the arm:

- Biceps muscle (front of the arm) contracts
- Triceps muscle relaxes
- Tendons of the biceps is attached to the radius. This allows the biceps to pull the lower arm up.

To straighten the arm:

- Biceps muscle relaxes
- Triceps muscle contracts
- Triceps pulls at the back of the elbow.



JOINTS

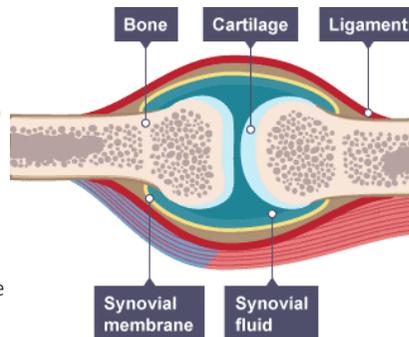
Most joints are flexible, some are joined rigidly and cannot move.

Hinge joint → movement backwards and forwards (knee/elbow)

Ball & socket joint → movement in all directions (hip/ shoulder)

Fixed joint → do not allow any movement (skull)

If two bones just moved against each other, they would eventually wear away. This can happen in people who have a condition called arthritis. To stop this happening, the ends of the bones in a joint are covered with cartilage. This is kept slippery (reduces friction) by a liquid called synovial fluid.



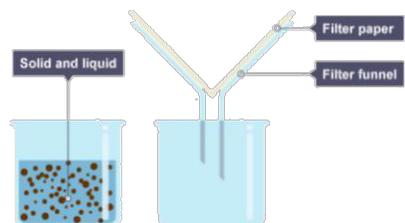
KEYWORD	DEFINITION
Antagonistic muscle pairs	A pair of muscles working together to create movement at a joint – as one muscle contracts, the other relaxes.
Bone	A tissue that forms a hard structure, used to protect organs and for movement.
Bone marrow	Tissue found inside some bones where new blood cells are made.
Cartilage	Smooth tissue found at the end of bones. This reduces friction between them preventing rubbing.
Cells	The smallest functional unit of a living organism. It contains parts to carry out life processes.
Circulatory system	Transports substances around the body in the blood.
Digestive system	Breaks down and absorbs food molecules.
Immune system	Protects against infections.
Joints	Parts of the skeleton where bones meet.
Ligaments	Connect bones in joints.
Multi-cellular	Living things made up of many types of cells.
Muscular skeletal system	Supports the body and causes movement.
Organ	Group of different tissues working together to carry out a function.
Organ system	A group of organs working together to carry out a function.
Reproductive system	Produces sperm and egg cells for the production of new organisms.
Respiratory system	Takes in oxygen and removes carbon dioxide from the blood.
Skeleton	All the bones in an organism.
Tendons	Connect muscle to bones.
Tissue	Group of cells of one type, working together to perform a function.



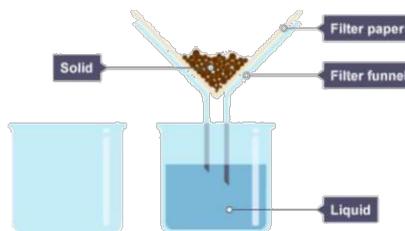
Keyword	Definition
Solution	A liquid mixture in which a solute has dissolves in the solvent
Solute	A minor component in a solution – dissolves in the solvent
Solvent	The liquid which the solute dissolves in
Saturated	The point at which no more solute can dissolve
Pure	Only one type of particle
Dissolve	Solid is mixed into a liquid to become a solution
Particle	A small piece of matter – everything is made up of these
Filter	To remove solid particles from liquid particles
Evaporate	Particles go from a liquid to a gas
Separate	To remove one type of particle from another
Soluble	A substance is capable of dissolving
Mixture	More than one type of particle
Solubility	How much of a substance will dissolve in a solution
Insoluble	A substance is not capable of dissolving

Filtration:

- A method for separating an insoluble solid from a liquid. A beaker containing a mixture of insoluble solid and liquid. There is filter paper in a filter funnel above another beaker.

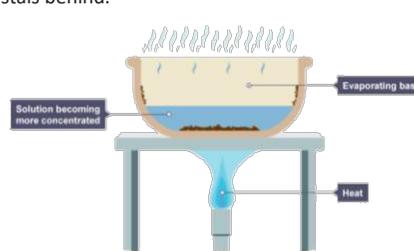


- The mixture of insoluble solid and liquid is poured into the filter funnel.
- The liquid particles are small enough to pass through the paper as a filtrate. The solid particles are too large to pass through the filter paper and stay behind as the residue.



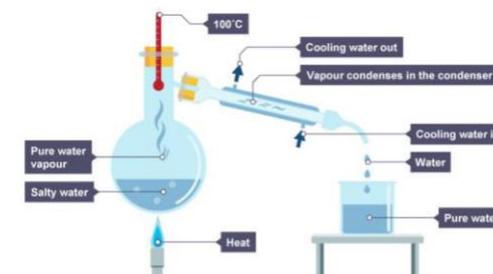
Evaporation:

- A method used to separate a soluble solid from a liquid.
- A solution is placed in an evaporating basin and heated with a Bunsen Burner.
- The water will begin to evaporate and solid particles will begin to form in the basin.
- Once the water has evaporated, it will leave solid crystals behind.



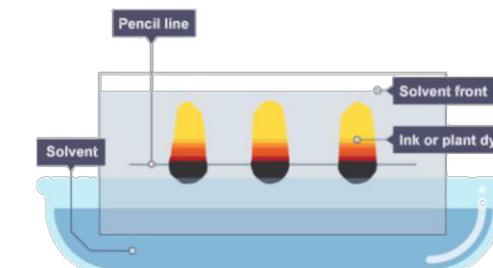
Distillation:

- A method used for separating the solvent from a solution. E.g. water can be separated from a salt solution because the water has a much lower boiling point than the salt.
- Salt water is heated. The water evaporates and its vapours rise.
- The vapours rise and pass into the condenser, where they cool and condense.
- Liquid water drips into a beaker and the salt will be left in the round bottom flask.



Chromatography:

- Paper chromatography is a method for separating dissolved substance from one another. Often used when the dissolved substance are coloured such as inks, food colouring or plant dyes.
- A pencil line is drawn on the paper, and spots of ink are placed on the line.
- There is a solvent usually water or ethanol in a container/beaker.
- The paper is lowered into the solvent. The solvent travels up the paper, taking some of the substances with it.
- As the solvent travels up the paper, the different coloured substances are spread apart.



Further Reading:

<https://www.bbc.com/bitesize/guides/zgvc4wx/revision/1>





ENERGY IN FUEL

- Energy is stored in food and fuel.
- Energy in fuel is used to heat homes and cook food.
- Fuel it also burnt in power stations to produce current in order for electrical appliances to work at home.

ENERGY IN FOOD

- Different foods are stores of different amounts of energy.
- When you are asleep your body needs energy for keeping warm and breathing.
- Children need more energy than adults so their brain, bones and muscles can grow.
- If you take in more energy than you need, your body will store it as fat to use in the future.

PRACTICAL: Releasing energy in food

Once the food stops burning, the water should be stirred with the thermometer and the temperature recorded. By recording the temperature increase in the water, you can work out how much energy the food contains.

Energy can be **dissipated/ wasted** due to **friction** (energy transferred to a thermal store / sound) or when objects get **hot** and transfer energy to anything at a lower temperature. The efficiency of an appliance can be calculated by:

$$\text{Efficiency} = \frac{\text{Useful Energy Output}}{\text{Energy Input}} \times 100\%$$

POWER STATIONS burn coal and gas,

1. Fuel is burnt in a furnace to heat water in the boiler.
2. The water turns to steam; this turns a turbine.
3. The turbine turns a generator which generates electricity.

- ☺ Fossil fuels are reliable and produce lots of electricity.
- ☹ Release carbon dioxide and contribute to global warming.
- ☹ Produce pollutants; sulfur dioxide, nitrogen oxides and particulates.

RENEWABLE RESOURCES

- ☺ No carbon dioxide released
- ☺ May be free to use (wind and Sun)
- ☹ Equipment may be expensive
- ☹ Can be unreliable (weather/ time of day dependent)

ENERGY AND POWER

- The power rating of an appliance tells you *how much energy is transferred per second* – the **rate** of energy transfer.
- **Power (W) = energy (J) ÷ time (s)**
- You can calculate the cost of using an appliance at home using the equation: **cost = power (kW) x time (hours) x price (per kWh)**

NOTE: You may need to convert units when completing calculations.

ENERGY STORES:

1. Chemical
2. Thermal
3. Elastic
4. Kinetic
5. Gravitational potential
6. Nuclear
7. Magnetic
8. Electrostatic

(Revision tip: use the first letter of each store to write a mnemonic to help you remember them).

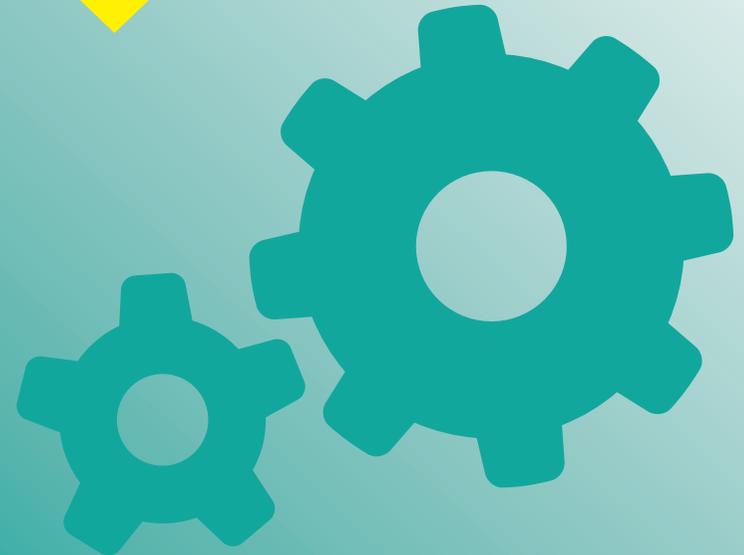
Energy is transferred by:

1. Heating
2. Mechanically (by movement/ change in position)
3. Electric current
4. Waves (sound & light)

REDUCING ENERGY USE

1. Use fewer appliances.
2. Use appliances with a lower power rating.
3. Use appliances for fewer hours.
4. Insulate the home; this reduces the rate at which energy is transferred to surroundings; reducing need to heat the house.
5. Governments can raise awareness; this will make fuel last longer and benefit the environment.

KEYWORD	DEFINITION
Chemical energy store	Emptied during chemical reactions when energy its transferred to surroundings; e.g. burning fuel.
Dissipation	Becoming spread out wastefully to the surroundings.
Elastic energy store	Filled when a material is stretched or compressed; e.g. stretching a spring.
Energy	Energy is needed to make things happen.
Energy resources	Something with stored energy that can be released in a useful way.
Fossil fuels	Non-renewable energy resource formed from dead animals and plants, millions of years ago. E.g. coal, oil and natural gas.
Gravitational potential energy store	Filled when an object is raised; e.g. book on a shelf or when climbing a ladder.
Joules	The unit of energy, symbol J 1 kilojoule (kJ) = 1000 J
Kilowatt hour	The unit of energy used by electricity companies, symbol kWh.
Kinetic energy store	Filled when an object speeds up/ moves; e.g. when a car accelerates.
Law of conservation of energy	Energy cannot be created or destroyed, only transferred between stores.
Non-renewable	An energy resource that cannot be replaced and will be used up, such as coal, oil or gas, or nuclear.
Power	How quickly energy is transferred by a device (watts).
Renewable	An energy resource that can be replaced and will not run out; e.g. solar, wind, waves, geothermal and biomass.
Thermal energy store	Filled when an object is warmed up; e.g. heating water in a kettle.
Watts	The unit of power, symbol W 1 kilowatt (kW) = 1000 W



History



Causes

- God (punishment for sins)
- Miasma (bad air)
- Astrology
- Four Humours



THE BLACK DEATH

Treatments

- Rubbing onions on the buboes
- Praying to God
- Drinking vinegar
- Eating crushed emeralds
- Balancing the Four Humours by bleeding or purging (being sick)



Preventions

- Filling the house with strong smelling herbs to stop the miasma
- Boiling vinegar or onions
- Flagellation (whipping yourself)



Symptoms

Day 1 Painful swellings called buboes appeared in the victim's armpits and groin. These were usually about the size of an egg, but could sometimes be as big as an apple.

Day 2 The victim vomited and developed a fever.

Day 3 Bleeding under the skin caused dark blotches all over the body.

Day 4 The disease attacked the nervous system. This caused the victim to suffer spasms. The victim was in terrible pain.

Day 5 Sometimes the buboes burst and a foul-smelling black liquid oozed from the open boils. When this happened the victim usually lived. However, in most cases the victim suffered a painful death.

Consequences

- **Political** – Peasants for the first time had some power, as most of the workforce died. They were able to demand higher wages.
- **Social** – Art and architecture changes to reflect the Black Death, and art has more solemn themes. Latin because less widely spoken, and most texts are now written in English.
- **Economic** – Countries are afraid to trade with each other for fear of spreading the Black Death, so the economy is affected.
- **Religious** – Most of the priests and monks die of the Black Death as they would visit and comfort the dying. They were replaced with rubbish priests who could not even read or write!



King John and the Magna Carta



King John (1199-1216)

Brother of the popular King Richard I, who died shortly after his return from the 3rd Crusade. John was suspicious and had rebelled against both his father and brother. John inherited the cost of his brother's costly wars, but was a cruel and incompetent king.



Why were the barons angry at King John?

- Raised taxes for wars John lost!
- Took away barons power
- Tried to control the church
- Exerted power in Ireland, Wales and Scotland
- France rebelled against him

Medieval monks portrayed King John as an evil monster. This is because he tried to control the church and fell out with the Pope!

Modern historians portray him as an energetic king who tried to increase his power in difficult circumstances.

The Road to the Magna Carta

The barons were angry with John and no compromise could be agreed. The barons issued a royal charter of demands which John was forced to accept on the field of Runnymede on **15th June 1215**. This became known as the **MAGNA CARTA**.

Some of the key terms of this were:

- It promised the protection of church rights
- Protection from illegal imprisonments
- All people were to be tried by jury.
- New taxation only with the consent of the barons

The charter defined that a formal relationship should exist between the monarch and barons. The king was now subject to the law. These were radical ideas!



Consequences of the Magna Carta

The power of the king was permanently damaged, and no king of England ever had 'unrestricted' power again. It was the beginning of democracy and formed the basis of the Universal Declaration of Human Rights (1948).



THE PEASANTS' REVOLT KNOWLEDGE ORGANISER

Overview and Map

What was The Peasants' Revolt?
The Peasants' Revolt, also known as Wat Tyler's Rebellion or The Great Uprising, was a major uprising that took place across large parts of Britain in 1381.

Large volumes of poorer citizens in society (mainly from rural backgrounds) began refusing to pay taxes, aggressively confronting tax collectors, burning government buildings, and opening jails.

Unrest centred around London, but extended as far north as York and Scarborough, and as far West as Somerset. It prompted military action by the end of June, when at least 1,500 rebels were executed.

Why were the causes and effects of the Peasants' Revolt?
Amongst the reasons why the revolt started were social, political, and economic tensions resulting from the Black Death, including laws being imposed to prevent working classes from demanding high wages. Furthermore, tensions arose from the high taxes being raised for the unpopular Hundred Years' War with France.

The lasting effect of the uprising has been debated by historians for many years. Some argue that as grants offered to the rebels were rescinded, and the rebellion was violently quelled, there was little lasting social impact. However, the following governments ceased the practice of levying taxes to support the war in France.



Causes of the Uprising

The Black Death		The Black Death was an epidemic that wiped out between 30 and 60% of the population of the country, meaning that there was a shortage of workers and wages went up. People who had previously worked for very little began to charge lots of money for their services.	In the UK, the Black Death was prevalent between 1348 and 1350.	Local Lords worked to try and limit the wages that peasants could earn.
Statute of Labourers		In response to the demands for higher wages, the government passed the Statute of Labourers, which set a maximum wage. It also dictated that those who refused to work for the stated wage would be punished with prison. This meant that despite the demand for workers, the rich stayed rich and the poor remained poor.	The Statute of Labourers was passed in 1351.	The Statute of Labourers was poorly enforced, and wages in some areas still rose.
Hundred Years' War		The Hundred Years' War was a series of conflicts between the Kingdom of England and the French House of Valois, over the right to rule over France. As its name suggests, it was a long war, which cost a huge amount and claimed many lives. It had become very unpopular in England.	The Hundred Years' War lasted from 1337 to 1453.	Despite the huge financial and human cost, England lost the war.
Poll Tax		In 1377, the Hundred Years' War was going badly for England. In order to try and turn the war in their favour, and meet the soaring costs, the English government levied the first Poll Tax. The poor were angry that the Poll Tax was the same amount regardless of age or occupation. Over the next four years, 3 Poll Taxes were levied.	1377 to 1381	After the Peasants Revolt, no more Poll Taxes were levied against citizens.

Key People

Wat Tyler - Wat Tyler was the leader of the Peasants' Revolt, who marched a group of rebels from Canterbury (Kent) into London. As multiple groups converged at London, Tyler emerged as their leader. He led the attack of civil targets, government buildings and legal records, but it is thought that he possibly lost control of some of the rioters, whose actions were even more violent. Refusing Richard II's initial concessions (granted in an initial meeting on 13th June), Tyler met with him and government officials again at Smithfields on 15th June, where his 'rude and disgusting' manner caused tensions to rise, and he was killed by William Walworth, the Lord Mayor.



King Richard II - King Richard ascended to the throne when he was only 10 years old, and thus the country was run by a series of councils, with Richard's uncle John of Gaunt also highly influential. Some of the policies enacted by these protectors (and of former kings) led to the Peasants' Revolt when Richard was only 14. Despite his young age, Richard showed great courage in personally meeting with the rioters. After their leader, Wat Tyler, was killed by William Walworth, Richard led the peasants from London, promising them reforms, successfully collapsing the uprising. His advisors later revoked these promises, however, hanging the revolt leaders.



John Ball - John Ball was a radical priest who took a leading role in whipping up support for the revolt. Much of what is known about Ball comes from hostile sources of the established church order (to which he had few ties) who lamented his views and practices. He was dedicated to social equality, which led to him delivering sermons on the matter in a range of rural towns across the country. He also preached in English, rather than Latin, which upset the status quo. His views landed him in prison several times, including just before the uprising. He was released in time to preach at Blackheath. After the peasants were dispersed, he was taken prisoner at Coventry, and was hung, drawn and quartered in the presence of Richard II shortly afterward.



Sir William Walworth - Sir William Walworth was twice the Mayor of London, between 1374-75 and 1380-81. His most famous exploit was his encounter with Wat Tyler during the Peasants' Revolt, in his second term as Lord Mayor. Firstly, he defended London Bridge against the insurgents, preventing further destruction. He was then alongside King Richard II when he met with Wat Tyler and other revolt leaders at Smithfields. As tensions grew in the meeting, and Wat Tyler exhibited discourteous and aggressive behaviour, Walworth killed him. His later achievements include raising the King's bodyguard, and twice restoring peace to wide disturbances in Kent. For his service to King and country, Walworth was knighted.



Thomas Baker - Thomas Baker was an English landowner, and was one of the leaders who initiated the Peasant's Revolt. It was he who initiated the incident in Fobbing, where Thomas Bampton attempted to collect Poll Tax from the villagers. The villagers, led by Baker, would not give him anything, forcing him to leave empty-handed. When the Chief of Justice was sent to investigate this and an incident at Brentwood, he was attacked, launching the revolt. For his part in the uprising, Baker was drawn and hanged on 4th July 1381.



John of Gaunt - John of Gaunt was Richard II's uncle, and yielded considerable power in decision-making regarding the country's affairs. He was unpopular, and introduced the Poll Tax as a means to pay for the war against France. This was the same amount for all adults, regardless of their age or occupation. In March 1381, the government (led by Gaunt) demanded a third Poll Tax in four years, sparking the events that led to the revolt. Throughout the unrest, Gaunt's home in London was burnt down by protesters.

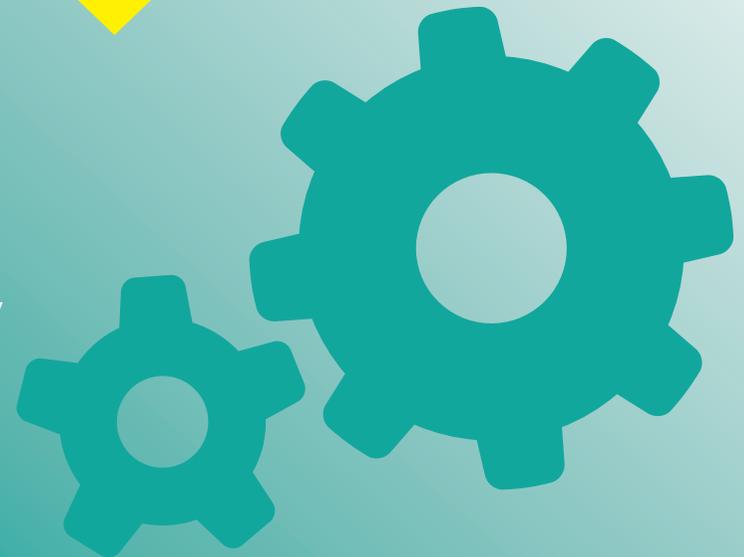


Major Events and Key Information

Revolt begins in Fobbing and Brentwood		Commissioner Thomas Bampton entered the village of Fobbing in Essex, in order to get the taxes that villagers had refused to pay. Displeased by his brutal methods, the villagers began to revolt. Bampton was lucky to escape with his life, but some of his clerks were killed.	30th May 1381	The villagers arrived with old bows and sticks, ready for revolt!
March to London		Soon most of the south-east was in revolt, and led by Wat Tyler (Kent) and Jack Straw (Essex) and other important men from the villages (e.g. reeves, priests) they marched on London. They sent letters inviting others to join.	7-12th June 1381	A sympathiser from within London opened the gates!
Rampage in London		When the peasants entered London, they caused significant damage, targeting in particular prisons, priories, and John of Gaunt's Savoy Palace residence. They also killed several government officials.	12th-14th June 1381	The King initially took refuge in the Tower of London.
Rural revolt		Revolts simultaneously occurred across the rest of the country, particularly in the cities of the north - York and Scarborough were the scenes of notable riots. In the Somerset Town of Bridgewater, nobles were killed.	30th May - 26th June 1381	Some opportunists used the revolts to steal!
Wat Tyler is killed		King Richard II met with Wat Tyler, who had refused earlier deals. The meeting started well, but as Tyler grew more aggravated and rude to the King, the Lord Mayor William Walworth stepped in and killed him. The King then promised to the remaining rioters to abolish serfdom.	15th June 1381	The revolt almost immediately collapsed with the death of Wat Tyler.
Leaders are executed		The promises of the King and other leaders were not kept. Serfdom was not abolished, and the leaders of the unrest were tracked down and executed. The last resistance was muted at the Battle of North Walsham on 26 th June.	15th - 26th June 1381	Henry Le Despenser led the armed troops.
Aftermath		Despite being eventually quashed, the revolt appears to have frightened the rich into not pushing the poor too far - no Poll Tax was collected again until 1990. Over the next fifty years, peasants slowly worked for more money, and gained more freedoms from Lords.	After 26th June 1381	Some believe the events made Richard over-confident, leading to his downfall.

Peasants' Revolt Timeline

1348-1350 - Black Death kills huge numbers of farm labourers, driving up wages. 1351 - Statute of Labourers imposes wage limits. 1369 - Events worsen in the unpopular war with France. 1377 - Aged 10, Richard II becomes King. Government introduces poll tax. 30th May 1381 - Tax Collector dismissed in Fobbing. Argument turns into riot. 30th May 1381 - Other villages copy Fobbing. 7th-12th June 1381 - Peasants march from Kent, Essex and Suffolk to London. 12th-14th June - Peasants storm London, killing senior figures and setting buildings on fire. 15th June 1381 - Richard meets rebels at Smithfields. 25th-26th June 1381 - Battle of North Walsham



Geography



What are the global impacts of climate change?

Global positive impacts	Global negative impacts
<ul style="list-style-type: none"> • Energy consumption may decrease (because less need for heating) • Longer growing seasons for farming (agriculture) • Frozen regions such as Canada may be able to grow crops 	<ul style="list-style-type: none"> • Sea level rise will affect 80 million people • Tropical storms will increase in strength • Diseases such as malaria increase, another 280 million people may be affected • Species in affected areas (e.g. Arctic) may become extinct



What are the impacts of climate change on the UK?

UK Positive impacts	UK negative impacts
<ul style="list-style-type: none"> • Crops such as oranges, grapes and peaches can be grown in the UK • Winter heating costs will be reduced • Accidents on roads in winter will be less likely 	<ul style="list-style-type: none"> • Sea levels rise flooding low areas e.g. east England • Scottish ski resorts may have to close due to lack of snow • Drought and flooding becomes more likely as extreme weather increases • Water supplies under pressure as there is more need for water in hotter summers



How can climate change be managed?

Mitigation is reducing or preventing the effects of something from happening. These strategies are:

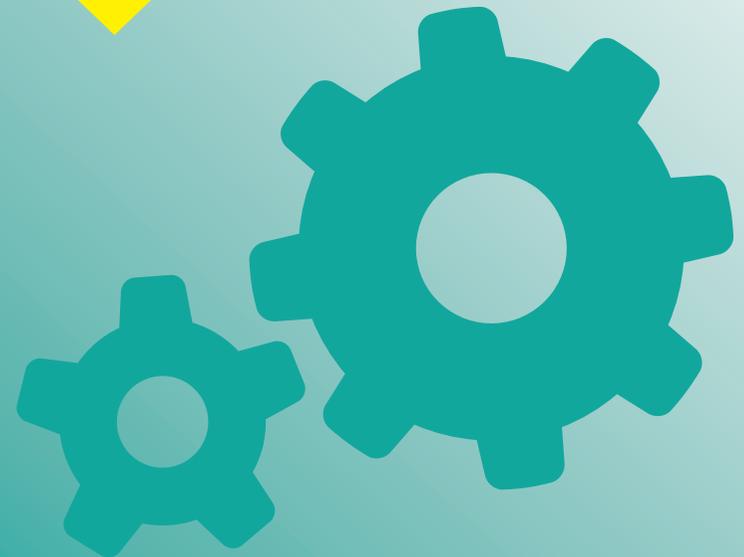
- Alternative energy - solar, wind, tidal power reduces the use of fossil fuels, so less CO₂ is produced
- Carbon capture—storing waste gases deep underground
- Planting trees—encouraging **afforestation** reduces CO₂ levels in the atmosphere during photosynthesis
- International agreements - countries sign treaties e.g. the Kyoto Protocol in 2005 to reduce carbon emissions.



How can we adapt to climate change?

Adaptation strategies respond to the effects after they have happened

- Agriculture (farming) must adapt as some crops can't grow in water temperatures. But other crops can be grown e.g. oranges and grapes
- Water supply - water can be transported
- Reducing risk from sea level rise—using sea defences



Religious Studies



CHRISTIANITY KNOWLEDGE ORGANISER

Overview

Christianity is one of the world's major religions. It is the **world's largest religion**, with about 2.4 billion followers.

Christians (like Jews and Muslims) believe in one **God**, who created the world and all that is in it.

Christians believe in the teachings of **Jesus Christ**, who was a middle-eastern preacher and healer who lived around 2,000 years ago.

Christians believe that Jesus Christ was sent down to earth to save people, by taking their punishment and dying on the cross.

The holy book in Christianity is called the **Bible**. A **church** is a building designed for Christian worship.

An artist's image of Jesus Christ giving the 'sermon on the mount.'

Answers to Important Questions and Key Vocabulary		
<p>Where do Christians worship God?</p>	<p>-Christians can pray in any place, but the most common location is in a purpose-built building called a church. Churches can be very different – old, new, plain or highly decorated. Often, the floor plans of churches are shaped in a cross.</p> <p>-Church services often include hymns, prayers, and readings from the Bible.</p> <p>-Common church features include altar tables, lecterns, pulpits, fonts and stained glass windows.</p>	<p>Key Vocabulary</p> <p>God</p> <p>Jesus</p> <p>Bible</p> <p>Cross/ Crucifix</p> <p>Commandments</p> <p>Holy Trinity</p> <p>Catholic</p> <p>Protestant</p> <p>Orthodox</p> <p>Disciples</p> <p>Saint</p> <p>Church</p>
<p>What is the Bible?</p>	<p>The Bible is the holy book of Christians. It contains the Old and New Testaments. The Old Testament is similar to the Jewish Bible and was written before Jesus' birth. The New Testament contains stories about Jesus, written by those who knew him.</p>	
<p>How do Christians believe that people should live their lives?</p>	<p>-Christians believe that people should be compassionate to one another, and show respect to God, themselves and one another.</p> <p>-Christians believe that praying to God helps them to say sorry for the things that they have done wrong, and thank them for the blessings given to them.</p> <p>-Christians believe that God wants them to carry on the good work that Jesus did in the world.</p>	
<p>How many different types of Christians are there?</p>	<p>-There are many different denominations (types) of Christians. All Christians were once Catholics, but other groups branched off many years ago.</p> <p>-The biggest Christian denomination is still Catholicism. To Catholics, the Pope is Christ's representative on earth. Other major groups include Protestants (including Anglican/ Church of England faiths) and Orthodox.</p>	

Christian Beliefs

<p>God's Creation</p> <p>-Christians believe that God created the Earth and everything in it in 6 days, resting on the 7th.</p> <p>-The story of creation tells Christians that at first everything was dark, until God intervened and created matter.</p> <p>-Details about this are found in the Bible in Genesis 1 and 2.</p>	<p>The Holy Trinity</p> <p>-Christians believe that God can be seen in three ways, known as the Holy Trinity:</p> <p>-The Father – Creator of the world;</p> <p>-The Son – Who came to Earth as Jesus;</p> <p>-The Holy Spirit – God's power within Christians.</p>
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The Ten Commandments

-In the Bible, ten 'commandments' are shared, which Christians should aim to live their lives by:

1. You shall have no other Gods but me.
2. You shall not make for yourself any idol.
3. You shall not misuse the name of the Lord your God.
4. You shall remember and keep the Sabbath day holy.
5. Respect your father and mother.
6. You must not commit murder.
7. You must not commit adultery.
8. You must not steal.
9. You must not give false evidence against your neighbour.
10. You must not be envious of your neighbour's goods.

The Life of Jesus Christ

- Christians believe that Jesus was the son of God. He was born to ordinary parents, Mary and Joseph, in Bethlehem. Christians celebrate the birth of Jesus on 25th December – Christmas Day.

-Jesus travelled around, teaching people about God and helping the sick. He chose 12 men to travel with him. They were his special companions and are known as the disciples.

-Jesus was sentenced to death for calling himself the son of God. He had a final meal with his disciples (known as 'The Last Supper') before being crucified. He is said to have died for the sins of man.

Top 10 Facts!

1. Christians believe that God is everywhere, and sees and knows everything.	6. There is very little written about Jesus before the age of about 30, when he began preaching
2. About 1/3 of the world's population are Christian.	7. Jesus knew that he was going to be betrayed, and that he would die. He tried to warn his disciples of this at the Last Supper.
3. The word Christ comes from the Greek word meaning Messiah – God's chosen one.	8. Jesus was buried in a tomb, but the tomb was found later. He then appeared to the disciples.
4. Although Christmas is celebrated on December 25 th , no one knows exactly what date Jesus was born on.	9. Jesus eventually went back up to heaven to be with God – this is called the ascension.
5. Sunday is the holiest day in Christianity – many people meet to worship on Sunday.	10. The cross is the symbol of Christianity – a reminder that Jesus was crucified.

Christianity Timeline

Beginning of time: God creates the world and everything in it.	Around 0 CE: Jesus is born in Bethlehem.	c.28CE: Jesus begins healing and preaching. He chooses 12 disciples.	c.30CE: Jesus feeds 5,000 with 5 loaves of bread and 2 fish!	c.33CE: Jesus holds the Last Supper. He is double-crossed by Judas.	c.33CE: Jesus is executed on the cross and then resurrects days later.	c.40CE: Church of Jerusalem – first Christian church – is founded.	c.1057CE: Orthodox Church breaks from Catholicism.	c.1534CE: Henry VIII forms the Church of England.
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Spanish



¿Qué te gusta hacer?	What do you like to do?
Me gusta...	<i>I like...</i>
Me gusta mucho...	<i>I really like...</i>
No me gusta...	<i>I don't like...</i>
No me gusta nada...	<i>I don't like at all...</i>
chatear	<i>to chat online</i>
escribir correos	<i>to write emails</i>
escuchar música	<i>to listen to music</i>
jugar a los videojuegos	<i>to play videogames</i>
leer	<i>to read</i>
mandar SMS	<i>to send text messages</i>
navegar por Internet	<i>to surf the net</i>
salir con mis amigos	<i>to go out with friends</i>
ver la television	<i>to watch TV</i>
porque es...	<i>because it is...</i>
porque no es...	<i>because it is not...</i>
aburrido/a	<i>boring</i>
divertido/a	<i>amusing, funny</i>
estúpido/a	<i>stupid</i>
guay	<i>cool</i>
interesante	<i>interesting</i>

¿Qué haces en tu tiempo libre?

What do you do in your spare time?

<i>I dance</i>	<i>bailo</i>
<i>I sing karaoke</i>	<i>canto karaoke</i>
<i>I talk with my friends</i>	<i>hablo con mis amigos</i>
<i>I ride my bike</i>	<i>monto en bici</i>
<i>I take photos</i>	<i>saco fotos</i>
<i>I play the guitar</i>	<i>toco la guitarra</i>

Expresiones de frecuencia Expressions of frequency

a veces	<i>sometimes</i>
de vez en cuando	<i>from time to time</i>
nunca	<i>never</i>
todos los días	<i>every day</i>

Algunas preguntas Some questions

¿Qué...?	<i>What/Which...?</i>
¿Cuándo...?	<i>When...?</i>
¿Dónde...?	<i>Where...?</i>
¿Cómo...?	<i>How/What...?</i>
¿Cuántos...?	<i>How many...?</i>

¿Qué tiempo hace?

hace calor
hace frío
hace sol
hace buen tiempo
llueve
nieva
¿Qué haces cuando llueve?

What's the weather like?

<i>it's hot</i>
<i>it's cold</i>
<i>it's sunny</i>
<i>it's nice weather</i>
<i>it's raining</i>
<i>it's snowing</i>
<i>What do you do when it's raining?</i>

Las estaciones

la primavera
el verano
el otoño
el invierno

The seasons

<i>spring</i>
<i>summer</i>
<i>autumn</i>
<i>winter</i>

Los días de la semana The days of the week

lunes	<i>Monday</i>
martes	<i>Tuesday</i>
miércoles	<i>Wednesday</i>
jueves	<i>Thursday</i>
viernes	<i>Friday</i>
sábado	<i>Saturday</i>
domingo	<i>Sunday</i>
los lunes	<i>on Mondays, every Monday</i>
los martes	<i>on Tuesdays, every Tuesday</i>

¿Qué deportes haces?

Hago artes marciales.
Hago atletismo.
Hago equitación.
Hago gimnasia.
Hago natación.
Juego al baloncesto.
Juego al fútbol.
Juego al tenis.
Juego al voleibol.
¡Me gusta!
¡Me gusta mucho!
¡Me gusta muchísimo!
¡Me encanta!

What sports do you do?

<i>I do martial arts.</i>
<i>I do athletics.</i>
<i>I do/go horseriding.</i>
<i>I do gymnastics.</i>
<i>I do/go swimming.</i>
<i>I play basketball.</i>
<i>I play football.</i>
<i>I play tennis.</i>
<i>I play volleyball.</i>
<i>I like it!</i>
<i>I like it a lot!</i>
<i>I really, really like it!</i>
<i>I love it!</i>

Palabras muy frecuentes: High-frequency words

con	<i>with</i>
cuando	<i>when</i>
generalmente	<i>generally</i>
mucho	<i>a lot</i>
no	<i>no</i>
o	<i>or</i>
pero	<i>but</i>
porque	<i>because</i>
sí	<i>yes</i>
también	<i>also, too</i>
y	<i>and</i>
¿Y tú?	<i>And you?</i>



Infinitives

AR	ER	IR
JUGAR = to play MONTAR = to ride CANTAR = to sing	BEBER = to drink COMER = to eat HACER = to do/make	VIVIR = to live SALIR = to go out IR = to go

Regular Infinitives - take off the verb ending AR/ER/IR and add the following endings for each person

Present Tense

	<u>AR</u>	<u>ER</u>	<u>IR</u>
Yo (I)	O	O	O
Tu (You)	As	Es	Es
El/ella (he/she)	A	E	E
Nosotros (we)	Amos	Emos	Imos
Vosotros (you all)	<u>Áis</u>	<u>Éis</u>	<u>Ís</u>
Ellos (They)	An	En	<u>En</u>

Irregular Infinitives

JUGAR = to play	HACER = to do
Juego = I play	Hago = I do
Juegas = you play	Haces = you do
Juega = he/she/it plays	Hace = he/she/it does
Jugamos = we play	Hacemos = we do
Jugáis = you all play	Hacéis = you all do
Juegan = they play	Hacen = they do

Question Words

¿Qué...? = what/which

¿Cuándo...? = when

¿Dónde...? = where

¿Cómo...? how / what?

¿Cuántos...? = how many?

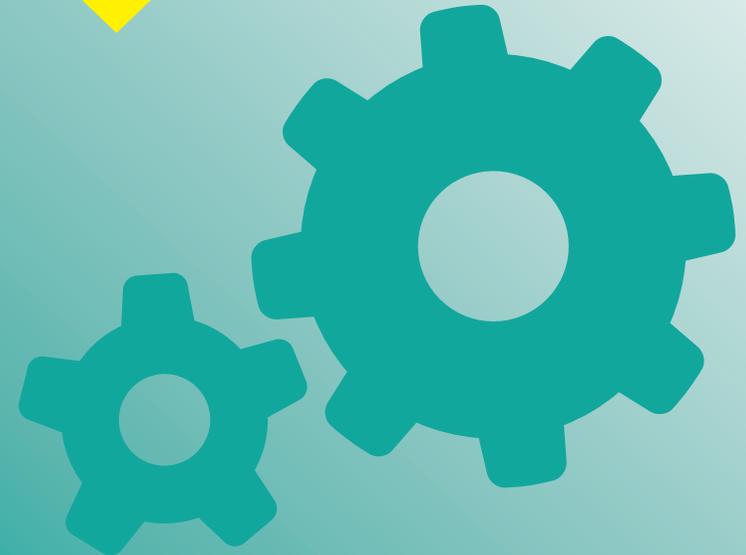
For example

¿Cuándo es tu cumpleaños? = when is your birthday?

¿Qué tipo de persona eres? = what type of person are you?

¿Dónde vives? = where do you live?

¿Cuántos años tienes? = how old are you?



French



French - Studio 1 Module 2: Mon collègue



Les matières scolaires = School subjects

le français = *French*
le théâtre = *drama*
la géographie/la géo = *geography*
la musique = *music*
la technologie = *technology*
l'anglais (m) = *English*
l'EPS (f) = *PE*
l'histoire (f) = *history*
l'informatique (f) = *ICT*
les arts plastiques (m) = *art*
les mathématiques/maths (f) = *maths*
les sciences (f) = *science*

Les mots essentiels

High-frequency words

à = *at*
et = *and*
aussi = *also*
mais = *but*
très = *very*
trop = *too*
assez = *quite*
un peu = *a bit*
pourquoi? = *why?*
parce que = *because*
beaucoup (de) = *a lot (of)*
tous les jours = *every day*
aujourd'hui = *today*
pardon = *excuse me*
merci = *thank you*
est-ce que (tu) ... ? = *do (you) ... ?*
qu'est-ce que (tu) ... ? = *what (do you) .. ?*
avec = *with*

Les opinions = Opinions

Tu aimes/Est-ce que tu aimes ... ? = *Do you like ... ?*
J'aime ... = *I like ...*
J'aime beaucoup ... = *I like ... a lot.*
J'aime assez ... = *I quite like ...*
J'adore ... = *I love ...*
Je n'aime pas ... = *I don't like ...*
Je déteste ... = *I hate ...*
C'est ma matière préférée. = *It's my favourite subject.*
Moi aussi. = *Me too.*
T'es fou/folle. = *You're crazy..*

Les raisons = Reasons

C'est ... = *It's ...*
intéressant = *interesting*
ennuyeux = *boring*
facile = *easy*
difficile = *difficult*
génial = *great*
nul = *rubbish*
marrant = *fun/funny*
On a beaucoup de devoirs. = *We have a lot of homework.*
Le/La prof est sympa. = *The teacher is nice.*
Le/La prof est trop sévère. = *The teacher is too strict.*

Quelle heure est-il? = What time is it?

Il est ... = *It's ...*
huit heures = *eight o'clock*
huit heures dix = *ten past eight*
huit heures et quart = *quarter past eight*
huit heures et demie = *half past eight*
neuf heures moins vingt = *twenty to nine*
neuf heures moins le quart = *quarter to nine*
midi = *midday*
minuit = *midnight*
midi/minuit et demi = *half past twelve (midday/midnight)*

La journée scolaire = The school day

On a cours (le lundi). = *We have lessons (on Mondays).*
On n'a pas cours ... = *We don't have lessons ...*
On commence les cours à ... = *We start lessons at ...*
On a quatre cours le matin. = *We have four lessons in the morning.*
On étudie neuf matières. = *We study nine subjects.*
À la récré, on bavarde et on rigole. = *At break, we chat and have a laugh.*
On mange à la cantine. = *We eat in the canteen.*
On finit les cours à ... = *We finish lessons at ...*
On est fatigués. = *We are tired.*

L'emploi du temps = The timetable

le lundi = *on Mondays*
le mardi = *on Tuesdays*
le mercredi = *on Wednesdays*
le jeudi = *on Thursdays*
le vendredi = *on Fridays*
À (neuf heures) j'ai (sciences). = *At (nine o'clock) I've got (science).*
le matin = *(in) the morning*
l'après-midi = *(in) the afternoon*
le mercredi après-midi = *on Wednesday afternoon*
la récréation/la récré = *breaktime*
le déjeuner = *lunch*

Qu'est-ce que tu manges?

= *What do you eat?/What are you eating?*
Je mange ... = *I eat/I'm eating ...*
du fromage = *cheese*
du poisson = *fish*
du poulet = *chicken*
du steak haché = *beefburger*
du yaourt = *yoghurt*
de la pizza = *pizza*
de la purée de pommes de terre = *mashed potatoes*
de la glace à la fraise = *strawberry ice-cream*
de la mousse au chocolat = *chocolate mousse*
de la tarte au citron = *lemon tart*
des crudités = *chopped, raw vegetables*
des frites = *chips*
des haricots verts = *green beans*
Bon appétit! = *Enjoy your meal!*



être (to be)	
je suis	I am
tu es	you are (1 friend)
il/elle/on est	he/she is / we are
nous sommes	we are
vous êtes	you are (plural/polite)
ils/elles sont	they are

avoir (to have)	
j'ai	I have
tu as	you have (1 friend)
il/elle/on a	he/she has / we have
nous avons	we have
vous avez	you have (plural/polite)
ils/elles ont	they have

English	masculine	feminine	plural
my	mon	ma	mes
your	ton	ta	tes
his/her/one's	son	sa	ses

Asking Questions	
Tu aimes le sport?	Do you like sport?
Tu aimes la musique?	Do you like music?
Comment tu t'appelles?	What is your name?
Quel âge as tu?	How old are you
Où habites tu?	Where do you live?

	masculine	feminine	plural	before vowel / h
the (definite article)	le	la	les	l'
some (partitive article)	du	de la	des	de l'

- le poulet (chicken) → du poulet (some chicken)
- la glace (ice cream) → de la glace (some ice cream)
- les frites (chips) → des frites (some chips)
- l'eau (water) → de l'eau (some water)



Using adjectives

Adjectives describe nouns (people, places and things).

In French, most adjectives go after the noun they describe. (e.g. un stylo bleu = a blue pen - but literally 'a pen blue').

The adjective has to agree with the noun it describes.

This means that the ending of the adjective usually changes, depending on whether the noun is masculine or feminine, singular or plural.

Regular adjectives **add -e to describe feminine nouns** and **add -s in the plural**:

English	masc (sing.)	fem (sing.)	masc (pl.)	fem (pl.)
big/tall	grand	grande	grands	grandes
important	important	importante	importants	importantes

If the adjective already ends in -e, we don't add an extra -e in the feminine form:

English	masc (sing.)	fem (sing.)	masc (pl.)	fem (pl.)
shy	timide	timide	timides	timides

Some adjectives change a bit more, depending on their ending:

English	masc (sing.)	fem (sing.)	masc (pl.)	fem (pl.)
essential	essentiel	essentielle	essentiels	essentielles
active	actif	active	actifs	actives
generous	généreux	généreuse	généreux	généreuses

Some adjectives are irregular and you just have to learn them!

English	masc (sing.)	fem (sing.)	masc (pl.)	fem (pl.)
attractive	beau	belle	beaux	belles

A few adjectives never change. They are the same in the masculine and feminine form, both singular and plural.
e.g. marron / orange



For more information and practice using adjectives:
<https://www.bbc.co.uk/bitesize/clips/zqks39q> (video)
<https://www.bbc.co.uk/bitesize/topics/z7t8kmn/articles/z4q28xs>

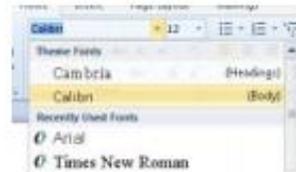


IT



Text can be manipulated in multiple ways:

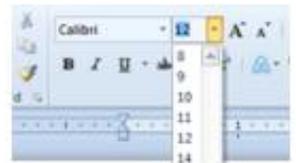
Font (font, **font**, FONT, *font*)



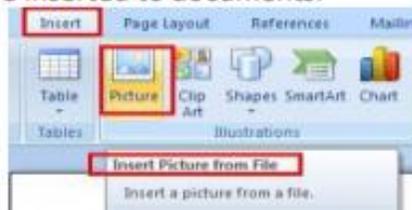
Colour (Colour, Colour, Colour)



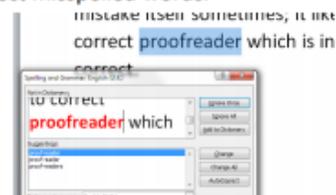
Size (size, Size, Size)



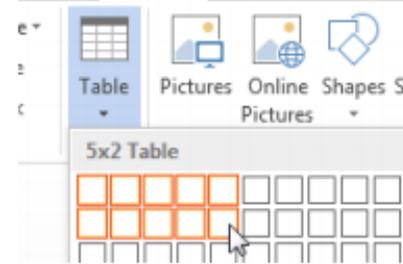
Images can be inserted to documents.



Spell check can be used to correct misspelled words.



Tables can be inserted to present text information and/or numerical data.



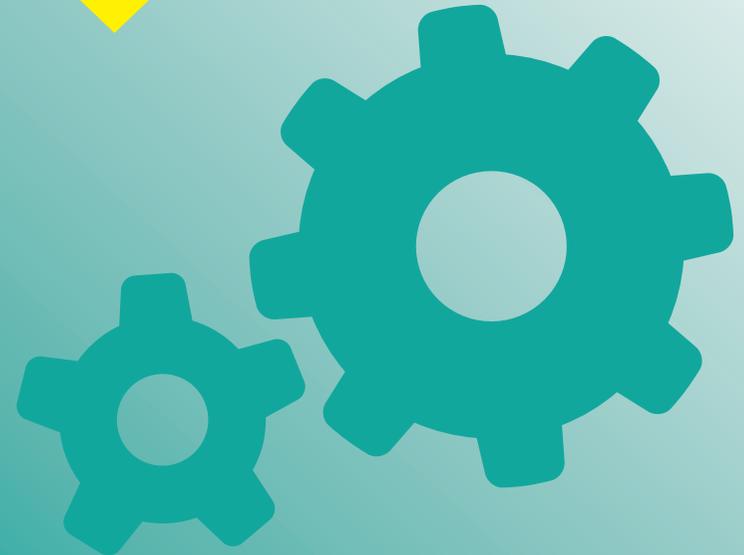
Order Date	Region	Rep	Item	Units	Unit Cost	Total
1/23/10	Ontario	Kivell	Binder	50	19.99	999.50
2/9/10	Ontario	Jardine	Pencil	36	4.99	179.64
2/26/10	Ontario	Gill	Pen	27	19.99	539.75
3/15/10	Alberta	Sorvino	Pencil	56	2.99	167.44
4/1/10	Quebec	Jones	Binder	60	4.99	299.40
4/18/10	Ontario	Andrews	Pencil	75	1.99	149.25
5/5/10	Ontario	Jardine	Pencil	90	4.99	449.10
5/22/10	Alberta	Thompson	Pencil	32	1.99	63.68

Keyboard Shortcuts

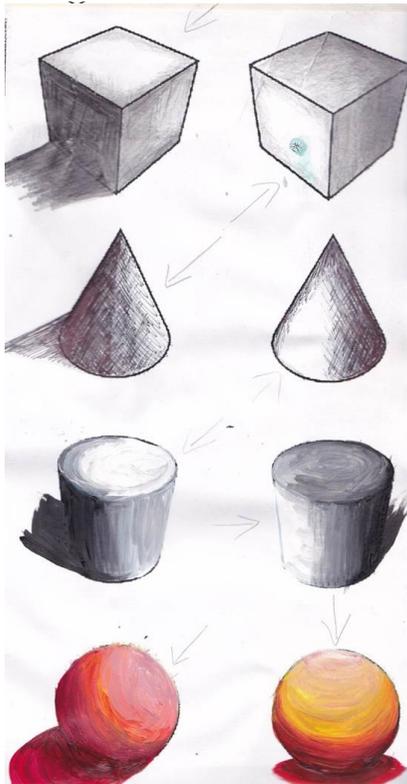
A keyboard shortcut is a combination of keys that allows the user quick access to a particular function.

Keyboard Shortcuts

Ctrl + A = Select All	Ctrl + U = Underline
Ctrl + C = Copy	Ctrl + I = Italics
Ctrl + X = Cut	Ctrl + K = Hyperlink
Ctrl + V = Paste	Ctrl + S = Save Post
Ctrl + B = Bold	Ctrl + Z = Undo



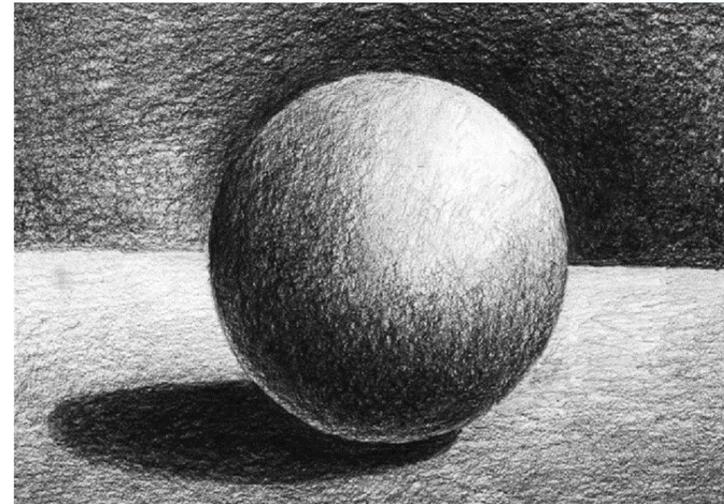
Art



Tone refers to the lightness or darkness of something. This could be a shade or how dark or light a colour appears. Tones are created by the way light falls on a 3D object. The parts of the object on which the light is strongest are called **highlights** and the darker areas are called **shadows**. There will be a range of tones in between the highlights and shadows.

Independent study - Watch the video from the link below have a go at shading your own shapes. Practising your drawing skills regularly will improve your hand eye coordination.

<https://youtu.be/vMr6eimcolc>



Form in drawing painting and sculpture refers to the 3-Dimensional quality of an object. You will be learning how to make flat shapes appear more rounded and curved.



Susannah Blaxhill is a botanical artist who specialises in pencil, watercolour and charcoal



Independent study
Select a piece of fruit or a vegetable to draw in detail, you could cut it in half to make a more interesting drawing.



Keywords

Tone Value Gradient Highlight Shadow Light Dark Range
Form Shape Space 3-Dimensional Rounded Curved Illusion



Design Technology



TRANSISTOR – (Electronic Switch)

Transistors can be regarded as a type of switch, as can many electronic components. They are used in a variety of circuits and you will find that it is rare that a circuit built in a school Technology Department does not contain at least one transistor. Transistors are manufactured in different shapes but they all have three leads (legs).

The **BASE** - which is the lead responsible for activating the transistor.

The **COLLECTOR** - which is the positive lead.

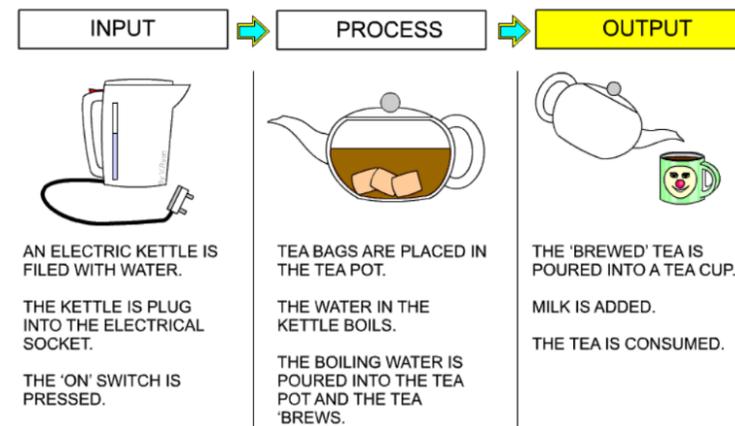
The **EMITTER** - which is the negative lead.



SYSTEMS DIAGRAMS

A simple systems diagram is seen below. This describes making a cup of tea, from the filling an electric kettle, brewing the tea, to pouring the tea into a cup. Remember, almost every process can be divided into INPUT, PROCESS and OUTPUT. When learning about systems diagrams and how they can be used, it is a good idea to practice drawing them, by describing a simple process, such as making a cup of tea.

SAMPLE SYSTEMS DIAGRAM





1. Woods

Man-Made Woods

Medium density fibreboard (MDF)	Has a smooth even surface & easily machined and painted. Available in water and fire resistant form. Can veneer or paint to improve appearance. Used for cheap furniture
Chipboard	Made from chips of wood glued together with urea formaldehyde. Usually veneered with an attractive hardwood or plastic laminate Used for kitchen & bedroom furniture
Plywood	A very strong board constructed using layers of veneer glued together with the grains at 90 degrees to each other. Interior and exterior grades available. Uses, furniture, boats
Hardboard	A very cheap particle board Can have a laminated plastic surface Used for kitchen units and furniture back panels

Hard Woods

Oak	A very strong light brown wood Open grained Very hard but quite easy to work with Used for quality furniture, beams and veneer
Mahogany	Reddish brown in colour Easy to work with Used for indoor furniture, bars and veneers
Beech	Has a straight grain & light in colour Very hard but easy to work with Can be steam bent. Used for toys, door handles etc
Ash	Open grain & easy to work with Pale in colour and often stained black Can be laminated, by splitting into veneers and gluing together

Soft Wood

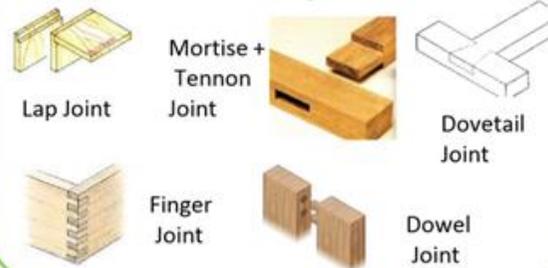
Pine	Pale yellow colour with dark grain lines Medium weight, stiff and stable Inexpensive Used for DIY & constructional joinery. Also for furniture
------	---

1: Joining Methods

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

Permanent:	Temporary:
When we do not want to take the pieces apart again	When we will, or might need to take pieces apart again
Glues, welding, rivets	Screws, bolts, nails

1.1 Wood joints



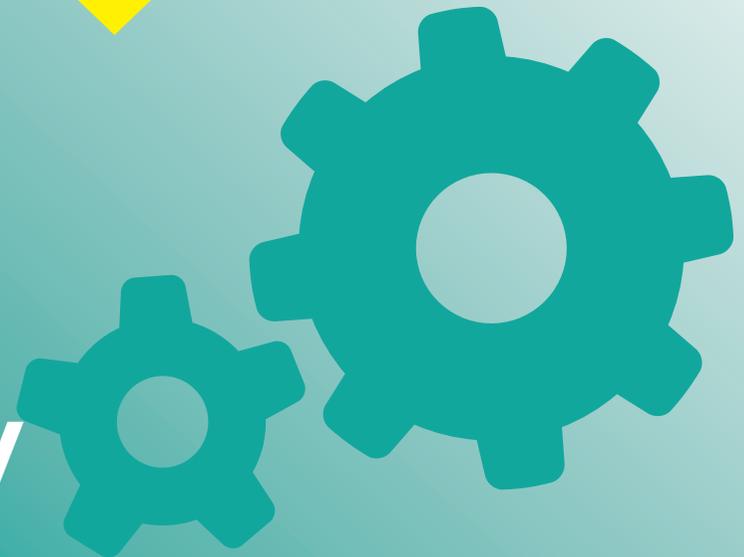
3. Adhesives

P.V.A. – Poly Vinyl Acetate – best for joining 2 pieces of wood together

Epoxy – a *thermosetting* resin that can be used to bond most types of material

Contact Adhesive – a glue type that creates a tacky bond on both surfaces to be joined. It can be used with most materials.

Manufactured Boards	Softwood	Hardwood
<p>Manufactured boards are made from the waste sections of felled trees – the parts which are of little use as planks. The wood is reduced to pulp, particles or thin strips and bonded together using special adhesives or resins. Manufactured boards are made as alternative to natural timber.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Come in sheet form (usually 1.2 x 2.4m) <input type="checkbox"/> Are extremely stable and of uniform thickness <input type="checkbox"/> Are less expensive than laminating planks of timber veneers <input type="checkbox"/> Can be covered with veneers <input type="checkbox"/> Are available in a variety of thicknesses (3, 6, 9, 12, 15, 18, 22mm) 	<p>Softwoods are usually obtained from coniferous trees, which keep their leaves in winter and are also known as evergreens. These grow quickly which makes them sustainable as they are renewable. This also makes them cheaper when compared to hardwoods.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Usually grow in colder climates and are mainly grown in Scandinavia and Northern Europe <input type="checkbox"/> Grow thin, needle-like leaves <input type="checkbox"/> Grow relatively quickly (30 years) <input type="checkbox"/> Are easier to sustain than hardwood trees <input type="checkbox"/> Are easy to cut and shape <input type="checkbox"/> Are usually cheaper than hardwoods 	<p>Hardwoods are usually obtained from deciduous trees, which lose their leaves in autumn.</p> <ul style="list-style-type: none"> <input type="checkbox"/> usually grow in warmer more humid climates, mainly in South America and Asia <input type="checkbox"/> grow slowly (80+ years) <input type="checkbox"/> are more difficult to sustain than softwoods <input type="checkbox"/> are more expensive than softwoods <input type="checkbox"/> are strong and hardwearing.



Food Technology



Hazards in the food room

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

The 4 key Temperatures for Bacteria activity

- 75°** RIP
- 5°-63° Danger Zone**
- 0°-5° Sluggish**
- 18° Dormant**

CLEAN	SEPARATE	COOK	CHILL
4Cs: Always wash and dry your hands properly. Keep everything clean	4Cs: Keep raw meat and cooked foods apart to avoid cross contamination	4Cs: Cook food properly! You must make sure foods like 'meat' are cooked in the middle.	4Cs: Store food at the correct temp. Keep it chilly silly.



YouTube

See FoodTech 101 for all KS3 practicals

5 Things bacteria need to thrive:

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

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

The 5 different groups are:

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



Allergies and Intolerances:

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

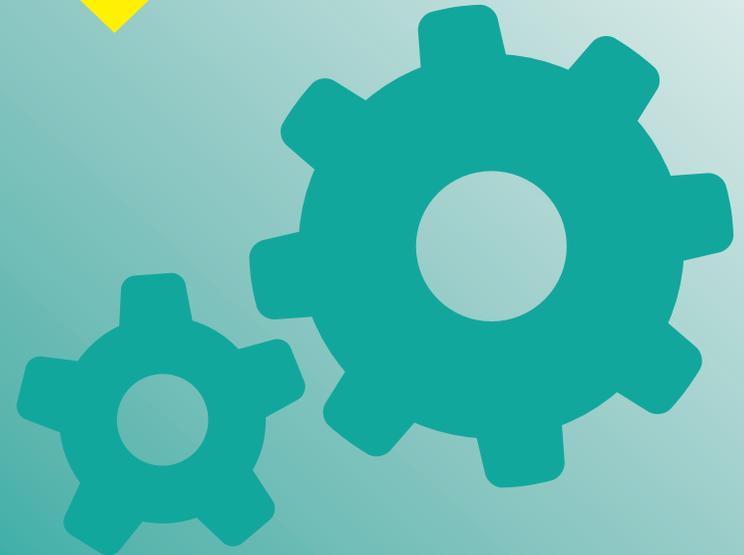
8 Tips for healthy eating

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

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

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

Nutrient Dense Foods=		Energy Dense Foods=	



Music



NOTE VALUES

semibreve 4 beats

minim 2 beats

crotchet 1 beat

quaver 1/2 beat

dotted minim = 3 x crotchet

2 joined quavers = 1 x crotchet

4 semiquaver = 1 x crotchet

2 semiquavers and 1 quaver = 1 x crotchet

TIME SIGNATURES

2
4 Sounds like a march

3
4 Sounds like a waltz

4
4 Used for most pop songs

KEYWORDS

- Call and response: One person plays a rhythm others respond with a rhythm
- Time Signature: Groups music into beats in a bar. (E.g. $\frac{3}{4}$ is 3 crotchet beats per bar.)
- Bar: Separates the music into sections

Rhythms to Rehearse

Try to clap the different rhythms

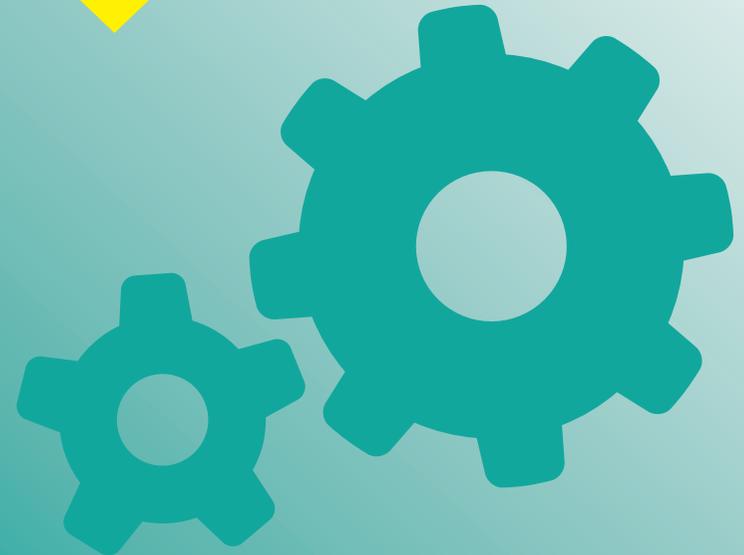


FOCUS ON SOUND SOFTWARE

- 1) Web address: <https://hartford.musicfirst.co.uk/app/>
- 2) Type in username and password
- 3) Click on Instruments First/Focus on Sound
- 4) Click on Instrument/Sound Words
- 5) Click on task set by the teacher
- 6) Click on test set by the teacher

NOTEFLIGHT- composing software

- 1) Web address: www.noteflight.com
- 2) Go to sign in
- 3) Log in with Google
- 4) Sign in with your hartfordhighschool e-mail account



Sport



Short pass

A short side foot pass enables a team to quickly pass a ball and help maintain possession. It is used for accuracy.

- Move parallel to the ball and place your non-kicking foot to the side of the ball.
- Keep your eye on the ball until you have it under your control.
- Look up to see where is the best place to pass it.
- On selection of your pass, maintain a strong body position.
- Swing your kicking foot through and strike the ball with the inside of your foot.
- Aim to hit the middle of the ball to ensure it stays close to the ground.
- Keep looking at your target.
- Follow your kicking leg through towards the intended target.
- The speed of the kicking leg will direct how hard you kick the ball.

Long pass

A long pass is an attacking skill that allows players to switch the direction of the attack very quickly to create space, find a teammate or to catch out the opposition.

- Move parallel to the ball and place your non-kicking foot to the side of the ball.
- Keep your eye on the ball until you have it under your control.
- Look up to see where is the best place to pass the ball.
- On selection of your pass, maintain a strong body position.
- Explosively bring your kicking foot through and strike the ball with laces of your football boot.
- Aim to hit the middle of the ball to ensure it stays close to the ground or the lower half of the ball if you want to lift it over opposition players.
- Keep looking at your target.
- Follow your kicking leg through towards the intended target and your body over the ball.
- The speed of the kicking leg will direct how hard you kick the ball.

Control

Good control of the football is an essential skill to maintain possession of the ball from the opposition and, if done accurately, gives the player more time to make the correct next decision.

- Keep your eye on the ball at all times.
- On contact with the ball, withdraw the foot slightly to take the momentum out of the ball (this is known as "cushioning").
- Aim to contact the middle of the ball to ensure that it stays close to the ground and does not bounce up.
- Once under control, move the ball out of your feet to allow the next decision to be made.

Block tackle

The block tackle is an essential skill for winning the ball back in football. It is mainly used when confronting an opponent head on and it is important to complete it with good timing and technique to prevent injury or fouls.

- Close down your opponent quickly but do not rush uncontrolled at them.
- Try to reduce any space around you and monitor for passing options.
- Stay on the balls of your feet, arms slightly out to jockey your opponent.
- Keep your eye on the ball and wait for a clear view of the ball.
- When you can see most of the ball, transfer your weight from your back to front foot and move the inside of your foot towards the ball.
- Maintain a strong body position.

Throw-in

The throw-in is the legal way to restart the game if the ball has gone out of play from either of the side-lines.

- Hold the ball with both hands and ensure that the thumbs are behind the ball and fingers are spread.
- Hold the ball behind the head with relaxed arms and elbows bent.
- Keep your feet shoulder-width apart.
- Face your target.
- Lean back with both feet in contact with the ground.
- Slightly bend your knees and arch your head, neck, shoulders and trunk.
- When ready, propel yourself forward and release the ball just as it passes your head.
- Once the ball is released, bring your strongest leg forward and out in front of you for balance.

Heading

The header can be an attacking or defensive skill and is used to try and win the ball when it is in the air.

- Keep your eyes on the ball.
- Use your forehead to make contact with the bottom of the ball for a defensive header or the top of the ball for an attacking header.
- For a defensive header it is important to get good height and distance but for an attacking header you need power and accuracy.
- You can also use flick headers to pass to a team mate.



Bounce Pass

A bounce pass is a short pass that enables the player to find a teammate in a crowded area. The height of the ball makes it difficult for the opposition to reach and intercept.

Stage one

Feet shoulder-width apart in opposition, with knees bent. Place hands each side and slightly behind the ball, with the fingers comfortably spread. Hold the ball at waist level, with elbows tucked in.

Stage two

Step in the direction of the pass, through extending your legs, back and arms. The wrist and fingers should be forced through the ball releasing it off the first and second fingers of both hands. Follow through with the arms fully extended, fingers pointing at the target and thumbs pointing to the floor.

Chest Pass

A chest pass is a very fast and flat pass which enables a team to move quickly up a court in a precise and accurate fashion.

Stage one

Stand with feet shoulder width apart and on the balls of your feet, with back straight and knees slightly bent. Place hands on the sides of the ball with the thumbs directly behind the ball and fingers comfortably spread.

Stage two

The ball should be held in front of the chest with the elbows tucked in. Step in the direction of the pass, by extending their legs, back, and arms. Push the ball from the chest with both arms (not from one shoulder). Fingers are rotated behind the ball and the thumbs are turned down.

Stage three

The back of the hands face one another with the thumbs straight down. Make sure the ball is released off the first and second fingers of both hands. Follow through to finish up with the arms fully extended, fingers pointing at the target and thumbs pointing to the floor.

Shoulder Pass

A shoulder pass is a very dynamic, fast and long pass which enables a team to switch positions on court very quickly to either find a player in space or break defensive screens.

Stage one

Player's feet should be shoulder width apart in opposition. Opposite foot forward to throwing arm. Stand on balls of feet with toes pointing toward target, and knees slightly bent. Hold the ball at head height, slightly behind your head. Elbow should be at a 90° angle. Fingers spread behind the ball.

Stage two

Step in the direction of the pass by transferring your body weight from back foot to front foot. Pull the arm through with the elbow leading. To follow through, fully extend your arm and wrist. Point your fingers in the same direction as the pass, with palms facing down.

Pivoting

The pivoting action is a swivel movement that allows the player to move on a fixed axis to either pass or shoot.

Stage one

Run towards the ball and jump by extending the legs and ankles. Keep your eyes firmly fixed on the ball. Bring your hands out in front of your body at chest height with fingers spread open and pointing up.

Stage two

In the air catch the ball with thumbs an inch or two apart making a 'W' shape. Land on the ball of one foot on the ground. Flex your knee and ankle as your foot hits the floor.

Stage three

Stand with knees slightly bent and your feet shoulder width apart. Bring the ball into your body to protect it. Pivot by rotating yourself on the ball of your landing foot. Keep your upper body straight and head up. Make sure the hip of your pivoting leg is pointing in the direction you are aiming to pass the ball in. You can move or step with the other foot any number of times. You are not allowed to lift the foot you are pivoting on before you release the ball.



Passing – there are a number of different passes such as, the push pass and the slap pass/hit

Stage one- maintaining correct hockey posture of straight back and bent knees, stand sideways on to the ball with your right foot inline with the ball and your left pointing in the direction the ball will be passed. The stick and ball remain in contact until the release point which is in line with the left foot .

Stage two- complete a push pass whilst dribbling with the ball on open stick, still keeping contact with the stick and ball until release point - this time the direction of the ball can be changed by pushing the ball across your body whilst dribbling but still releasing the ball on the left foot.

Stage three – releasing the ball off the right foot, whilst dribbling the ball can be pushed passed off the right foot, this pass will be disguised , there will be limited contact time with the stick and the ball before release

Dribbling – this enables us to run with the ball

Stage one - maintaining the correct hockey position of straight back and bent knees. Keep the ball on the open stick side, you can use a clock reference e.g. dribble with the ball at 2 o'clock. The ball should remain on the right hand side of the participant and pushed out away from their feet so that they can move easily without kicking the ball .

Stage two- open to reverse stick dribbling, the ball will now move between 1 and 11 o'clock on the clock face reference (side to side), whilst keeping contact with the ball on the flat side of the stick, the left hand at the top of the stick will do the turning , and the right hand will act as a guide and will allow the stick to turn.

Stage three- v-drag elimination- using the previous 2 stages, the participants will dribble the ball towards their opponents stick side and engage the defender, they will then drag the ball back (bottom point of the V) and drive with the ball towards the defenders non stick side

Tackling- this is how we win possession of the ball

Stage one - block tackle pick up. Participants will lead with their left hand at the top of the stick, they will keep their stick parallel to the ground , they will squeeze the ball between them and their partners stick and pick up the ball (flat side of the stick)

Stage two - participant A will dribble straight with the ball, whilst Participant B will perform a block tackle, they will get low to the ground , they will lead with their left foot followed by their left hand, keeping their stick parallel to the ground. Their right hand remains on the stick and will provide the strength in the tackle.

Stage three - the participant with possession of the ball will dribble open to reverse stick , the tacking participant will need to track the ball and time their tackle to maintain good contact with the ball and not to make contact with the oppositions stick.

Tick List

Passing:

- Sideways on
- Low to the ground
- Left foot pointing in the direction of the pass
- Stick and ball contact unit release
- Passing off both left and right feet

Dribbling

- Correct hockey posture
- Contact with the flat side of the stick
- Open stick ball positioning – 2 o'clock
- Open to reverse stick dribbling
- Elimination skills finding the none stick side

Tackling

- Stick parallel to the ground
- Leading with left foot
- Right hand provided the strength in the tackle



Key Components of Fitness for Gymnasts

A gymnast requires **flexibility** at the joints to allow for a larger range of motion around a joint.

A gymnast requires **muscular strength** to be able to balance on certain body parts. This is exerting their body against a given force.

A gymnast requires **power** in their arms and legs, which is speed x strength.

A gymnast requires **agility** to change direction at speed.

A gymnast requires **muscular endurance** to keep using the same muscle groups over and over again when performing a skill such as a forward roll.

A gymnast requires a certain levels of **speed** as they slow down their speed and increase their speed depending on the sequence they are performing.

Gymnastics Key Terms

Apparatus The equipment used in gymnastics.

Balance Position A static position, holding a distinct shape.

Dismount To leave an apparatus at the end of a routine.

Equilateral Triangle A triangle in which all three sides have equal length.

Jeté A move where the gymnast springs from one foot to the other.

Pike Body position where the body is bent forward 90 degrees at the waist with the legs kept straight.

Pivot A turn on the ball of the foot.

Plié Feet angled at 90 degrees.

Routine A combination of moves and sequences performed on one apparatus.

Spotting Spotting a landing before take off.

Supporting When a second person assists the gymnast through a move and prepares to cushion them to avoid injury in the event of a fall.

Tuck A position where the knees are bent into the chest, with the body folded at the waist.

Walkovers A move where a gymnast transfers from a standing position to a handstand to a standing position.

Gymnastics Chronology

2000 BC Gymnastics activities are depicted on Egyptian artefacts

1804 The Crown Prince of Denmark believes gymnastics to be useful for military training and creates the Military Gymnastic Institute in 1804.

1928 The first women's Olympic competition (synchronised calisthenics) is held in Amsterdam.

1964 The first Trampoline World Championships are held in London, Uk.

1984 Rhythmic gymnastics is introduced as an Olympic sport in Los Angeles, USA.

2001 The traditional vaulting horse is replaced with a new apparatus, known as a tongue or table, which is ultimately more stable and therefore safer.

2008 Louis Smith is the first British Individual gymnastics medalist in a century, at the 2008 Beijing Olympics, claiming bronze in the pommel horse final.

<https://www.livestrong.com/article/497802-5-components-of-fitness-in-gymnastics/>



Sport - Gymnastics

Travelling, Jump, Roll, Weight on Hands, Balance & Vault



Travelling

Travelling in floor gymnastics is being able to move around the mat using different movements such as rolls, steps, turns, jumps, cartwheels, walkovers, handsprings, and being as creative as possible.

Standing Upward Jump

Bending your legs slightly, jump up while raising your arms forwards and upwards above your head. Keep your arms slightly in front of your body. As you land, it is important to keep your arms raised above your head, and place your feet slightly apart in the 'plie' position at an angle of 45 degrees, with your knees bent. As you make contact with the floor continue to bend the knees to absorb the downward force of landing. Bring your arms down sideways to stabilise the landing, without taking a step.

Forward Roll

From standing, crouch down. Place your hands on the floor in front of you, shoulder-width apart with your fingers facing forwards, while simultaneously placing your chin on your chest. This will ensure your hips are raised high enough and your spine is rounded so you can roll on to your back. Bend your arms as you place your neck on the floor, slightly extending the legs and pushing on the floor with your feet until the roll commences and you roll on to your back. Try to keep your legs straight as you commence the roll forwards. In the last part of the roll, bend your legs tightly so that your heels are close to your bottom. At the point where your feet contact the floor, stretch forwards with your arms so that your head and chest move over your feet. Once your body weight is in a position of balance you will be able to stand.

Cartwheel

Raise your hands above your head and place your leading leg forward. Reach forward to place the first hand (the hand on the same side as the leading leg) on the floor by bending your front leg and bending at the waist. When the first hand contacts the floor, straighten your front leg while kicking upward with your back leg over your head. Continue the movement by rocking over from your first to your second hand (which is still extended above your head). To do this, push strongly against the floor with your first hand, keeping your arms stretched up over your head. As your body rocks over your second hand, bring your second leg down to the ground and place it close to your second hand.

Headstand

Crouch down and place your hands and forehand on the floor to form an equilateral triangle. Your head should be approximately 30cm in front of your hands and your arms bent at an angle of 90 degrees. Extend your legs so that your pointed toes are resting on the floor. By pressing with your hands, slowly move your bottom over your forehead into a balanced position. Maintain the equilibrium by continually pressing with your hands. By exerting more pressure you will reach a point at which you can lift your feet from the floor. Continue to raise your legs above your head by pressing constantly against the floor with your hands. Make sure that your back is kept straight at all times by tightening your bottom and stomach muscles.

Headspring

To obtain the necessary height and rotation, a fast but controlled approached run is required. On take-off, drive your arms upwards and extend the body. Think of the lower body rotating over the upper body. You must still be moving upwards at the point when your hands strike the vault. In the strike phase, the angle of the body and the vault should be between 60 and 80 degrees to the vertical. Your hands should leave the box just before your body reaches the vertical. To achieve this the strike phase must be short and extremely powerful. During post-flight, keep the body as straight as possible. Just before landing, bend the knees.

<https://gymnasticshq.com/gymnastics-skills-list-floor/>