Hartford
Church of England
High School

CARITAS ET VERITAS

Year 8

Knowledge Organiser

Student's name:

Contents

Maths

Maths - Number properties 1

Place Value											
Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths	Ten-thousandths	Hundred-thousandths
100,000	10,000	1,000	100	10	1		$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$	$\frac{1}{10,000}$	$\frac{1}{100,000}$

Multiplying and Dividing by Powers of 10	Instruction HM: 13- 16
Multiply by 10	Digits move 1 place to left
Multiply by 100	Digits move 2 places to left
Multiply by 100	Digits move 3 places to left
Divide by 10	Digits move 1 place to right
Divide by 100	Digits move 2 places to right
Divide by 1000	Digits move 3 places to right

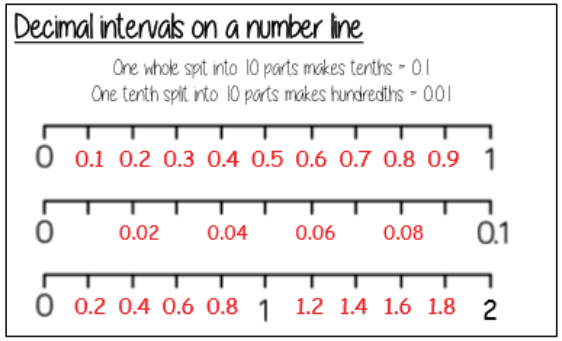
Word	Definition
Sum	To add up
Total	To add up
Difference	To subtract
Product	To multiply
Quotient	To divide

*Inequalities			
<	>	≤	≥
•Is less than •Is fewer than	•Is greater than •Is more than	•Is at most •Is no more than •Is less than or equal to	•Is at least •Is no less than •Is greater than or equal to

B	Brackets	$10 \times (4 + 2) = 10 \times 6 = 60$
I	Indices	$5 + 2^2 = 5 + 4 = 9$
D	Division	$10 + 6 \div 2 = 10 + 3 = 13$
M	Multiplication	$10 - 4 \times 2 = 10 - 8 = 2$
A	Addition	$10 \times 4 + 7 = 40 + 7 = 47$
S	Subtraction	$10 + 2 - 3 = 5 - 3 = 2$

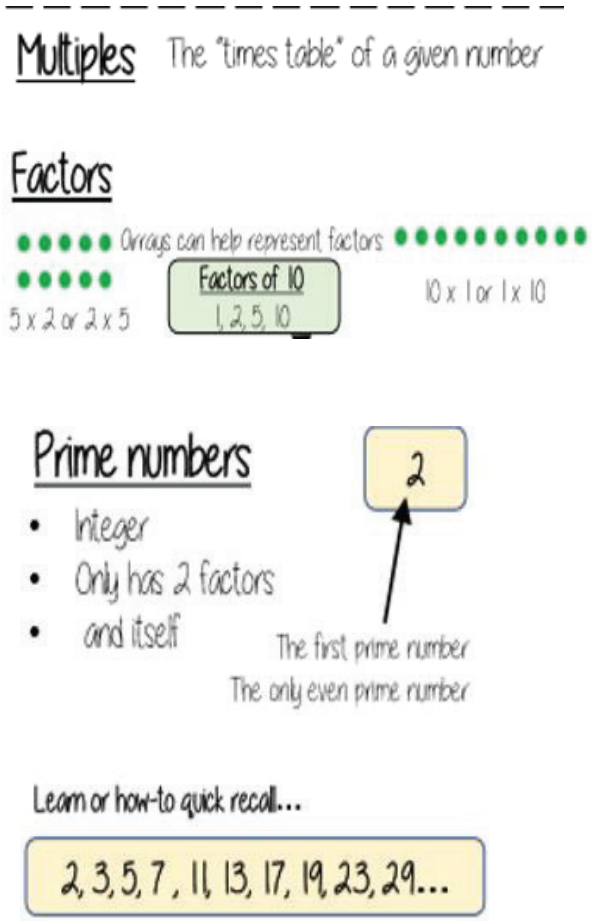
7 x Table		8 x Table		12 x Table	
1 x 7=	7	1 x 8=	8	1 x 12=	12
2 x 7=	14	2 x 8=	16	2 x 12=	24
3 x 7=	21	3 x 8=	24	3 x 12=	36
4 x 7=	28	4 x 8=	32	4 x 12=	48
5x 7=	35	5 x 8=	40	5 x 12=	60
6 x 7=	42	6 x 8=	48	6 x 12=	72
7 x 7=	49	7 x 8=	56	7 x 12=	84
8x 7=	56	8 x 8=	64	8 x 12=	96
9 x 7=	72	9 x 8=	72	9 x 12=	108
10 x 7=	70	10 x 8=	80	10 x 12=	120
11 x 7=	77	11 x 8=	88	11 x 12=	132
12 x 7=	84	12 x 8=	96	12 x 12=	144

Maths - Number properties 1



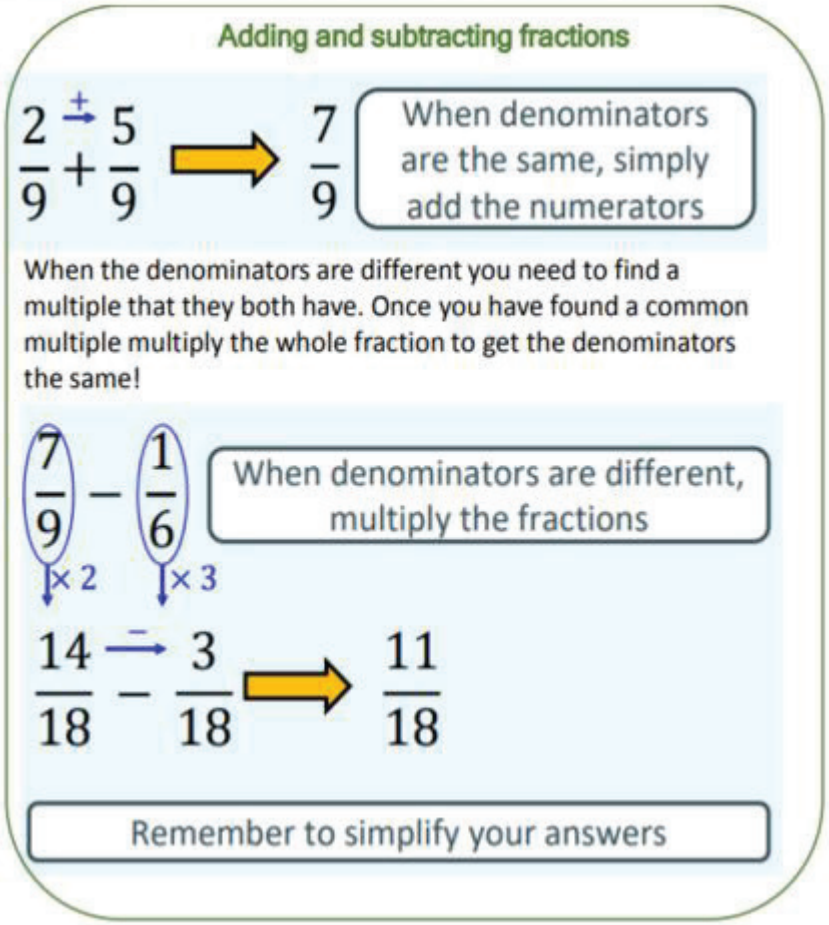
Word	Definition
Integer	A whole number
Decimal	A number containing a decimal point
Ascending	Smallest to largest
Descending	Largest to smallest

Fraction	
Fraction	4 → Numerator — → Vinculum 7 → Denominator
Denominator	• Number on the bottom of a fraction • Number of parts in a whole
Vinculum	• Dividing line • Represent division
Numerator	• Number on top of a fraction • Number of parts you have
Proper fraction	• A fraction less than one • The numerator is smaller than the denominator
Improper fraction	• A fraction more than one • The numerator is bigger than the denominator
Mixed Number	• A number containing a whole number and a proper fraction



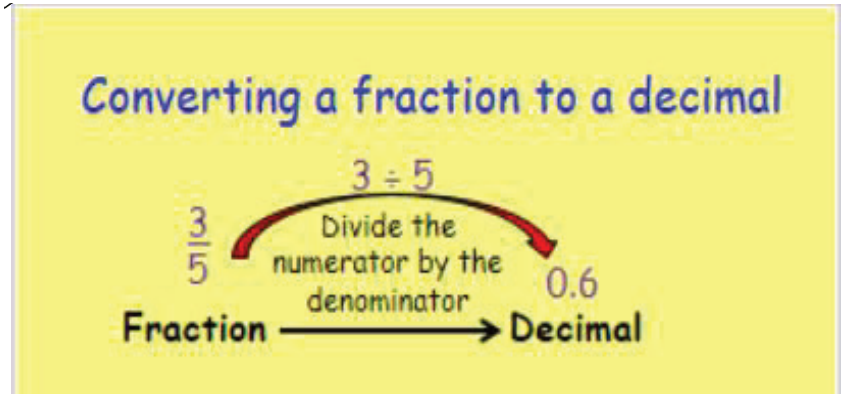
Maths - Number properties 1

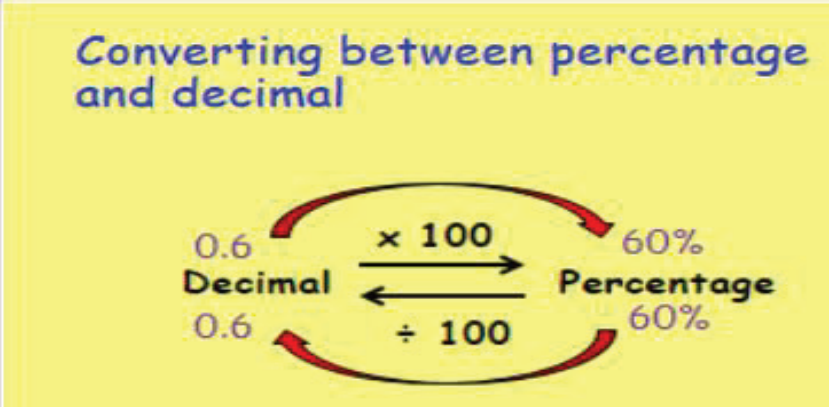
Fraction Facts	
Equivalent fractions	• A fraction of the same value • Multiply or divide the numerator and denominator by the same number.
Simplifying fractions	• A fraction of the same value • Divide by a common factor of the numerator and denominator until there are no more common factors
Multiplying fractions	• Simplify first if possible • Multiply the numerators • Multiply the denominators • Simplify
Dividing fractions	• Keep the first fraction the same • Change the division to a multiplication • Flip the second fraction • Solve the multiplication
Converting mixed numbers to improper fractions	• Multiply whole number by denominator • Add the answer to the numerator • Put over the original denominator
Converting improper fractions to mixed numbers	• Divide the numerator by the denominator • The answer is the whole number • The remainder is the new numerator • The denominator stays the same

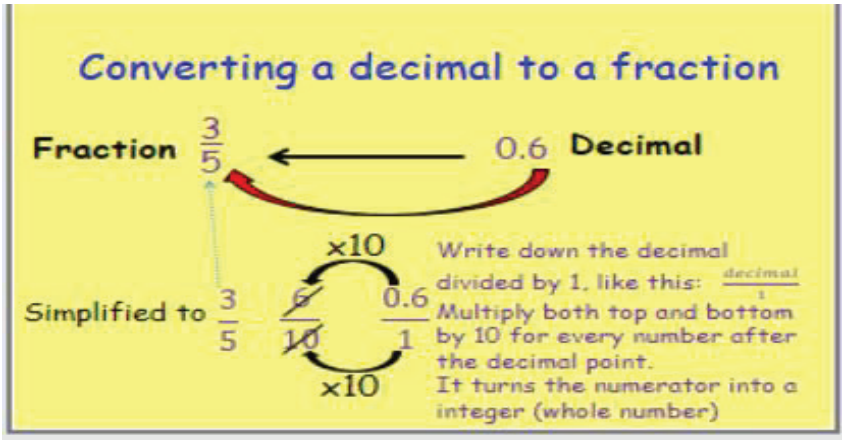


To order fractions you need to convert them to the same denominator…..

Maths - Number properties 1







Percentages	
Percentage	Out of 100
Change a percentage to a fraction	Put over 100 and simplify
Change a percentages to a decimal	Divide by 100

Fraction	Decimal	Percentage
$\frac{1}{2}$	0.5	50%
$\frac{1}{4}$	0.25	25%
$\frac{3}{4}$	0.75	75%
$\frac{1}{8}$	0.125	12.5%
$\frac{1}{10}$	0.1	10%
$\frac{1}{5}$	0.2	20%
$\frac{2}{5}$	0.4	40%
$\frac{3}{5}$	0.6	60%
$\frac{4}{5}$	0.8	80%

English

Year 8 English - Animal Farm + Rhetoric & Propaganda

Quote Explosion – Example

AO1: knowledge of character & plot
- Shows the pigs manipulating the other animals and reinforcing their superiority

"All animals are equal, but some are more equal than others"

AO2: writer's methods (language and structure)
- "equal" – adjective – implies that all animals should be treated the same, which juxtaposes the reality of the pigs' leadership

AO3: Historical Context
- Orwell is criticising the structure and ideals of the Soviet Union. The premise behind communism is equality, but it left too much space for corruption and quickly turned into a dictatorship.

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?
- This is shown through the quote "____"
- This quote suggests…
- The word "_____" implies…

Why is the writer doing this?
- Orwell does this to represent…
- This could link to…
- This creates an impression of…

Key Vocabulary

Communism	A system where each person contributes equally
Patriotism	Devotion and vigorous support for one's country
Rhetoric	Persuasive speech and writing, usually in politics
Propaganda	Biased and misleading information to support a political idea
Corruption	Dishonest or fraudulent misuse of power

Allegory

A story with a hidden moral or meaning, usually polltical.

Animal Farm is George Orwell's **critique** of the **Soviet Union** and the **corruption** and **abuse of power** caused by its leaders:
- Napoleon = *Josef Stalin*
- Snowball = *Leon Trotsky*
- Squealer = *Vyacheslav Molotov*

Year 8 English - Animal Farm + Rhetoric & Propaganda

Key Quotations & Useful Vocabulary

"Four legs good, two legs bad."

"All animals are equal, but some animals are more equal than others"

"If you have your lower animals to contend with," he said, "we have our lower classes!"

"The pigs did not actually work, but directed and supervised the others. With their superior knowledge it was natural that they should assume the leadership."

"At this there was a terrible baying sound outside, and nine enormous dogs wearing brass-studded collars came bounding into the barn. They dashed straight for Snowball, who only sprang from his place just in time to escape their snapping jaws."

"The pigs now revealed that during the past three months they had taught themselves to read and write"

"The birds did not understand Snowball's long words, but they accepted his explanation, and all the humbler animals set to work to learn the new maxim by heart."

""Is it not crystal clear, then, comrades, that all the evils of this life of ours spring from the tyranny of human beings?"

"The flag was green, Snowball explained, to represent the green fields of England, while the hoof and horn signified the future Republic of the Animals which would arise when the human race had been finally overthrown."

"All that year the animals worked like slaves. But they were happy in their work; they grudged no effort or sacrifice, well aware that everything that they did was for the benefit of themselves and those of their kind who would come after them, and not for a pack of idle, thieving human beings."

Stout
Tremendous
Rebellion
Prosperity
Vivacious
Comrade
Elementary
Tyranny
Communist
Consume
Cynical
Benevolent
Majestic
Capable
Control
Victorious
Overthrow
Slaughter
Seize
Cruelty
Overwhelm
Succession
Unity
Conquer
Resolution

Dystopia
Propaganda
Scapegoat
Tyrant
Allegory
Moral
Symbolism
Omniscient
narrator
Fairy Tale
Tragedy

Key Characters

Mr Jones	*Drunken owner of Animal Farm. Embodies the tyranny of man.*
Old Major	*Wise, old pig. Inspires the rebellion with his rhetoric.*
Boxer	Devoted citizen and immensely strong. Innocent and naïve.
Napoleon	*Expels Snowball. Executes animals. Establishes himself as dictator. Controls with fear. Becomes Jones.*
Snowball	*Devoted to animalism and the education of lesser animals. Hero at the battle of the cowshed.*
Squealer	*Mouthpiece of Napoleon. Uses propaganda to control the animals.*
Clover	*Maternal, caring and loyal. Senses hypocrisy but cannot articulate it.*
Dogs and Sheep	*Instruments of fear and control, educated by Napoleon.*

Year 8 English - Animal Farm + Rhetoric & Propaganda

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
Napoleon	stole	the milk and apples.
The animals	rebelled	against **the humans**.

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)
• I **made** a cake. • She **sent** a letter. • They **took** the last slice.	• It **rained.** • I **walked.** • They **sang**.

Word Classes

Noun	Identifies a person, place or thing	*Ryan, Chester, sky*
Verb	Describes an action	*run, cook, sing*
Adjective	Describes a noun	*big, red, beautiful*
Adverb	Describes the way a verb is carried out	*quickly, carefully*
Pronoun	Replaces a noun	*he, she, they, it*
Preposition	Expresses relation between words	*on, in, before, after*
Conjunction	Connects phrases, clauses and sentences	*and, but, because*
Determiner	Introduces a noun	*the, a, that, this*

Clauses

Main Clause
Sentence that makes sense on its own
Napoleon stole the milk.

Embedded Clause
A clause inserted **after** the **subject** and before the **verb**
*Napoleon, **the head pig**, stole the milk.*

Homophones

There
He is stood over **there.**

They're
They're best friends.

Their
It is **their** favourite TV show.

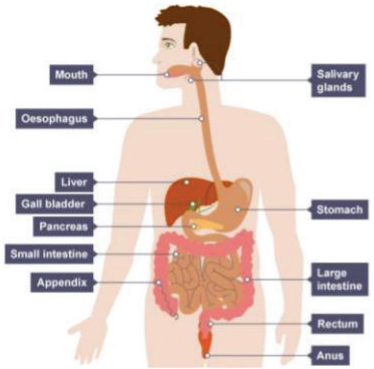
Science

Science: 8A- Food & Nutrition

Keyword	Definition
Digestion	The breakdown of large insoluble food molecules into smaller soluble ones.
Digestive System	Organ system involved in breaking food down so that it can be absorbed into the bloodstream.
Absorbed	When a substance is taken in by something or moved across a barrier such as a cell membrane.
Amylase	An enzyme that can break down starch into simple sugars.
Lipase	Enzyme that breaks down lipids (fats & oils).
Carbohydrase	Enzyme that breaks down carbohydrates.
Protease	Enzyme that breaks down proteins.
Enzyme	A protein which catalyses or speeds up a chemical reaction.
Surface Area	The area of the surface of an organism or membrane.
Villi	Finger-like projections in the small intestine that provide a large surface area for the absorption of food.
Capillary	Tiny blood vessels with walls one-cell thick where exchange of materials occurs.
Bile	Substance produced in the liver. It emulsifies fats to prepare them for digestion.
Pancreas	Produces biological catalysts called enzymes which speeds up the digestive reactions.
Excretion	Process by which waste products from chemical reactions in an organism are removed.

Further Reading:
https://www.bbc.com/bitesize/guides/z9pv34j/revision/1
https://www.bbc.com/bitesize/guides/zwqycdm/revision/1

The food we eat has to be broken down into other substances that our bodies can use. This is called digestion. Without this process, we could not absorb the food unto our bodies and use it.



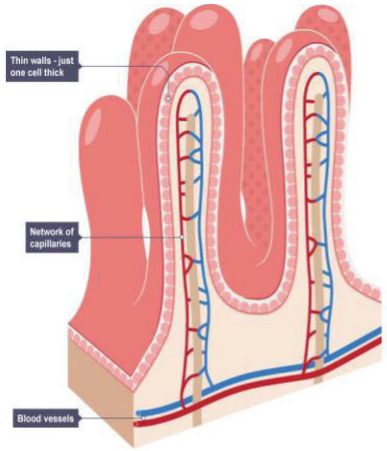
Organ	Function
Oesophagus	Also known as the gullet. Connects the mouth to the stomach. Food is pushed down using contractions of muscles.
Liver	Production of bile.
Stomach	Churns and mixes the food with hydrochloric acid and enzymes.
Pancreas	Produces biological catalysts called enzymes which speeds up the digestive reactions.
Small Intestine	Absorption of digested food into the bloodstream, production of enzymes to aid digestion.
Large Intestine	Absorption of excess water.
Rectum	Storage of faeces (undigested material) before excretion.
Anus	Where faeces are excreted (removed from the body).

Enzymes are not living things. They are special proteins that can break large molecules into smaller molecules.

Minerals, vitamins and water are already small enough to be absorbed by the body without being broken down, so they're not digested.

Digestive enzymes cannot break down dietary fibre, which is why the body cannot absorb it.

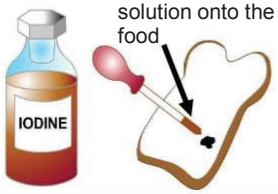
Adaptations of the Small Intestine



The small intestine is adapted for efficient absorption of digested food into the blood stream by:

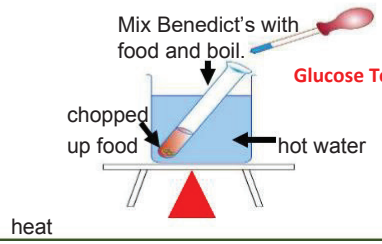
- Having a very large surface area.
- Surrounded by lots of blood capillaries.
- Thin walls (1 cell thick) for faster absorption.

Starch Test

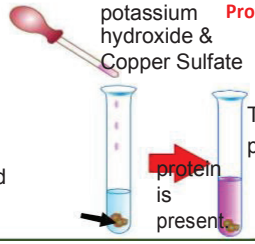


Drop iodine solution onto the food

Glucose Test

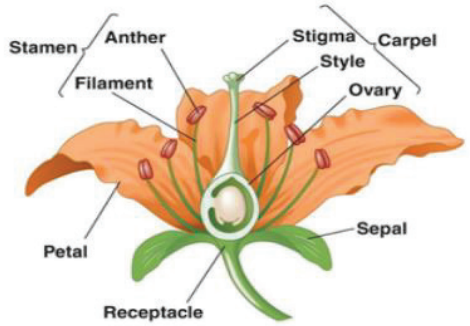


Protein Test



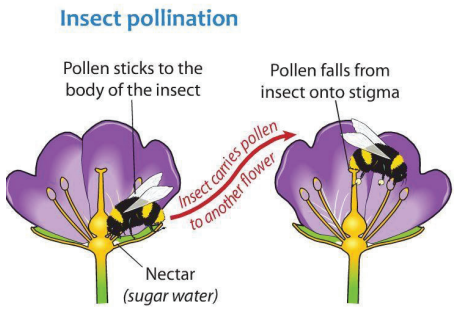
Science: 8B- Plant Reproduction

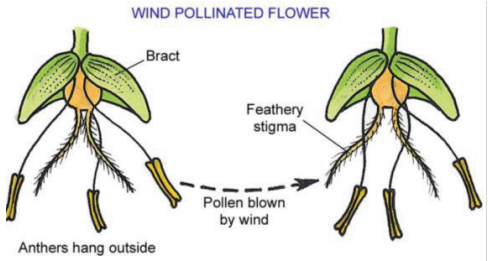
PARTS OF A FLOWER



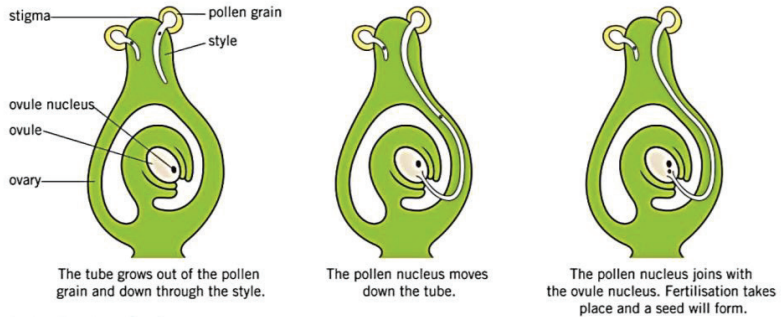
POLLINATION

- Can occur between two different plants (cross-pollination) or between male and female parts of the same plant (self-pollination).
- Pollen can be transferred by wind, insects, or other animals.





How are new plants made? Plants reproduce sexually to produce seeds. These seeds form after pollen grains and ovules join. After fertilisation, the fruit and seed are formed.



	Insect pollinated	Wind pollinated
Petals	Large brightly coloured	Small dull in colour
Smell	Sweet	No scent
Nectar	Yes (attract insects)	No
Pollen quantity	Very little	Large quantity
Pollen type	Sticky or spiky	Light, dry, smooth (
Anther position	Firm and inside	Loose and outside
Stigma position	Inside flower	Outside flower
Stigma type	sticky	Sticky but also feathery

SEEDS have three important structures:

1. Seed coat → tough outer layer
2. Embryo → young root and shoot
3. Food store → store of food (starch) the young plant uses until it can photosynthesise.

To germinate a seeds needs:

1. Water → seed swells and embryo can grow.
2. Oxygen → respiration (energy)
3. Warmth → speeds up reactions

Method	Detail of seed dispersal	Examples
Wind	Seeds have lightweight parts, wings or parachutes.	Dandelion, sycamore
Animals (inside)	Brightly coloured and tasty fruits contain seeds with indigestible coats, so that the seeds pass through the animal's digestive system undamaged. They reach the ground in animal droppings and may be able to germinate.	Tomato, plum, raspberry, grape
Animals (outside)	Fruits have hooks that attach them to the fur of passing animals. The seeds drop and reach the ground where they may be able to germinate.	Goose grass, burdock
Water	Seeds with a small mass can float on water and may germinate if they reach land. Wood fruits are waterproof and are carried away by the sea.	Willow trees, coconut tree
Explosive	Have a pod that bursts open when ripe, throwing the seeds away from the plant in all directions.	Pea pod

KEYWORD	DEFINITION
Anther	The male part of the flower that produces pollen.
Carpel	The female part of the flower, made up on the stigma where the pollen lands, style and ovary.
Fertilisation	Joining of a nucleus from a male and female sex cell.
Filament	The part of a flower that holds up the anther.
Fruit	Structure that the ovary becomes after fertilisation, which contains seeds.
Germination	The period of time when a seed starts to grow.
Ovary	The part of a flower that contains ovules.
Ovules	Female sex cells in plants found in the ovary.
Petals	A brightly coloured part of a flower that attracts insects.
Pollen	Contains the plant male sex cells found on the stamens.
Pollination	Transfer of pollen from the male part of the flower to the female part of the flower on the same or another plant.
Seed	Structure that contains the embryo of a new plant.
Seed dispersal	The movement of seeds away from the parent plant.
Sepal	The special leaves found under the flower, which protect unopen buds.
Stamen	The male reproductive parts of the flower.
Stigma	The female part of a flower that is sticky to catch grains of pollen.
Style	The female part of a flower that holds up the stigma.

Science: 8F- The Periodic Table

Keyword	Definition
Periodic Table	**A tabular representation of all known elements in order based on atomic number.**
Atomic Number	**The number of protons in the nucleus of an atom. Also called the proton number.**
Periods	**A horizontal row in the periodic table.**
Groups	**A vertical column in the periodic table containing elements with similar chemical properties.**
Element	**A substance made of only one type of atom.**
Compound	**A Substance where two or more elements have chemically joined together.**
Mixture	**Two or more substances that are not joined together. The substances can be elements, compounds or both.**
Reactive	**The tendency of a substance to undergo a chemical reaction.**

Further Reading:
https://www.bbc.com/bitesize/guides/z3vwxnb/revision/5
https://www.bbc.com/bitesize/guides/z84wjxs/revision/1

The periodic table is arranged in rows called periods and columns called groups. Groups contain elements with similar chemical properties.

Group 1 – Alkali Metals

Group 1 metals are very soft metals which can be cut with a knife. They have very low melting and boiling points and are very reactive compared to other metals. The elements become more reactive as you go down group 1.

When the group 1 metals react in water they produce a metal hydroxide and hydrogen gas.
E.g.
Lithium + Water → Lithium Hydroxide + Hydrogen

Group 2 – Alkali Earth Metals

Group 2 metals are reactive, but less reactive than group 1 elements.
Group 2 metals react with acids to produce a salt and hydrogen. The name of the salt depends on the acid used.
Hydrochloric Acid – Chloride
Sulfuric Acid – Sulfate
Nitric Acid - Nitrate
E.g.
Magnesium + Hydrochloric Acid → Magnesium Chloride + Hydrogen
Magnesium + Sulfuric Acid → Magnesium Sulfate + Hydrogen
Magnesium + Nitric Acid → Magnesium Nitrate + Hydrogen

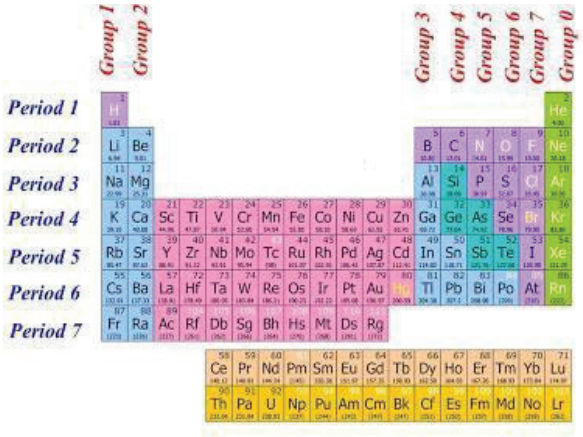
Group 2 metals become more reactive when you go down group 2.

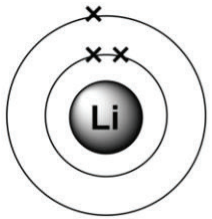
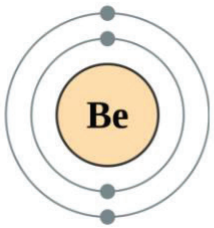
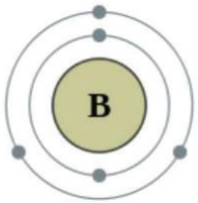
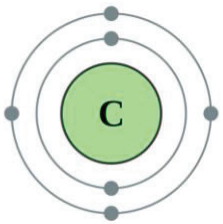
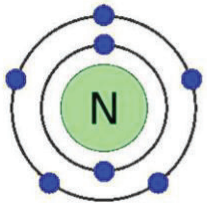
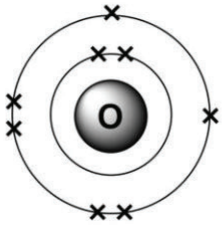
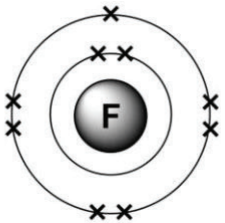
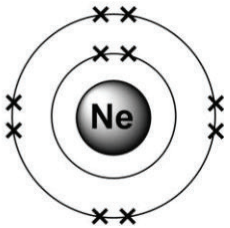
Group 7 – The Halogens

Group 7 elements become less reactive when you move down the group. This can be shown as a displacement reaction.

Group 0 – The Noble Gases

Group 0 elements are not reactive. This is because the atoms have full outer shells.



Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Lithium - Li Sodium - Na Potassium - K	Beryllium – Be Magnesium – Mg Calcium - Ca	Boron – B Aluminium – Al Gallium – Ga	Carbon – C Silicon – Si Germanium – Ge	Nitrogen – N Phosphorus – P Arsenic – As	Oxygen – O Sulfur – S Selenium - S	Fluorine – F Chlorine – Cl Bromine - Br	Helium – He Neon – Ne Argon - Ar
							

History

Causes of World War One


HEIR TO AUSTRIAN THRONE ASSASSINATED; WIFE BY HIS SIDE ALSO SHOT TO DEATH; EARLIER ATTEMPT ON THEIR LIVES FAILED

The assassination of Franz Ferdinand

Who? Franz and Sophie Ferdinand. Franz was the heir to the Austro-Hungarian Empire.
When? 28th June 1914
Where? Sarajevo, the capital of Bosnia
What happened?

1. Seven young Bosnian Serbs who were members of the Black Hand Gang planned to assassinate Franz Ferdinand as he drove along the main road in Sarajevo.
2. The first conspirator, Čabrinović, tried to kill Franz Ferdinand and threw a bomb at his car. He missed and was arrested.
3. The Archduke escaped unhurt. He decided to abandon the visit and return home via a different route to the one planned, and visit those injured in the blast.
4. No one had told the driver the route had changed. On the way back, the driver turned into Franz Josef Street, following the previously agreed route and, when told of his error, stopped the car to turn around.
5. Unfortunately, the car stalled in front of Gavrilo Princip, one of the conspirators.
6. Princip pulled out a gun and shot at Franz Ferdinand, hitting him in the jugular vein. There was a tussle, during which Princip shot and killed Sophie. By 11.30am, Franz Ferdinand had bled to death.

Militarism: Many countries believed it was important to build large armies and navies as a sign of power and strength. Great Britain and Germany were competing with each other to have the largest navy. This increased tensions between the two countries.

Alliances: Two opposing groups dominated Europe by 1914. The **Central Powers** of Germany, Austria-Hungary and Italy and the **Triple Entente** of France, Russia and Great Britain. When war broke out between Austria-Hungary and Serbia, Serbia called in their friends (Russia) and Austria-Hungary their friends (Germany) and so on. Within 37 days of the assassination, the world was at war.

Imperialism: Many European nations had empires - the British Empire was the largest by far. Countries wanted the largest empire and were greedy, taking over smaller countries, especially in Africa. For example, Austria-Hungary taking over Bosnia in 1908.

Nationalism: This is a deep sense of patriotism and pride for your country. The Black Hand Gang were patriotic Bosnian Serbs who wanted to save Bosnia from Austro-Hungarian rule. This pushed them to assassinate Franz Ferdinand.

World War One – Knowledge Organiser

Soldier's Kit

Battle of the Somme

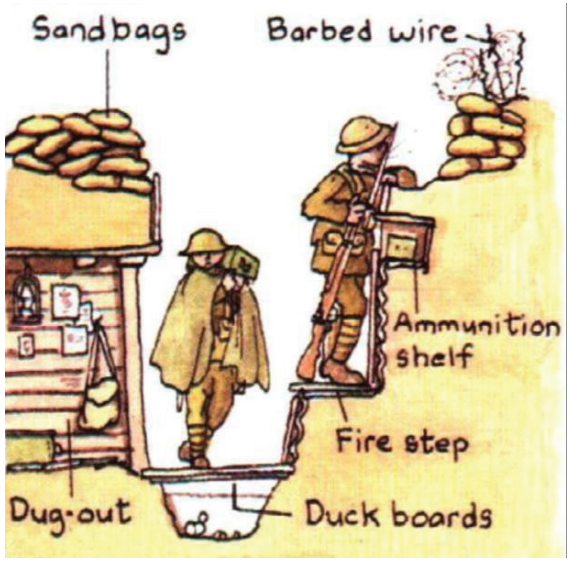
Key facts

- By The River Somme, Northern France
- 5 months along a 15 mile front
- The British Army suffered **57,470** casualties in 1 day
- **19,240** killed in 1 day
- German army used **machine gun** and **artillery fire** to **annihilate** the oncoming British soldiers
- Entire companies of soldiers **wiped out** (100 men per company)
- Some divisions suffer **90%** casualties
- Not one objective captured

Why did so many die?

- 7 day artillery attack by the British failed - 1/3 of the 1.7 million artillery shells fired were duds
- The Germans hid in their deep concrete trenches
- Barbed wire was not cut and many soldiers got stuck
- Most tanks broke down
- General Haig said to keep going regardless of the thousands dying. He was not even on the front line!

Trench Cross-section



Life in the trenches

Animals

- Dogs – casualty dogs, sentry dogs
- Horses – carry ammunition and injured soldiers
- Pigeons – carry messages

Trenches

- Muddy, cold, wet
- Zig-zag pattern to prevent explosions
- In the middle was 'no mans land'

Gas

- First gas attack was in Ypres, April 1915.
- The Germans released clouds of poisonous chlorine gas.

Barbed wire

- Seven feet deep and six feet wide
- Completely impassable

Food

- Bread, jam and cheese
- 4500 calories a day
- Good food to keep up morale in the trenches

History - Second World War (WW2)

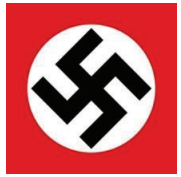
	Date	Key events
1	September 1, 1939	Germany invades Poland
2	September 3, 1939	Britain and France declare war on Germany (*start of WW2*)
3	January, 1940	Rationing introduced across the UK
4	May to June, 1940	Dunkirk evacuated and France surrenders to Germany Germany uses blitzkrieg to take over much of Western Europe
5	July, 1940	Germany launches air attacks on Great Britain (*The Battle of Britain and the Blitz begins*) Germany, Italy and Japan signed the Tripartite Pact creating the axis alliance
6	December 7, 1941	The Japanese attack the US navy in Pearl Harbor. The next day, the USA enters the war fighting with the allies
7	June 6, 1944	D-day and the Normandy invasion. Allied forces invade France and push back the Germans
8	April 30, 1945	Adolf Hitler commits suicide
9	May 7, 1945	Germany surrenders & victory in Europe is declared the next day
10	August 1945	Atomic bombs dropped on Hiroshima & Nagasaki, Japan by the US killing approximately 226,000 people
11	September 2, 1945	Japan surrenders signaling the end of WW2
12	July, 1954	Rationing ends in the UK

Leaders		
1	Adolf Hitler	Leader of the Nazi Party and Chancellor of Germany, 1933 - 1945 (*also referred to as the Führer meaning leader*)
2	Winston Churchill	UK Prime Minister, 1940 - 1945 (and again from 1951 - 1955)
3	Neville Chamberlain	UK Prime Minister, 1937 - 1940 (*infamous for failed attempts to satisfy Hitler's demands prior to the war*)
4	Franklin D. Roosevelt	US President, 1933 – 1945 (*took the US into the war following the Perl Harbor attacks*)
5	Harry S. Truman	US President, 1945 – 1953 (*responsible for the decision to drop Atomic bombs on Japan*)
6	Joseph Stalin	General Secretary of the Communist Party and Leader of the USSR, 1929 - 1953

'History will be kind to me for I intend to write it.' Churchill

'It is not truth that matters, but victory' – Hitler (performing Nazi salute above)

	Term	Definition
1	Allies	Countries which fought on the British side (including: USA, Great Britain, France, Russia (1941-1945))
2	Evacuee	Someone who was evacuated, moved from a danger area to a safer place (*normally from the cities to rural areas*)
3	Black out	System of ensuring no lights were visible after dark so that buildings could not be spotted by enemy planes
4	Rationing	The controlled distribution of scarce resources (*mainly food & clothing*)
5	Air raid shelter	A building to protect people from bombs dropped by planes Anderson Shelter: Made of corrugated iron. Usually at the end of the garden Morrison Shelter: Metal cage used inside the house. Could double as a kitchen table
6	Trenches	A long, narrow ditch used for troops to shelter from enemy fire or attack
7	Axis	Countries which fought on the German side (including: Italy, Germany, Japan, Russia (1939-1941))
8	Nazi	Member of the fascist German political party which came to power in 1933. Symbol = swastika
9	Blitz	Series of aerial bombing raids on the UK, mainly cities including London, Bristol & Nottingham
10	Holocaust	Mass murder of Jews and other groups of people by the Nazis
11	Fascism	Right wing political view associated with not allowing opposition and total control by a dictator.
12	Blitzkrieg	Translated as 'lightning war'. German quick strike invasion of Western Europe
13	Luftwaffe	The German Air Force (responsible for the Blitz)
14	Enigma	A machine used by the Nazis to send coded messages



Above left: Enigma machine
Above right: Swastika (symbol of Nazis)

Below: Remains of a house after a bombing raid during the Blitz

Geography

Geography - Living off the Earth's resources

How do we damage our soil?

Our population is growing, but the amount of fertile soil is shrinking. Why is this?

- We bury soil under concrete.
- We contaminate it with dust and fumes from factories.
- We cut down the trees that protect it.
- We let too many animals graze on it.
- We grow overgraze and use too much fertiliser on it.

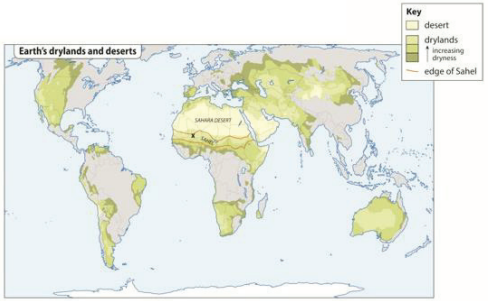
Soil erosion is a product of these actions. This is when the fertile top soil is carried away by wind or water. It can lead to **desertification**.

What are the solution to desertification?

In the Sahel, farmers have developed methods for fighting desertification.

- **Planting trees and bushes**
- **Storing rainwater when it falls**
- **Digging Zai Pits**
- **Microdosing**

Scientists are also working to develop new crop breeds that will grow more effectively on poor soil, or in drought.



What is happening with the world's oil?

Oil forms from tiny sea creatures which die, get buried in sediment and, after being exposed to heat and pressure, turn into oil. Humans then extract the oil from the sea bed, or from underground.

Oil is used for transport, heating, electricity and to create medicines and plastic.

Oil is harmful to the environment. When you burn it, it produces **greenhouse gases** which cause **global warming**. It also produces **Sulphur dioxide** which causes **acid rain**. Oil spills harm the environment.

Is renewable energy the future?

There are a number of types of renewable energy.

- **Biomass**
- **Hydro-electric Power**
- **Wind farms**
- **Wave power**
- **Tidal power**
- **Solar farms**

Solar power uses **solar cells** to change sunlight into electrical energy. It is particularly valuable in poor countries, where access to other forms of power might be difficult.

How do we affect other species?

There are 1.7 million other known species on our planet. Scientists think at least 10 species become extinct each week. Some scientists believe humans are causing a **mass extinction** through **deforestation**, **pollution**, hunting, fishing and **burning fossil fuels.**

Religious Studies

BUDDHISM KNOWLEDGE ORGANISER

Overview

Buddhism is one of the world's major religions. It is the **world's 4th largest religion**, with about 520 million followers.

Buddhists are the people who follow Buddhism. They follow the teachings of a man named **Siddhartha Gautama,** who became known as **the Buddha.**

The religion began when Gautama, a prince who had lived a life of luxury, realised that there was **suffering in the world**, and committed himself to understanding why.

This happened in **India** around 2,500 years ago.

The holy book in Buddhism is called **Tipitaka**. **Buddhist Temples** are buildings designed for Buddhist worship.

Image of the Buddha, known in life as Siddhartha Gautama, whose teachings founded Buddhism.

Buddhist Beliefs

Siddhartha Gautama's Story

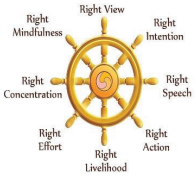
-Siddhartha was a rich prince of an area north of India. His mother and father treated him well, and protected him from the suffering in the world.

-As a young man, Siddhartha left the palace for the first time, and was upset by the things that he saw: old age, sickness and death. He decided to leave his comfortable life to see if he could find an answer to the suffering.
-After many years of trying, he sat under a tree (the Bodhi tree) by a full moon and started meditating. In doing this he became Enlightened – he saw the meaning in all things. He was then known as the Buddha.

The Four Noble Truths

-The Buddhist teachings are known as Dharma. They include the Four Noble Truths and the Eightfold-Path. Buddhism's Noble Truths are:
1.Life always involves suffering (dukkha).
2. Suffering happens because people are greedy and never satisfied with what they have.
3. Greed and selfishness can be overcome.
4. The way to overcome them is to follow the Eightfold Path.

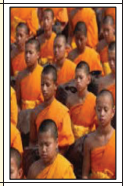
The Eightfold Path



- Siddhartha created a way of life which ensured that his basic needs were covered, but didn't require any extra comforts. Buddhists try to live following the Eightfold Path:

1. Right viewpoint 2. Right values/ thought
3. Right speech 4. Right actions
5. Right livelihood 6. Right effort
7. Right concentration 8. Right mindfulness

Answers to Important Questions and Key Vocabulary

Where and how do Buddhists worship? Why?		-Buddhists worship either in temples or at home, often sitting or kneeling facing a shrine of Buddha. -They may listen to monks reciting religious texts, take part in chanting, or meditate. -Buddhists hope to achieve Enlightenment. They believe that there is a cycle of birth, life, death and rebirth. If a person gains Enlightenment (like the Buddha) they can break out of this cycle, to a place of eternal peace that is known as 'Nirvana.'	**Key Vocabulary** Buddha Buddhist Siddhartha Gautama Tipitaka Temple Wesak 4 Noble Truths Eightfold Path Lotus Flower Theravada Mahayana Tibetan
What is the Tipitaka?		-The Tipitaka is believed to be Buddha's teachings. It is written in an ancient Indian language known as Pali. It is a very large book, that takes up about forty volumes when translated into English! The Tipitaka is made up of three sections of wisdom.	
Where do most Buddhists live in the world?		-About 7% of the world's population are Buddhists. -China has the most Buddhists – about 250 million Buddhists live there. -However, Cambodia has the highest proportion of Buddhists – about 97% of its population are Buddhists. There are also lots of Buddhists in Thailand, Sri Lanka, and Japan. -Many Buddhists in the far east devote their lives to Buddhism, living in isolation in temples.	
How many different types of Buddhists are there?		-Buddha's teachings spread far across the Asian continent. As it spread, different peoples formed their own approaches of Buddhism. -The three main types are called Theravada, Mahayana and Tibetan Buddhists. -Although they differ slightly, they all still keep the basic features of Buddhism.	

Top 10 Facts!

1. Buddhists don't believe in a God who made the world and everything in it.
2. Siddhartha's family were Hindu.
3. The lotus flower is an important symbol in Buddhism. It is a symbol of enlightenment.
4. The name 'Buddha' means 'the enlightened one' or 'the one who knows.'
5. Some Buddhists have shrines at home where they are able to worship.
6. The teachings of Siddhartha Gautama were not written down until about 400 years after his death.
7. Siddhartha Gautama died around age 80.
8. 'Puja' is the name for worship in Buddhism. People often light candles as they worship.
9. In images of Buddha, faces are always made to look calm and serene, to show that he has a peaceful mind.
10. Wesak is an important festival in Buddhism.

Buddhism Timeline

- 490BCE: Siddhartha Gautama is born.
- 461 BCE: Gautama leaves home to find an end for suffering.
- 455 BCE: Gautama is enlightened – becomes the Buddha.
- 454 BCE: People begin to follow the teachings of the Buddha.
- 410 BCE: Gautama dies.
- 386 BCE: Buddhism separates into two different lines.
- 269 BCE: Emperor Asoka begins to spread Buddhism across India.
- 200 BCE – 1200CE: Buddhism spreads along trade routes, reaching many other countries, including Sri Lanka, China, and Indonesia.

Spanish

Spanish Viva 2 Module 2- Todo Sobre Mi Vida

¿Qué haces con tu móvil?
What do you do on your mobile?

Chateo con mis amigos = I chat with my friends
Comparto mis vídeos favoritos = I share my favourite videos
Descargo melodías o aplicaciones = I download ringtones or apps
Hablo por Skype = I talk on skype
Juego = I play
Leo mis SMS = I read my texts
Mando SMS = I send texts
Saco fotos = I take photos
Veo vídeos o películas = I watch videos or films

¿Con qué frecuencia? = How often?

Todos los días = every day
Dos o tres veces a la semana = 2/3 times a week
A veces = sometimes
De vez en cuando = from time to time
Nunca = never

¿Qué tipo de música te gusta?

El rap = rap
El RnB = RnB
La música clásica = classical music
La música electrónica = electronic music
La música pop = pop music
Escucho rap = I listen to rao
Escucho la música de ... = I listen to ... 's music
Escucho de todo = I listen to everything
La letra = the lyrcis
La melodía = the tune
El ritmo = the rhythm
porque es = because it is
guay = cool
triste = sad

¿Te gusta la música de_?=Do you like_'s music?

Me gusta la música de ...= I like _'s music
Mi cantante favorito /a = my favourite singer
Mi grupo favorito = my favourite band
En mi opinión = in my opinion

La Televisión

Un programa de música = a music programme
Un programa de deportes = a sports programme
Un concurso = a game show
Un documental = s documentary
Un reality = a reality TV show
Una comedia = a comedy
Una serie policiáca = a police series
Una telenovela = a soap opera
El telediario = the news

¿Qué hiciste ayer? =what did you do yesterday

Ayer = yesterday
Bailé en mi cuarto = I danced in my room
Fui al cine = I went to the cinema
Hablé por Skype = I talked on Skype
Hice gimnasia = I did gymnastics
Hice kárate = I did karate
Jugué tres horas = I played for three hours
Monté en bici = I rode my bike
Vi una película = I watched a film
Salí con mis amigos/as = I went out with my friends
No hice los deberes = I didn't do my homework

Luego = then
Por la mañana = in the morning
Por la tarde = in the afternoon
Un poco más tarde = a bit later

Opinions

Me gusta = I like
Me gusta mucho = I really like
Me encanta = I love
No me gusta = I don't like
No me gusta nada = I really don't like

High Frequency words

así que = so (that)
más ... que = more ... than
mi / mis = my
su / sus = his / her
normalmente = normally
no = no / not
nunca = never
O = or
porque = because
también = also / too
Y = and

Comparatives

más que... more than
menos...que... less than
informativo/a = informative
interesante = interesting
emocionante = exciting

Spanish Viva 2 Module 2- GRAMMAR

Present Tense

Take off the verb ending AR/ER/IR and add the following endings for each person

	AR	ER	IR
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)	Áis	Éis	Ís
Ellos (They)	An	En	En

OPINION PHRASE	ARTICLE (el / la / los / las)	NOUN
Me gusta	el	rap
Odio	la	música pop
Prefiero	los	concursos
Me gustaN	las	telenovelas
Me encantaN	los	documentales

Más…(adj)……que	more than
Menos…(adj)……que	less than

Preterite Tense

Take off the verb ending AR/ER/IR and add the following endings for each person

	AR	ER	IR
Yo (I)	É	Í	Í
Tu (You)	ASTE	ISTE	ISTE
El/Ella (he/she)	Ó	IÓ	IÓ
Nosotros (we)	AMOS	IMOS	IMOS
Vosotros (you all)	ASTEIS	ITEIS	ITEIS
Ellos (they)	ARON	IERON	IERON

JUGAR = to play
JuguÉ = I played
JugASTE = you played
JugÓ = he/she/it played
JugAMOS = we played
JugASTEIS = you all played
JugARON = they played

HACER = to do
HICE = I did
HICISTE = you did
HIZO = he/she/it did
HICIMOS = we did
HICISTEISs = you all did
HICIERON = they did

French

French - Studio 2 Module 2: Paris, je t'adore!

Qu'est-ce qu'on peut faire? = *What can you do?*

On peut … = *You can …*
aller à un concert = *go to a concert*
aller au théâtre = *go to the theatre*
faire les magasins = *go shopping*
faire un tour en segway = *go on a tour by segway*
faire une balade en bateau-mouche = *go on a boat trip*
manger au restaurant = *eat in a restaurant*
visiter les monuments = *visit the monuments*
visiter les musées = *visit the museums*

J'aime … = *I like …*

J'adore … = *I love …*
Je n'aime pas … = *I don't like …*
Je déteste … = *I hate …*
aller au cinéma (avec mes amis) = *going to the cinema (with my friends)*
aller aux concerts (rock) = *going to (rock) concerts*
aller voir des matchs (au Parc des Princes) = *going to watch matches (at the Parc des Princes)*
faire du roller (au Trocadéro) = *roller-blading (at the Trocadéro)*
faire les magasins = *going shopping*
prendre des photos = *taking photos*
retrouver mes copains = *meeting up with my mates*

Des questions touristiques = *Tourist questions*

C'est où, le musée? = *Where is the museum?*
C'est ouvert quand? = *When is it open? (day or date)*
C'est ouvert à quelle heure? = *At what time is it open?*
C'est combien, l'entrée? = *How much does it cost to get in?*
Est-ce qu'il y a … = *Is there …*
une cafeteria? = *a cafeteria?*
une boutique de souvenirs? = *a souvenir shop?*

Les mots essentiels = *High-frequency words*

à quelle heure? = *when?/at what time?*
quand? = *when? (for day, month, year, etc.)*
combien? = *how much?/how many?*
où? = *where?*
un peu = *a bit*
beaucoup (de) = *a lot (of)*
d'abord = *first of all*
ensuite = *next*
puis = *then*
après = *afterwards*
finalement = *finally, lastly*

À Paris *In Paris*

J'ai passé le 14 juillet à Paris. = *I spent the 14th July in Paris.*
J'ai acheté des souvenirs. = *I bought some souvenirs.*
J'ai (beaucoup) dansé. = *I danced (a lot).*
J'ai envoyé des cartes postales. = *I sent postcards.*
J'ai mangé au restaurant. = *I ate in a restaurant.*
J'ai regardé le defile. = *I watched the parade.*
J'ai regardé le feu d'artifice. *I watched the fireworks.*
J'ai rencontré un beau garçon. = I met a good-looking boy.
J'ai rencontré une jolie fille. = *I met a pretty girl.*
J'ai visité … *I visited …*
le musée du Louvre = *the Louvre museum*
la tour Eiffel = *Eiffel Tower*
les catacombes = *the Catacombs*

Des informations touristiques = *Tourist information*

horaires d'ouverture *opening times*
ouvert tous les jours *open every day*
sauf le lundi *except Mondays*
ouvert du (mardi) au (dimanche) *open from (Tuesday) to (Sunday)*
fermé *closed*
de 10h00 à 17h00 *from 10 a.m. to 5 p.m.*
tarifs d'entrée *admission prices*
adultes *adults*
jeunes *young people*
enfants *children*
gratuit *free*
Il y a (une cafétéria). *There is (a cafeteria).*
Il n'y a pas de (boutique de souvenirs). *There isn't a (souvenir shop).*

C'était comment? = *What was it like?*

C'était … = *It was …*
beau = *beautiful*
bizarre = *weird*
ennuyeux = *boring*
génial = *great*
intéressant = *interesting*
marrant = *funny/a laugh*
nul = *rubbish*
Ce n'était pas mal. = *It wasn't bad.*

French - Studio 2 Module 2: GRAMMAR

Using infinitive verbs

An infinitive verb is the form of the verb found in the dictionary. It means 'to …'.
In French, infinitives end in –er, -ir or –re.

Opinion + infinitive	
J'adore aller au café.	I love to go to the café / I love going to the café.
J'aime jouer au basket.	I like to play basketball / I like playing basketball.
Je n'aime pas faire les devoirs.	I don't like to do homework / I don't like doing homework.
Je déteste écouter de la musique.	I hate to listen to music / I hate listening

Expressing the future	
Je vais regarder un film.	I am going to watch a film.
Je voudrais nager.	Je voudrais nager. I would like to swim.

The perfect past tense with regular –er verbs

You use the perfect past tense to say what you did or what you have done.

To form the perfect past tense with regular –er verbs, we use a helping verb + past participle.
The helping verb is the present tense of the verb 'avoir' (to have)
remove the –er from the infinitive and replace it with é (e.g. jouer → joué)

Present tense of avoir (to have)	Past participle	Meaning
j'ai	joué	I (have) played
tu as	dansé	you (have) dansed (1 friend)
il/elle/on a	écouté	he/she (has) listened / we (have) listened
nous avons	regardé	we (have) watched
vous avez	chanté	you have sung / you sang (plural/polite)
ils/elles ont	mangé	they have eaten / they ate

To make a perfect tense verb **negative**, you wrap **ne** … **pas** around the helping verb.

- Je **n'**ai **pas** visité la cathédrale. (I did **not** visit the cathedral).
- Il **n'**a **pas** chanté. (He did **not** sing).

IT

Database Structure

- A database contains one or more **tables**
- A database with only one table is called a flat file database
- A table has rows, each row containing one **record**
- Columns in the table each contain one **field** belonging to the records

Key terms

Term	Definition
Record	All of the data in a row in a table.
Field	The identifier at the top of each column for the data below.
Table	Where multiple records are stored.
Validation	Rules which are used to check that the data entered is correct.
Form	Used to allow a person to interact with a database, usually to input or search for data.
Query	Used to search a database for a certain piece of information.
Primary Key	Each record may have a unique identifier, called the primary key.

Database Structure

Primary Key

Field

Pupil ID	FirstName	Surname	School	Town	Postcode	Gender	Age	Category
22	John	Devlin	Hillside School	Bradford	BD3 7YV	M	11	1
23	Lindsay	Green	Hillside School	Bradford	BD3 7YV	F	14	1
24	Colin	McCullough	Hillside School	Bradford	BD3 7YV	M	11	1
25	Pauline	Heron	Dayes High School	Liverpool	L16 8VC	F	12	1
26	Emily	Ellingham	Dayes High School	Liverpool	L16 8VC	M	13	1
27	Stuart	Junges-Stainthorpe	Dayes High School	Liverpool	L16 8VC	M	11	1
28	Samuel	Langridge	Dayes High School	Liverpool	L16 8VC	M	14	1
29	Anthea	Elfallah	Donnington School	Worthing	BN14 9JH	F	14	1
30	Gillian	House	Donnington School	Worthing	BN14 9JH	F	14	1

Record

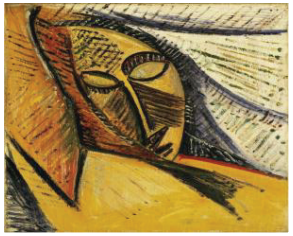
Table

Query Operators

Operator	Meaning	Example
<	Less than	<1.65
<=	Less than or equal to	<=40
>	Greater than	>1.9
>=	Greater than or equal to	>=30
=	Equal to	="M"
BETWEEN	Tests for a range of values	BETWEEN 18 AND 25
OR	At least one of the criteria must be satisfied	"medium" OR "overweight"
NOT	All criteria are satisfied except for the ones specified	NOT "bald"

Art

Creative presentation



Independent study

This half term you will look closely at the creative presentation of your homework tasks. Your work will be presented across a double page in your sketchbooks. Careful consideration needs to be taken to how each piece is organised in order to achieve a pleasing arrangement

Examples of some of the homework tasks you will be completing

Key words

Proportion
Placement
Shape
Arrangement
Overlapping

Composition

Composition = Composition

Composition is the art of organising elements of artwork into a harmonious and pleasing whole.

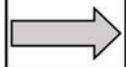
The consideration of how objects are placed in a design or work of art

Design Technology

Design & Technology - Control

1: Mechanical Devices - Motion

There are four types of motion:

Linear Motion is movement in one direction along a straight line.		
Oscillating Motion This motion is similar to reciprocating motion, but the constant movement is from side to side along a curved path.		
Rotary Motion Examples of circular motion include a ball tied to a rope and being swung round in a circle		
Reciprocating Motion, this is repetitive up-and-down or back-and-forth linear motion		

2: Mechanical Devices – Levers

There are three classes of levers.

Class One A class one lever has its input on one side of the fulcrum and its output on the other.		
Class Two A class two lever has its input at one end of the lever, its output in the middle and fulcrum at the other end.		
Class Three A class three lever has its output at one end of the lever, its fulcrum at the other with its input in the middle.		

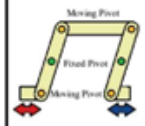
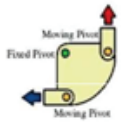
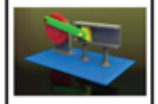
1. Paper

Type	Description and uses
Layout paper	• lightweight, thin white paper • used for initial ideas • takes colour media well • low cost
Tracing paper	• thin, translucent paper • making copies of drawings • high cost
Cartridge paper	• good quality white paper • available in different weights • general purpose work • can be used to make simple models • medium cost
Bleedproof paper	• smooth, hard paper • used with water-based and spirit-based felt-tip pens • medium cost
Grid paper	• printed square and isometric grids in different sizes • a guide for quick sketches and working drawings • low cost

3. Boards

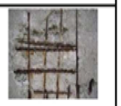
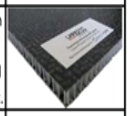
Type	Description and uses
Corrugated card	• strong and lightweight • used for packaging protection and point of sale stands • available in different thicknesses
Duplex board	• large foam-based board • different finishes available including metallic and hologrammatic • used for food packaging, e.g. take-away pizza boxes
Foil lined board	• quality cardboard with a aluminium foil lining • ideal for ready made meals or take away meal cartons • The foil retains the heat and helps keep the food warm
Foam core board	• very light, very stiff and very flat. • It has a white, rigid polystyrene foam centre, with smooth white paper laminated onto both faces. • It is easy to cut with a knife, a mount cutter or on a wall cutter • great for modelling
Ink jet card	• Has been treated so that it will give a high quality finish with inkjet ink • available in matt and gloss
Solid white board	• top quality cardboard made from quality bleached wood pulp. • used for hard backed books and more expensive items • excellent print finish

3: Mechanical Devices – Linkages

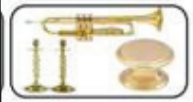
Reverse motion linkage	The reverse motion linkage changes the direction of the input motion so that the output travels in the opposite direction. If the input is pulled the output pushes and vice versa. It uses a central bar held in position with a fixed pivot (fulcrum) that forces the change in direction and two moving pivots which are connected to the input and output bars.	
Parallel motion or push/ pull linkage	The push/pull linkage maintains the direction of the input motion so that the output travels in the same direction. If the input is pulled the output is pulled and so on. It uses three linking bars, four moving pivots and two fixed pivots.	
Bell crank linkage	The bell crank linkage changes the direction of the input motion through 90 degrees. It can be used to change horizontal motion into vertical motion or vice versa. It uses a fixed pivot and two moving pivots.	
Crank and slider	The crank and slider linkage changes rotary motion into reciprocating motion or vice versa. It uses a crank which is held with a fixed pivot. A connecting rod uses two moving pivots to push and pull a slider along a set path.	
Treadle linkage	The treadle linkage changes rotary motion into oscillating motion or vice versa. It uses a crank which is held with a fixed pivot. A connecting rod uses two moving pivots and a further fixed pivot to create a windscreen wiper motion.	

Design & Technology - Resistant Materials

1: Forces and Stresses

Force	Description	A fair test for each force/stress.	How a material / object can be adapted to resist	Examples
Tension	Forces pulling in opposite directions.	Apply the same weight to each material and suspended in the same manner.	Concrete can have steel bars inserted to reinforce.	
Compression	Forces that are trying to crush or shorten.	Insert materials into a vice/clamp and apply the same amount of twists to the handle.	Composite panels can have a honeycomb structure sandwiched in the middle to resist.	
Bending	Flexing force	Apply the same weight to the material.	Steel beams have an I profile to resist bending.	
Torsion	Twisting force.	Use clamps & stands to hold the materials and turn in opposite directions at the same angle.	The diagonals on a tower crane help the structure against torsion.	
Shear	A strain produced when an object is subjected to opposing forces.	Place the material between a tool that works in opposite directions. e.g. Shears	Bolts are hardened and have unthreaded shanks to help stop shearing.	

3. Metals

Aluminium	A grey light weight metal. Can be polished Rust resistant	
Mild Steel	Dark grey heavy metal. Rusts very quickly if exposed	
Stainless Steel	A very shiny heavy metal Very resistant to rust & wear	
Cast Iron	Strong in compression Very Brittle	
Copper	A reddish soft metal. Excellent conductor of heat and electricity	
Brass	Yellow colour Hard. An ALLOY of copper & zinc	

What is ANTHROPOMETRICS ?

The study of the human body and its movements.

The study of the human body and its movement, often involving research into measurements relating to people. It also involves collecting statistics or measurements relevant to the human body, called Anthropometric Data. The data is usually displayed as a table of results, diagram or graph. Anthropometric data is used by designers and architects.

What is ERGONOMICS ?

The study of people and their relationship with the environment around them.

Measurements, also known as 'anthropometric data', are collected and applied to designs / products, to make them more comfortable to use. The application of measurements to products, in order to improve their human use, is called Ergonomics.

Material WORKING properties

Strength
The ability to withstand force without breaking

Elasticity
The ability to stretch and return to their original shape

Ductility
The ability to be drawn or stretched out onto a thin strand without snapping

Malleability
The ability to be deformed and to remain in that shape

Hardness
The ability to withstand scratching or denting

Toughness
The ability to withstand breaking or snapping

Ferrous Metals:

FERROUS METALS are those which are iron based. They contain Iron and carbon in varying amounts. As iron is extracted from its ore in a furnace it contains a relatively high amount of carbon. This makes the iron hard but brittle this is known as cast iron. It resists compression but may break if dropped, hit or stretched. It is used to make car brake drums, railings and manhole covers. Cast iron has 4% carbon content.

Non-Ferrous Metals:

NON-FERROUS METALS do not contain iron. There are many different metals that fall into this group.

4.4 Metals

Metals are hard and usually shiny, containing one or more elements dug and refined from the ground	
Ferrous metals are any metal that contains iron and will rust	Non-Ferrous metals do not contain iron and will not rust
Alloys are metals made from a mix of 2 metals – brass is made of copper and zinc.	

Alloys:

An **ALLOY** is a material of a mixture of metals or a metal and a non metal intermixed. Metal alloys have advantages. The alloy may contain the properties of two or more metals or other elements.

Food Technology

KS3 Y8 Food Tech Knowledge Organiser

Gelatinisation: using a starch to thicken a liquid

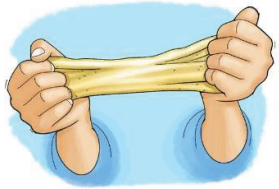
COLD
Flour particles suspended in liquid. They don't dissolve so they form a ***SUSPENSION*** (solid particles floating in a liquid)

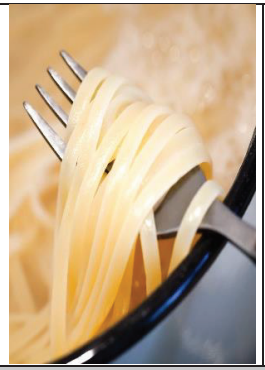
60°C
Getting warmer… 60 degrees Celsius The walls of the flour particles soften and start to absorb water so start to swell up

HOT…… 80°C
At 80 Degrees Celsius Flour particles swell to 5 times normal size then burst, releasing their starch into the liquid thus thickening it

HOT…… 100°c
Degrees Celcius Flour particles continue to swell and burst right the way to 100°c at which point the process is complete.

Why do we need to 'knead'?
The dough is kneaded to give the bread its texture.
The protein in the flour **(gluten)** is stretched to make an elastic dough and pockets of gas are formed.





How to check when pasta is cooked:
1. **Taste:** If it taste good, s'all good!
2. **Chop a piece in half.** If it's still white inside, cook some more.

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: Vitamins and minerals
Starchy Carbs: Our body's chosen source of energy
Protein: Build & repair muscle cells, a source energy
Dairy & Alternatives: good source of calcium
Fats/oils: helps body absorb vitamins, source of energy

YouTube

foodtech 101

See FoodTech 101 for all KS3 practicals

Energy value of the major 'macronutrients':
Fat: 37kJ (9 kcal) **per gram**
Carbohydrates: 17kJ (4 kcal) **per gram**
Protein: **17kJ (4 kcal) per gram**

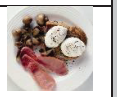
Function of ingredients in bread:

- Butter: adds moisture/ softens
- Flour: main bulking agent
- Water: helps combine ingredients
- Salt: used to add flavour
- Yeast: helps dough to rise
- Sugar: feeds/activates the yeast
- Warm water: perfect temp for yeast
- Oil: Prevents dough from sticking

How much of your daily calorie allowance is taken up with your favourite foods? Use the following formula to work it out:

calories (in food) x 100
RDA (recommended daily amount e.g. 1600 teen girl, 1800 teen boy)

Composite Meals:

Nutrient Dense Foods=		Energy Dense Foods=	
			

Composite meals are: meals made up of foods from different parts of the Eatwell Guide. Much of the food people eat is in the form of dishes or meals with more than one kind of food in them. For example, pizzas, casseroles, pies, lasagne, spaghetti Bolognese and sandwiches are all made with foods from more than one of the five food groups.

Music

Music - Pachelbel Through the Ages

BRIEF: We want more people to know about Pachelbel's canon. Using the chord structure to Pachelbel's canon complete one of the following tasks:

- **Perform a well known song from 60s - 70, 80s - 90s or 00s**
- **Create your own version using musical characteristics from 60s- 70s, 80s- 90s or 00s**

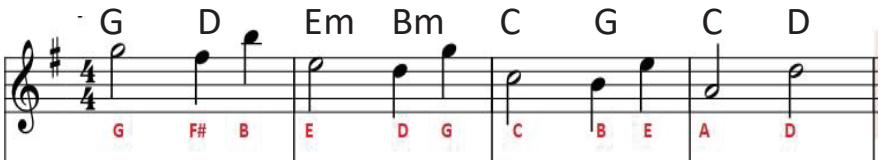
"Scatmans world" Scatman John 1995

D	A	Bm	F#	G	D	G	A

The chords are the same as Pachelbel's Canon

D **A**
I'm calling out from Scatland
Bm **F#m**
I'm calling out from Scatman's world
G **D**
If you wanna break free you better listen to me
G **A**
You got to learn how to see in your fantasy

"Welcome to the black parade" My Chemical Romance 2006



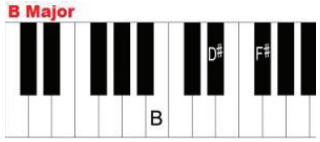
Piano intro continues

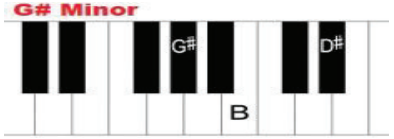
G D Em Bm C G C D G D
When **I** was a **young** boy, my **father** took **me** into the **city** to **see** a marching **band**. He said, "**Son**, when you **grow** up
Em Bm C G C D
would **you** be the **savior** of the **broken,** the **beaten**, and the **damned**?"
G D Em Bm C
He said, "**Will** you **defeat** them, your **demons** and **all** the non-**believers**?
G C D G D Em Bm C G C D
The **plans** that they have **made**? Because **one** day, I'll **leave** you a **phantom** to **lead** you in the **summer** to **join** the black parade"

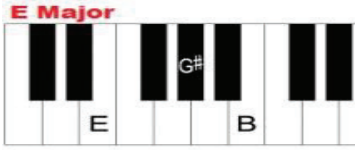
"Memories" Maroon 5 2019

B F# G#m D#m E B E F# B F#
Here's to the ones that we got. Cheers to the wish you were here, but you're not, 'cause the drinks bring back all the memories of everything we've been through. Toast to the ones here today,

G#m D#m E B E F# B
toast to the ones that we lost on the way 'cause the drinks bring back all the memories and the memories bring back, memories bring back you.







Music - General Musicianship

60s and 70s

Beatles, Monkeys, Abba, Queen

1960s

- Basic chord structures moving to more complex chord structures
- Simple drum patterns
- Typical band lead guitar, rhythm guitar, drums and vocals

1970s

- Synthesisers
- Distortion guitar

80s and 90s

Wham, Kylie Minougue , Madonna, Spice Girls, U2, Nirvana, Oasis

- Drum machines
- Pre-programmed loops
- Guitar anthems – iconic melody lines
- 60s characteristics with orchestral extras
- Europop – mixing a drumloop with iconic pieces of music.

00s

Greenday, Snow Patrol, Eminem, Panic! At the Disco, One Direction, Ed Sheeran

- All of the above
- Live loops
- Mainstream rap
- The use of sound effects in mainstream pop
- Experimenting with instrumentation – electronic instruments mixed with orchestral instruments

EVALUATING MUSICIANSHIP

Areas you felt were successful	Areas to be improved
TIMING • **Everyone was in time with eachother BECAUSE .....** • **INSTRUMENT and INSTRUMENT were in time with each other** **ACCURACY** • **INSTRUMENT played the part exactly the same as it was heard on the original** **ARRANGEMENT** • **The drum came in first this helped BECAUSE .....**	TIMING • INSTRUMENT was out of time. The INSTRUMENT now needs to ..... • We were all out of time. We need to ..... ACCURACY • INSTRUMENT needs to work on accuracy of notes. To do this INSTRUMENT could ..... ARRANGMENET • To make it sound less like the original we need to .....

Develop your learning

Ask music staff about learning a musical instrument.

Join an extra curriculum club

Extra Information

- BBC Bitesize Music

Composing Music

- Audacity – free recording and editing software
- Virtual DJ – free mixing software
- Garage Band – on apple devices
- Bandlab - create music
- Noteflight – used to notate music

Sport

Sport - Hockey- passing, dribbling & elimination skills & tackling

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

Sport - Football- Short/Long Pass, Control, Block Tackle, Throw In & Heading

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 importing 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.

Sport - Gymnastics
Key Components of Fitness, Key Terms & Chronology

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 Trampolining 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 of 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 and equilateral triangle. Your head should be approximately 30cm in from 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/

Dance

A motif can be a single movement or a phrase of movement (for pupils in school, short phrases are often more helpful as they provide greater scope for development)

A motif contains 'the essence 'of the dance; a dominant feature that is repeated, like a reoccurring theme throughout a dance

A motif is usually introduced at the start of a dance, then once established is developed and varied

An entire dance can be built around the development and variation of a few contrasting motifs.