Year 9 Knowledge Organiser

Autumn 2024

Name: _____

Tutor Group: _____

ORMISTON DENES ACADEMY

[OAT] Ormiston Academies Trust

ACHIEVING MORE TOGETHER

Your Knowledge Organiser

What are Knowledge Organisers?

A Knowledge Organiser is a set of key facts or information that students need to be able to know and recall in order to master a unit or topic. In order to produce our Knowledge Organisers, our departments have effectively extracted from their curriculum content the key vocabulary, facts and information that it would help students to commit to long-term memory.

Why are we using Knowledge Organisers?

All of us, throughout our lives, will benefit from understanding how best we learn – and what strategies for learning we can employ in order to commit information to long-term memory. At school, we talk a lot about the way that knowledge is accumulated over time– and about the importance of over-learning and consolidation. Knowledge Organisers are designed to provide students with opportunities to over-learn and consolidate recently learned information. They encourage use of active and multi-sensory revision practices, repetition, and spaced retrieval. We believe that Knowledge Organisers are important because they are designed to teach students the metacognitive study skills that they will require throughout their adult learning lives; effectively, what we are using Knowledge Organisers to introduce is a five-year programme of revision aimed at developing the skills required for effective revision and developing the knowledge they will need to be effective adults and further learners.

What is Metacognition?

Metacognition is the awareness and understanding of one's own thought processes. When we talk about developing metacognitive skills in students, we're talking about students developing an understanding of how they learn best. For example, a student who wishes to commit key quotations from a text to long term memory may decide to make flashcards. When making those flashcards, a student may make all sorts of decisions such as 'using the colour yellow will help me to remember that…' The decision regarding which multi-sensory strategy to employ (flashcards) and the decisions that are made during active employment of the strategy…both are examples of metacognition.

How to Use Your Knowledge Organiser:

CHUNK IT	RE-LEARN IT	WRITE IT	SPEAK IT
Split the knowledge organiser into manageable chunks. Choose a chunk at a time to memorise. Start with the most important or the most difficult.	Re-read your notes on the chosen topic. Do some wider research on the internet until you understand it.	Write a detailed description or an explanation about everything that you know about this topic. Try to do this without your notes. Write key facts you need to memorise over and over until you have memorised them.	Give a verbal explanation about this topic as if you were teaching it. Repeat the facts you need to remember 20 times. Record key facts from the knowledge organiser into your phone.

How to Use Your Knowledge Organiser:

TRANSFORM IT	REDUCE IT	SORT IT	LINK IT
Transform key facts into a series of images. Transform what you have learned into a diagram. Transform your learning into a poem or a story.	Reduce what you have learned to five key bullet points or prompts. Reduce the three most important facts linked to a topic into 10 words.	Rank the most important pieces of information from your knowledge organiser. Categorise your key facts into groups, you choose the group headings.	Find three links between this topic and others you have studied. Link the key points together.

English

Journey's End

Key Words

1. **Conflict** – *A serious disagreement or argument.*
2. **Glory** - *Fame and respect won through great bravery or effort*
3. **Patriotism** - *Being devoted to your country. "He was an officer of unquestioned patriotism."*
4. **Courage** – *The ability to act even if scared*
5. **Brutality** - *Savage physical violence; great cruelty. "Brutality against civilians"*
6. **Alcoholism** - *Addiction to the consumption of alcoholic drink; alcohol dependency.*
7. **Comrade** - *A fellow soldier or member of the armed forces. "He helps his comrade"*
8. **Neuralgia** - *Intense, intermittent pain along a nerve, especially in the head or face.*
9. **Cowardice** – lack of bravery
10. **Heroism** - *Great bravery. "They fought with heroism"*
11. **Subvert** - *undermine the authority of an established system. "attempt to subvert government"*
12. **Ambivalent** - *mixed feelings about something. "some loved her, some hated her, few were ambivalent about her"*
13. **Chaotic** - *In a state of complete confusion and disorder. "The political situation was chaotic"*
14. **Futility** - *Pointlessness or uselessness. "The horror and futility of war"*
15. **Fatuous** - foolish
16. **Doomed** – Likely to have an unfortunate and inescapable outcome
17. **Reluctant hero** - ordinary man with several faults or a troubled past, and he is pulled reluctantly into the story, or into **heroic** acts.
18. **Ambiguous** – Unclear
19. **Toxic Masculinity** - *cultural pressures for men to behave in a certain often violent way.*

Writer's Methods

1. **Setting** – The place where the story takes place.
2. **Stage Directions** - an instruction in the text of a play indicating the movement, position, or tone of an actor, or the sound effects and lighting.
3. **Dialogue** – speech between two or more characters.
4. **Characterisation** – The way a writer introduces and develops a character across a narrative.
5. **Character Foil** - a **foil** is a **character** who contrasts with another **character**; typically, a **character** who contrasts with the protagonist
6. **Foreshadowing** - a warning or indication of (a future event).

Facts about World War 1 (Context)

Journey's End focuses on life in the trenches during the first world war. Stage directions show little comfort. The sounds of war permeate. The constant references to rats, cold and damp highlight how difficult life was for men who discuss the comfort of their homes and gardens. This is combined with the feeling of constant boredom and waiting for something to happen.

Young, able and - in many cases - highly educated men suffer these conditions. The overall effect is to make the audience question the wisdom of wasting their potential in this **No Man's Land in the trenches.**

It is sometimes easy to think that soldiers in wars are always fighting battles. But the play shows that for most of the time it's a matter of waiting. What soldiers do to fill the hours under such horrendous stress is a major theme. Sherriff wanted his audiences to understand just how this tense prolonged waiting was an untold horror of war.

It may shock you to learn that between the years of 1914, when war broke out, and 1918, when peace was declared, 886,000 English soldiers died. The play asks the question, 'was it worth it…?

Characters

Stanhope
The Captain of an infantry company stationed in the trenches of St. Quentin, France during World War I. Stanhope is a young man, but he has already seen three years of combat and has gained has gained the respect of his men, who see him as a brave leader. However, they also see him as something of an alcoholic. Indeed, the war has changed him greatly, turning him from a rugby captain and school hero into a hard-drinking man with shot nerves.

Raleigh
A young officer fresh out of school. Raleigh went to the same school as Stanhope, who is several years older than him. As such, he has always admired Stanhope—so much so that he asked a high-ranking relation of his to help him get placed in Stanhope's infantry.

Osborne
The second-in-command to Stanhope. Osborne is a bit older than the other soldiers, but he is well-liked. In fact, he actually helps keep Stanhope—his superior—mentally stable and takes care of him. The other officers refer to him an 'uncle' because of his caring nature.

Hibbert
An officer in Stanhope's infantry. Hibbert is so afraid of dying in the trenches that he pretends to suffer from an acute case of neuralgia (intense nerve pain).

Trotter
An officer in Stanhope's infantry. Trotter is jovial and positive despite the harsh conditions of the trenches. He comfort eats to cope with the experience of war , frequently giving Mason—the cook—a hard time about the food served in the dugout. **Hardy**
The second-in-command officer stationed in Stanhope's trenches before Osborne and his group take over. Before Hardy leaves, he overlaps with Osborne so that he can "hand off" the duties and fill Osborne in on what has been happening on the front line.

Mason
The officers' cook. Mason is very obedient, constantly trying to accommodate the often ridiculous requests of people like Trotter.

The Colonel
Stanhope's immediate superior. The Colonel is the one who tells Stanhope to expect the large German attack on March 21st. He is also the person who informs Stanhope of the high-ranking generals' decision to send Osborne and Raleigh on the daylight raid.

Plot summary

•Officer Osborne - second in command of C Company - and Commanding Officer Hardy are in a dugout. Hardy and Osborne are from different companies. They discuss the Commanding Officer of C Company, a man called Dennis Stanhope. While they converse a new young officer, Raleigh, enters the dugout. We find out that he too has known Stanhope in the past.

•Stanhope enters the scene. He asks for a drink and shows little sympathy for an officer's complaints of neuralgia.

•Stanhope and Osborne discuss the possibility of a German attack in the following days.

•The Colonel enters the scene and tells Stanhope he thinks Raleigh and Osborne should participate in a raid on the German line the next day.

•When the officers are told about the raid they all react differently. Young Raleigh is enthusiastic about his fate. The Colonel promises them the Military Cross for bravery once it is over.

•After the raid, we find out that Osborne and six other men have been killed. A German soldier is taken prisoner and interrogated.

•Raleigh has changed his attitude. He has lost his idealistic belief that it is a privilege to fight for one's country. He does not join the post-raid celebratory dinner.

•The Germans attack in the final scene. Raleigh lies dying with Stanhope by his side. The dugout collapses as Stanhope leaves the stage. The ending is ambiguous and we are left uncertain about the fate of the remaining characters.

Themes

RESPONSIBILITY - The theme of responsibility is explored throughout the play as we see each character dealing with their duties and responsibilities in the trenches. Some, like Trotter, step up to this challenge and carry the responsibility whereas others, like Hibbert, will crumble under the pressures of the harsh life in the trenches.

MASCULINITY - The theme of masculinity is explored throughout the play. Each character is expected to deal with the horrors of war 'like a man' which meant that they would be shamed if they showed any fear. This repression of emotions lead to alcoholism and outbursts of violence.

HEROISM - The theme of heroism and the idea of the hero is explored through multiple characters in the play. Stanhope is a great leader and is respected by the men in his company however he is flawed as he relied on alcohol to function in the trenches.

HIERARCHY - The theme of social hierarchy and ranking is relevant to life in the trenches because your social status in the civilian world determined your rank in the army. You will notice as you read the play that the officers are generally very educated and middle class whereas Mason, the cook, is working class.

Foundational knowledge	Year 9 Science Biology Term 1	Diagnostic test questions

Biological process
Respiration is a cellular reaction in all living cells. The energy released powers all life processes . When it is carried out by microorganisms it leads to decay but also can be used to make useful products

Variation , inheritance, genes and adaptation
We look at how variation arises, how DNA is a code for characteristics and how this can drive natural selection. We will look at how traits are inherited from parents and why you may have different eye colour to your siblings

Plants
Plants are the most important organism on Earth. They provide the basis for all food chains and also release oxygen for respiration. Photosynthesis is affected by

Decomposition
Microorganism release enzymes which break down dead organic matter and release nutrients

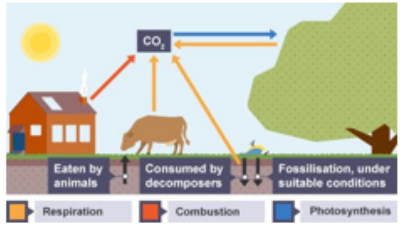
Micro-organisms use the nutrients to carry out respiration

Factors affecting the rate of decomposition

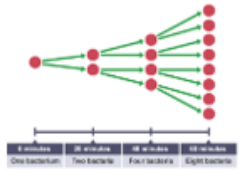
- **Temperature**
- **Oxygen**
- **Water**
- **Nutrient supply**

The products of respiration are then recycled

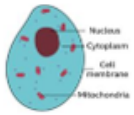
The carbon cycle



Growing bacteria



Respiration – A chemical reaction which occurs in every living cell and releases energy from glucose
The enrgy released is used in all life processes
The site of respiration is the mitochondria



glucose + oxygen → carbon dioxide + water
A respirometer is used to measure the rate of respiration
The blood carries oxygen and glucose to cells
RESPIRATION IS NOT BREATHING!

Anaerobic decompostion – Occurs when there is no oxygen

In animal cells
Glucose → Lactic acid

Occurs in the cytoplasm
Releases less energy
Lactic acid may cause cramps in Muscles

In plant and yeast cells
Glucose → carbon dioxide and ethanoic acid

Ethanoic acid is alcohol
Used in brewing and baking
Carbon dioxide causes bread to rise -

Diagnostic test 1

Define the term decomposition (2) The process of breaking down organic matter (1) through microbial action (1)
Name the microbes which carry out decomposition (2) Bacteria and fungi
What do microorganisms secrete which break down organic matter? (1) Enzymes
State the 4 conditions required for decomposition (4) Water, warmth, oxygen, nutrients
Define the term respiration (2) A chemical reaction (1) which occurs in every living cell (1)
Write out the word equation for respiration (2)
Glucose+ oxygen Carbon dioxide + water + energy released
Do plants carry out respiration? (1) YES! All living cells including fungi , bacteria , protists and plants
How is the energy released from respiration used? (1)
All life processes (MRS GREN)
Where is the site of aerobic respiration in the cell? (1) Mitochondria
What temperature are agar plates incubated at in schools? (1) and why? (1) 25°(1) pathogenic bacteria do not grow at this temperature (1)
Name the 2 processes which maintain the atmosphere Respiration (1) photosynthesis (1)
Name the process which releases carbon dioxide from burning fossil fuels (1) Combustion (1)
Name the equipment which can be used to measure oxygen uptake through respiration (1) Respirometer (1)
What is the role of potassium hydroxide in this experiment (1) Absorb carbon dioxide (1)
Is respiration an endothermic or exothermic reaction? (1) Exothermic (1)

Diagnostic test 2

State 3 conditions needed for decay (3) Warmth, water, nutrients, oxygen (3)
State the equation for anaerobic respiration in animal cells (2) glucose → Lactic acid (2)
State the equation for anaerobic respiration in plants and yeast (2) Glucose → Carbon dioxide +ethanol

Variation – Differences between individuals of the same species
Mutations in DNA result in variation

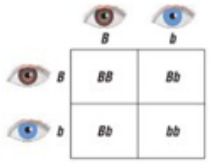
Genetic variation	Environmental variation	Both
Hair colour Eye coloour Blood group Ear shape Tongue roll	Accent Scar tattoo	Height Weith IQ Health

Variation can be classed as **continuous or discontinuous**
Continuous variation has a rnage of values eg height , weight
Discontinuous variation can be catergorised such as blood group , eye colour

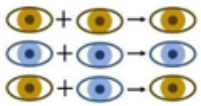
Variation leads to natural selection

Mutation in DNA
↓
Variation
↓
The variation may lead to an advantage
↓
Individuals with the variation may live longer and breed more
↓
The genetic basis for the feature is passed to offspring
↓
Over many generations the advantage is found in all indiviauls
↓
This is called an "adaptation"

Genetic inheritamce
A gene is a section of DNA which codes for a characteric
There are 2 versions of each gene which are called alleles
The combination of of alleles is the genotype
The observable characeterisitics are called the phenotype



Dominant : Only 1 copy needed
Recessive : 2 copies needed
Heterozygous: One of each allele
Homozygous: Both alleles the same

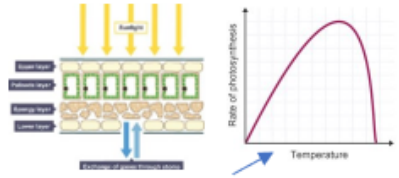


Photosynthesis : Endothermic reaction

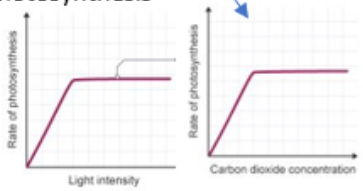
Carbon dioxide + Water —Light / Chlorophyll→ Glucose + Oxygen

$6\,CO_2 + 6\,H_2O \xrightarrow[\text{Chlorophyll}]{\text{Light}} C_6H_{12}O_6 + 6\,O_2$

The leaf



Factors affecting the rate of photosynthesis



Name 2 important processes which use anaerobic respiration (2) Baking and fermentation (2)
Define the term variation (1) Differences between individuals of the same species (1)
Name the 2 types of variation (2) Genetic (1) Environmental (1)
Give an example of each type of variation (2) Genetic – eye colour , hair colour, blood group (1) Environmental – scar accent tattoo (1)
How does variation arise? (1) Mutations in DNA (1)
Variation leads to which important process (1) which results in evolution (1) Natural selection (1)
Describe the process named in the question above (5)
Variation due to genetic mutation (1) Some individuals have an advantage due to the variation (1)These will survive and breed more (1) The advantageous gene is passed onto offspring (1) Over time the whole population will have the advantage (1)

Diagnostic test 3
Where is DNA stored (2) In chromosomes (1) in the nucleus (1)
A sequence of DNA which codes for a characteristic is called a (1) Gene (1)
An allele is (1) An alternative form of a gene (1)
How many copies of a dominant gene are needed for expression 1(1)
The combination of alleles which an organism has is called the (1) Genotype (1)
The same alleles for a trait is called Homozygous (1)
Write to word equation for photosynthesis (2)
Carbon dioxide + water === glucose + oxygen
Name the part of the cell where photosynthesis occurs (1) Chloroplast
State the name of the pigment which traps light and powers photosynthesis (1) Chloroplast
Name 2 factors which can change the rate of photosynthesis (2) Light, CO2, temperature
State an adaptation of the leaf for photosynthesis (1) Large SA, thin, chloroplasts
Name the pores on the underside of the leaf (1) Stomata

Year 9 Chemistry Molecules & Matter

Key Words

Density – how much mass a substance contains compared to its volume

Specific Latent Heat - the amount of energy required to change the state of one kilogram of the substance with no change in temperature.

Internal Energy - The energy stored inside a system by the particles (atoms and molecules) that make up the system. Internal energy is the total kinetic energy and potential energy of all the particles.

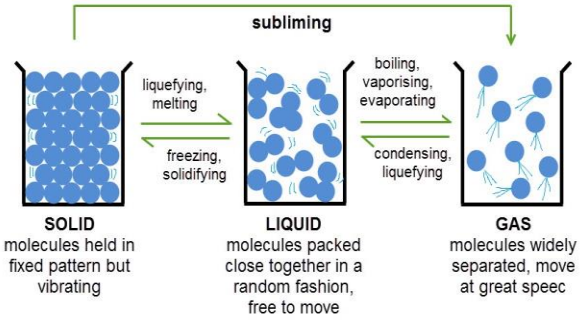
Temperature - the average kinetic energy of the particles.

Latent heat of fusion - energy required to change state from solid to liquid.

Latent heat of vaporisation - energy required to change state from liquids to vapour

States of Matter & Changes of State

Everything around you is made up of matter and exists in one of three states. Solids, liquids and gases are made of particles, the physical arrangement of particles determines the state of a particular substance.

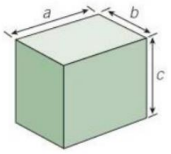


Density

Density (kg/m^3) = mass (kg) ÷ volume (m^3)

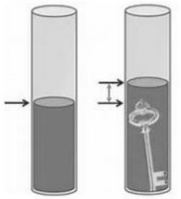
Density of a regular object:

Measure volume of a cuboid = a x b x c



Density of an irregular object:

Volume of an irregular object can be found by dropping in a liquid and measuring displacement.



Internal Energy

Increasing the temperature increases the internal energy of a substance because:

- Increasing temperature increases kinetic energy
- If it melts or boils, the potential energy increases.

Specific Latent Heat

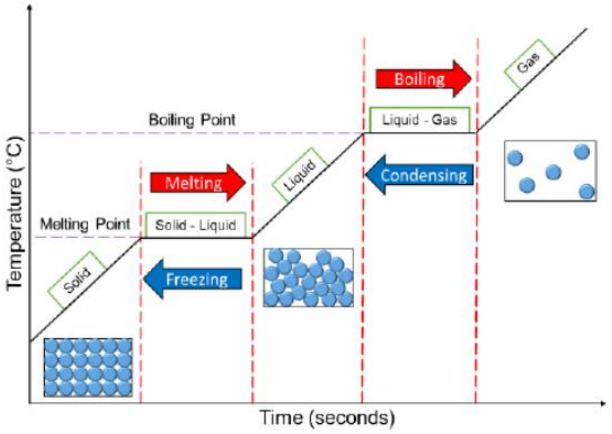
Latent heat of fusion L_f - energy required to change state from solid to liquid.
(L_f = Energy ÷ Mass)

Latent heat of vaporisation L_v - energy required to change state from liquids to vapour
(L_v = Energy ÷ Mass)

Gas Pressure

- Gas Pressure is caused by the force exerted when particles collide with their container.
- Increasing temperature increases the gas pressure. Gas molecules move faster and hit the surfaces with more force. The number of impacts between the gas molecules and the surface of the container increases, so the total force of impact increases.
- The unpredictable motion of smoke particles is evidence of the random motion of gas molecules – this is called Brownian motion

Heating Curve



Year 11 Chemistry Knowledge organiser Atoms

Key words

Atom-Smallest part of an element that can exist

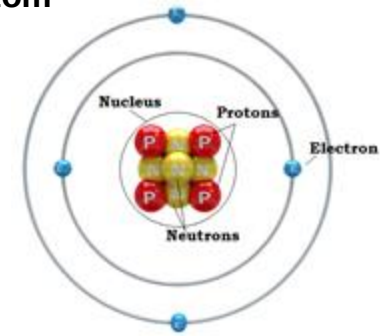
Element- Found on the periodic table only contains 1 type of atom

Compound-Two or more elements chemically bonded

Mixture- Two or more different substances not chemically bonded together

Molecule- Single part of a substance

The Atom

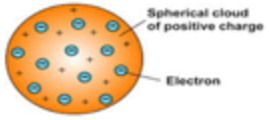


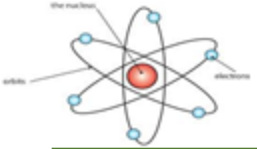
	Mass	Charge	Location
Proton	1	+	nucleus
Neutron	1	0	nucleus
Electron	Very small	-	shells

History of the atom

Dalton – atoms can't be divided

JJ Thompson discovered electrons – Plum pudding model





Geiger-Marsden The Nuclear Model of the Atom

Bohr – electrons in shells

Electron shells

Nucleus - almost all of the mass of an atom is here

Radius of a nucleus is less than 1/10 000 of that of an atom (about 1 x 10^{-14}m)

The first shell (energy level) can hold 2 electrons

The second can hold 8 electrons

The third can hold 8 electrons

Shells are filled in from the inner shell onwards

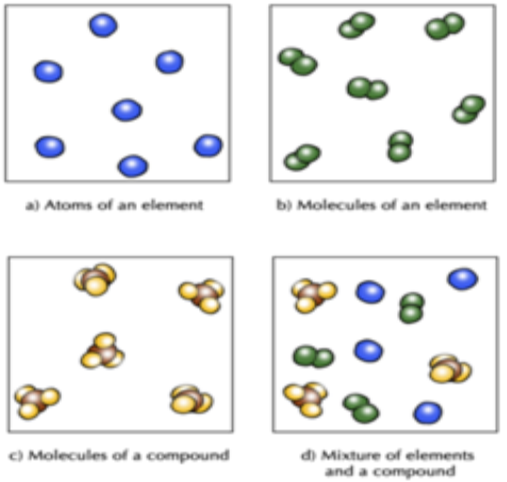
Eg. Na has 11 electrons

First shell=2

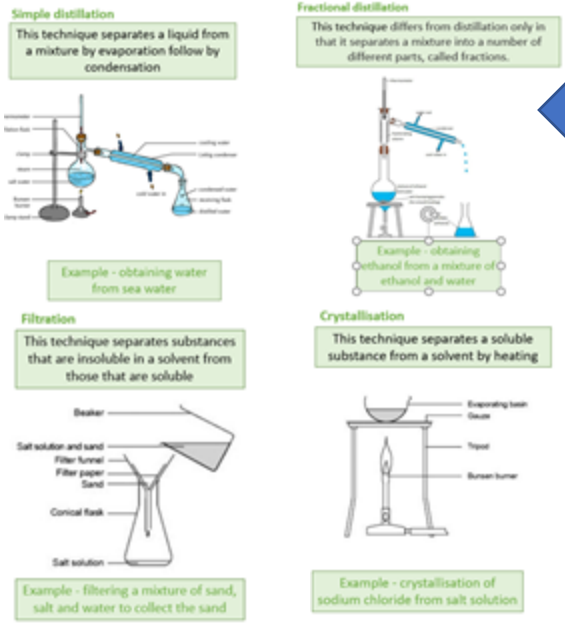
Second shell=8

Third shell= 1

Elements, Compounds and Mixtures



Separation techniques



Year 9 Chemistry Knowledge organiser Bonding

Key words

Ion- Atom that has gained or lost electrons to become charged

Ionic bonding- Bonding between a metal and nonmetal through transfer of electrons

Covalent bonding- Bonding between nonmetals where electrons are shared

Metallic bonding- Bonding within metals where outer shell electrons are delocalised

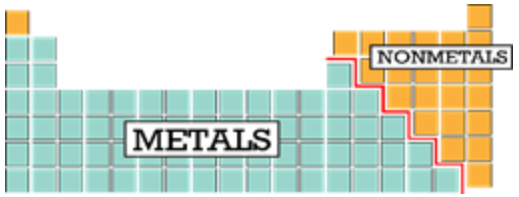
Types of bonding

Using the periodic table to select the correct type of bonding

Ionic = Metal and nonmetal

Covalent = Just non metals

Metallic = Just metals



Atoms into ions

Metals LOSE ELECTRONS to form POSITIVE IONS

Non-metals GAIN ELECTRONS to form NEGATIVE IONS

Group	Electrons in outer shell	Charge on ion
1	1	1+
2	2	2+
6	6	2-
7	7	1-

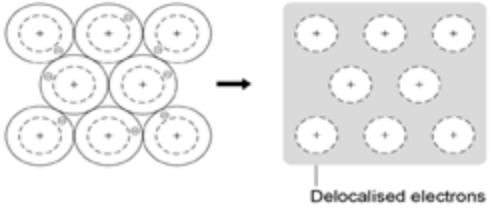
Ionic bonding

Ions have electronic structure of a noble gas

What is an ionic bond?
STRONG electrostatic force of attraction between **oppositely charged ions**

Metallic bonding

Metals LOSE ELECTRONS to form POSITIVE IONS



GIANT structures of atoms in a REGULAR pattern

Delocalised electrons are free to move.

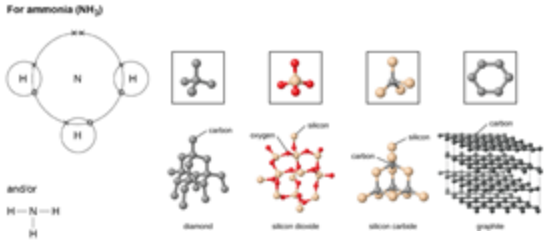
Covalent bonding

Small molecules

A small group of atoms sharing electrons

Giant Structures

Many atoms sharing electrons



Energy

Keywords

Dissipation - Energy becoming **spread out** to the stores of surrounding objects (usually wasted thermal energy.)

Conservation of energy - the law that states that **energy cannot be created or destroyed**.

Work - Work is done on an object when a force makes the object move.

Closed system - An isolated system in which **no energy transfers** take place **out of or into** the **energy stores** of the system.

Specific Heat Capacity - The specific heat capacity of a substance is the **amount of energy** needed to change the **temperature of 1Kg** of the substance by **1°C**. Its units are J/Kg/°C

Energy Stores

- Chemical
- Kinetic
- Gravitational Potential
- Elastic Potential
- Thermal
- Nuclear
- Magnetic
- Electrostatic

Energy Transfers

- Mechanical (by forces acting on objects)
- Electrical (when an electric current flows through a device)
- Radiation (by electromagnetic radiation)
- Heating (by conduction, convection or radiation.)

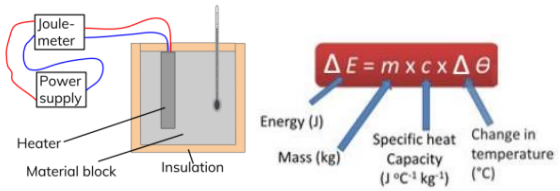
Equations to Learn

- Kinetic energy = 0.5 x mass x velocity^2
- Gravitational potential energy = mass x gravitational field strength x height
- Power =energy transferred ÷ time
- Power = work done ÷ time
- Work done = force x distance moved
- Efficiency = useful energy output ÷ total energy input
- Efficiency = useful power output ÷ total power input

Heat Loss from Homes

Loft insulation	Contains **fibreglass** which **traps air, reducing convection** which is a good insulator.
Cavity wall insulation	**Traps air pockets** in gaps which is a good insulator
Double glazed windows	**Traps air** in **gaps between glass** which is a good insulator.
Aluminium foil behind radiators	**Reflects radiation**.
External walls with thicker bricks	**Thicker** bricks have a **lower thermal conductivity**.

Specific Heat Capacity



$\Delta E = m \times c \times \Delta \theta$

Energy (J)
Mass (kg)
Specific heat Capacity (J °C^{-1} kg^{-1})
Change in temperature (°C)

Resource	Renewable?	Uses	Advantages	Disadvantages
Fossil Fuels	Non-Renewable	Electricity, transport, heating	**Reliable** – electricity can be generated all of the time. Relatively **cheap** way of generating electricity.	Produces **carbon dioxide**, a greenhouse gas that causes **global warming.** Can produce **sulphur dioxide**, a gas that causes **acid rain**.
Nuclear Fuel	Non-Renewable	Electricity	Produces **no carbon dioxide** when generating electricity. **Reliable** – electricity can be generated all of the time.	Produces **nuclear waste** that remains **radioactive** for thousands of years. **Expensive** to build and **decommission** power stations.
Bio Fuel	Renewable	Heating, electricity	**Carbon neutral**. **Reliable** – electricity can be generated all of the time.	Production of fuel may damage ecosystems and create a **monoculture**.
Wind	Renewable	Electricity	**No CO_2** produced while generating electricity. Cheap to use.	**Unreliable** – may not produce electricity during **low wind**. **Expensive** to construct.
Hydroelectricity	Renewable	Electricity	**No CO_2** produced while generating electricity. Cheap to use.	Blocks rivers stopping **fish migration**. **Unreliable** – may not produce electricity during **droughts**.
Geothermal	Renewable	Electricity, heating	Does not damage **ecosystems**. **Reliable** source of electricity generation. Cheap to use.	Fluids drawn from ground may contain **greenhouse gases** such as **CO_2** and **methane**. These contribute to **global warming**.
Tidal	Renewable	Electricity	**No CO_2** produced while generating electricity. Cheap to use.	**Unreliable** – **tides vary**. May damage **tidal ecosystem** e.g. mudflats.
Waves	Renewable	Electricity	**No CO_2** produced while generating electricity. Cheap to use.	**Unreliable** – may not produce electricity during **calm** seas.
Solar	Renewable	Electricity, heating	**No CO_2** produced while generating electricity. Cheap to use.	**Unreliable** – does not produce electricity at **night**. Limited production on **cloudy** days. **Expensive** to construct.

Electricity

Key Words

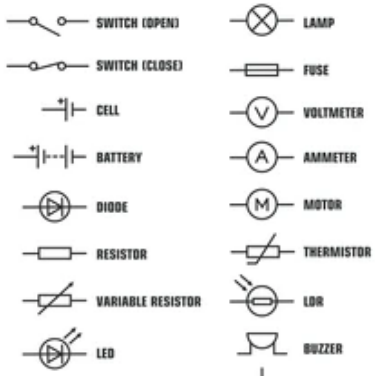
Electric Currents - flow of electric charge. Units amperes, A

Potential Difference - The potential difference (voltage) between two points in an electric circuit is the energy transferred (or the work done) when a coulomb of charge passes between the points. Units volt, V

Resistance - resistance is caused by anything that opposes the flow of electric charge. Units ohm, Ω

Charge - Anything charged that is able to move within a circuit. Electrons or ions. Units are coulombs, C

Circuit Symbols



Equations to Learn

- Charge = current x time
- Potential difference = current x resistance
- Energy transferred = charge x potential difference
- Power = current^2 x resistance
- Power = potential difference x current

Ammeter and Voltmeter

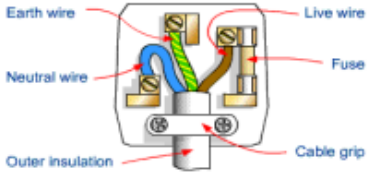
The ammeter must be in series and placed anywhere in the circuit.
The voltmeter must be placed in parallel around the component

Factors affecting resistance of a wire

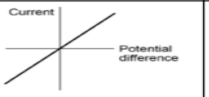
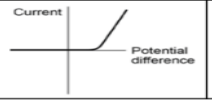
- Length of wire
- Thickness of wire
- Temperature of wire
- Material of wire

Plugs

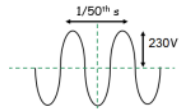
Three pin electrical plug



I-V Graphs

Graph	Example
	**Ohmic conductor** (Fixed resistor or wire)
	Filament Lamp (bulb) **non** Ohmic conductors
	**Diode** or LED

AC & DC

Alternating Current **AC**	 The **current alternates** (changes direction.)
Direct current **DC**	 Direct current flows **in one direction**

National Grid

The National Grid supplies electricity from power stations via a series of cables and transformers to customers at high voltages to reduce energy loss.

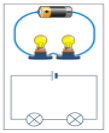
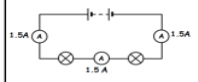
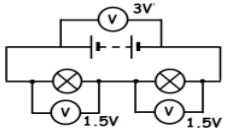
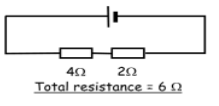
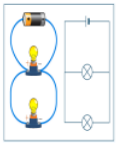
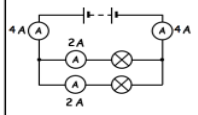
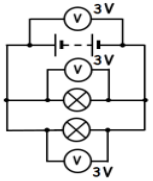
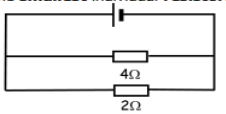
Step Up Transformer

Increases the voltage (decreases the current in the wires which means less resistance.)

Step Down Transformer

Decreases the voltage

Series and Parallel Circuits

Series 	The **current** is the **same everywhere** in the circuit and in every component. 	The total **potential difference** of the power supply is **shared** between the components. 	The **total resistance** is the **sum** of the **individual resistances**. $R_{total} = R_1 + R_2$ Adding **more resistors increases resistance**. 
Parallel 	The **total current** through the whole circuit is the **sum** of the **currents** through **the separate components**. 	The **potential difference** across each component is the **same**. 	The **total resistance** of **two resistors** is **less** than the **resistance** of the **smallest** individual **resistor**.  The **total resistance** for this circuit is **less than 2Ω** (the resistance of the smallest resistor). Resistance **decreases** as **more resistors** are added.

Magnetism

Key Words

Pole - The places on a magnet where the magnetic forces are strongest

Magnetic Field - The area around a magnet where a force acts on another magnet or magnetic material.

Magnetic Material - There are four magnetic materials: iron, steel, cobalt and nickel.

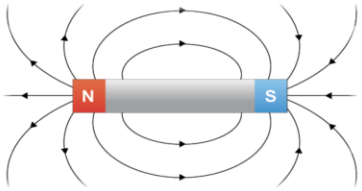
Compass - Compasses contain small bar magnets which points to the north pole of the Earth's magnetic field

Solenoid - A solenoid is a long coil of wire that produces a controlled magnetic field.

Electromagnet - A solenoid containing an iron core which increases its strength

Magnetic Fields

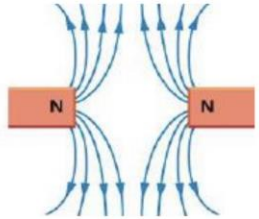
The magnetic field lines of a bar magnet curve around from the north pole of the bar magnet to the south pole.The field lines always go from north to south and never touch.



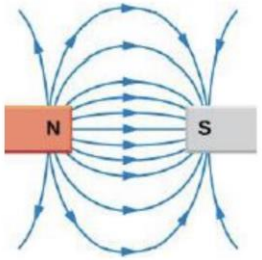
Induced magnetism is magnetism created in an unmagnetised magnetic material when the material is placed in a magnetic field. Steel is used instead of iron to make permanent magnets because steel does not lose its magnetism easily but iron does.

Repel & Attract

Like poles repel.When two north poles (or two south poles) are placed together, they will repel each other.



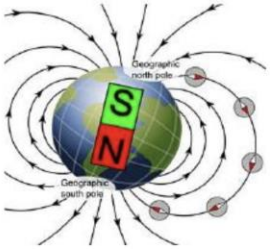
Unlike poles attract. When a north pole and a south pole are placed together, they will attract.



Attraction and repulsion between two magnetic poles are examples of non-contact forces.

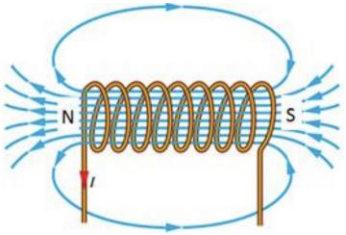
Earth as a magnet

The Earth behaves as if there is a bar magnet inside it. The geographic north pole is a magnetic south pole. A compass will point towards geographical north and is the north-seeking pole.We know it is the core of the Earth that is magnetic(not the whole thing) because a compass at the north pole points below your feet.



Magnetic Fields in Electric Currents

We can increase the strength of the magnetic field by putting a magnetic (e.g. iron) core in the solenoid (long coil of wire.) The magnetic field in a solenoid is concentrated inside the coil in a uniform direction, otherwise it acts in the same way as a bar magnet



Increasing Current

Increasing current makes the magnetic field stronger. Reversing the direction of the current reverses the magnetic field lines.

Electromagnets

An electromagnet is a solenoid that has an iron core. It consists of an insulated wire wrapped around an iron bar.

Increasing the force of a solenoid

• Add an iron core • Increase the number of coils of wire • Increase the current • Move the magnetic material closer to the solenoid.

Forces & Motion

Key Words

Scalar - a quantity with magnitude (size) only

Vector - a quantity that has both magnitude (size) and direction

Resultant Force - the overall force once all the forces have been considered.

Distance - how much ground an object has covered during its motion (scalar).

Displacement - distance in a given direction (vector).

Velocity - the speed of an object in a given direction (vector)

Acceleration - the change of an object's velocity per second.

Terminal Velocity - the velocity an object eventually reaches when it is falling. The weight of the object is then equal to the frictional force on the object

Types of Forces

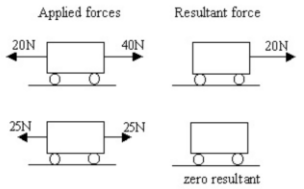
Contact Forces

- Friction (happens between surfaces)
- Upthrust (happens between an object and water)
- Reaction (happens between 2 stationary objects)
- Air resistance (happens between a moving object and air)
- Tension (happens between 2 ends of elastic material)

Non-Contact Forces

- Weight (happens between 2 masses)
- Magnetic (happens between magnetic materials)

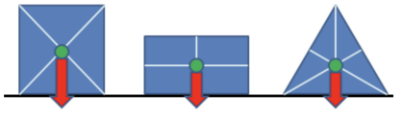
Resultant Force



If the resultant force on an object is zero, then the object stays at rest or at the same speed and direction. If the resultant force is greater than zero, the speed or direction of the object will change.

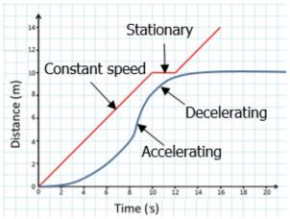
Centre of Mass

Point at which mass of an object appears to be concentrated is known as its centre of mass. When an object is freely suspended, it comes to rest with its centre of mass directly below the point of suspension.



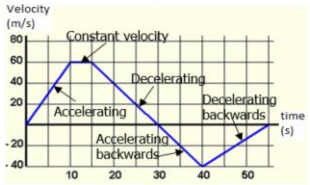
Distance-Time Graphs

A distance-time graph shows the distance of an object from a starting point (plotted on y-axis) against the time taken (plotted on the x- axis.)



Velocity-Time Graphs

A velocity-time graph shows the velocity of an object (plotted on y-axis) against the time taken (plotted on the x-axis.) A motion sensor linked to a computer can be used to measure velocity changes

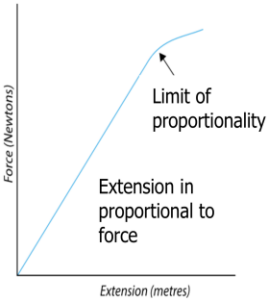


Forces & Elasticity

Elastic deformation - occurs when a spring is stretched and can then return to its original length.

Limit of proportionality - the length a spring can be stretched before it no longer is able to return to its original length.

Hooke's law states that extension is directly proportional to the force applied, provided the limit of proportionality is not exceeded.



Forces and Braking

Thinking distance - the distance a car travels while the driver reacts. Factors that affect: *tiredness, alcohol, drugs, distractions*

Braking distance - the distance a car travels while the car is stopped by the brakes. Factors that affect: *how fast you are going, road conditions, conditions of brakes and tyres, road surface, mass of vehicle*

Stopping distance - the sum of the thinking distance and braking distance

AQA

The Periodic Table of Elements

1	2											3	4	5	6	7	0
							1 **H** hydrogen 1										4 **He** helium 2
7 **Li** lithium 3	9 **Be** beryllium 4											11 **B** boron 5	12 **C** carbon 6	14 **N** nitrogen 7	16 **O** oxygen 8	19 **F** fluorine 9	20 **Ne** neon 10
23 **Na** sodium 11	24 **Mg** magnesium 12											27 **Al** aluminium 13	28 **Si** silicon 14	31 **P** phosphorus 15	32 **S** sulfur 16	35.5 **Cl** chlorine 17	40 **Ar** argon 18
39 **K** potassium 19	40 **Ca** calcium 20	45 **Sc** scandium 21	48 **Ti** titanium 22	51 **V** vanadium 23	52 **Cr** chromium 24	55 **Mn** manganese 25	56 **Fe** iron 26	59 **Co** cobalt 27	59 **Ni** nickel 28	63.5 **Cu** copper 29	65 **Zn** zinc 30	70 **Ga** gallium 31	73 **Ge** germanium 32	75 **As** arsenic 33	79 **Se** selenium 34	80 **Br** bromine 35	84 **Kr** krypton 36
85 **Rb** rubidium 37	88 **Sr** strontium 38	89 **Y** yttrium 39	91 **Zr** zirconium 40	93 **Nb** niobium 41	96 **Mo** molybdenum 42	[98] **Tc** technetium 43	101 **Ru** ruthenium 44	103 **Rh** rhodium 45	106 **Pd** palladium 46	108 **Ag** silver 47	112 **Cd** cadmium 48	115 **In** indium 49	119 **Sn** tin 50	122 **Sb** antimony 51	128 **Te** tellurium 52	127 **I** iodine 53	131 **Xe** xenon 54
133 **Cs** caesium 55	137 **Ba** barium 56	139 **La*** lanthanum 57	178 **Hf** hafnium 72	181 **Ta** tantalum 73	184 **W** tungsten 74	186 **Re** rhenium 75	190 **Os** osmium 76	192 **Ir** iridium 77	195 **Pt** platinum 78	197 **Au** gold 79	201 **Hg** mercury 80	204 **Tl** thallium 81	207 **Pb** lead 82	209 **Bi** bismuth 83	[209] **Po** polonium 84	[210] **At** astatine 85	[222] **Rn** radon 86
[223] **Fr** francium 87	[226] **Ra** radium 88	[227] **Ac*** actinium 89	[261] **Rf** rutherfordium 104	[262] **Db** dubnium 105	[266] **Sg** seaborgium 106	[264] **Bh** bohrium 107	[277] **Hs** hassium 108	[268] **Mt** meitnerium 109	[271] **Ds** darmstadtium 110	[272] **Rg** roentgenium 111	[285] **Cn** copernicium 112	[286] **Nh** nihonium 113	[289] **Fl** flerovium 114	[289] **Mc** moscovium 115	[293] **Lv** livermorium 116	[294] **Ts** tennessine 117	[294] **Og** oganesson 118

Key

relative atomic mass
atomic symbol
name
atomic (proton) number

* The Lanthanides (atomic numbers 58 – 71) and the Actinides (atomic numbers 90 – 103) have been omitted.

Relative atomic masses for **Cu** and **Cl** have not been rounded to the nearest whole number.

Insert for GCSE Chemistry (8462), Combined Science: Trilogy (8464), and Combined Science: Synergy (8465) papers v1

AQA

Physics Equations Sheet

GCSE Combined Science: Trilogy (8464) and GCSE Combined Science: Synergy (8465)

FOR USE IN JUNE 2024 ONLY

HT = Higher Tier only equations

kinetic energy = 0.5 × mass × (speed)^2	$E_k = \frac{1}{2} m v^2$
elastic potential energy = 0.5 × spring constant × (extension)^2	$E_e = \frac{1}{2} k e^2$
gravitational potential energy = mass × gravitational field strength × height	$E_p = m g h$
change in thermal energy = mass × specific heat capacity × temperature change	$\Delta E = m c \Delta\theta$
power = $\frac{\text{energy transferred}}{\text{time}}$	$P = \frac{E}{t}$
power = $\frac{\text{work done}}{\text{time}}$	$P = \frac{W}{t}$
efficiency = $\frac{\text{useful output energy transfer}}{\text{total input energy transfer}}$	
efficiency = $\frac{\text{useful power output}}{\text{total power input}}$	
charge flow = current × time	$Q = I t$
potential difference = current × resistance	$V = I R$
power = potential difference × current	$P = V I$
power = (current)^2 × resistance	$P = I^2 R$
energy transferred = power × time	$E = P t$

	energy transferred = charge flow × potential difference	$E = Q\,V$
HT	**potential difference across primary coil × current in primary coil = potential difference across secondary coil × current in secondary coil**	$V_p\,I_p = V_s\,I_s$
	density = $\frac{\text{mass}}{\text{volume}}$	$\rho = \frac{m}{V}$
	thermal energy for a change of state = mass × specific latent heat	$E = m\,L$
	weight = mass × gravitational field strength	$W = m\,g$
	work done = force × distance (along the line of action of the force)	$W = F\,s$
	force = spring constant × extension	$F = k\,e$
	distance travelled = speed × time	$s = v\,t$
	acceleration = $\frac{\text{change in velocity}}{\text{time taken}}$	$a = \frac{\Delta v}{t}$
	(final velocity)^2 – (initial velocity)^2 = 2 × acceleration × distance	$v^2 - u^2 = 2\,a\,s$
	resultant force = mass × acceleration	$F = m\,a$
HT	**momentum = mass × velocity**	$\boldsymbol{p = m\,v}$
	period = $\frac{1}{\text{frequency}}$	$T = \frac{1}{f}$
	wave speed = frequency × wavelength	$v = f\,\lambda$
HT	**force on a conductor (at right angles to a magnetic field) carrying a current = magnetic flux density × current × length**	$\boldsymbol{F = B\,I\,l}$

Art – *Deconstruct*

Mark O'Brien

Craftsman Mark O'Brien, 26, had made a career thinking outside the box in making all his artwork out of cardboard — from a replica tray of biscuits to a full-size Mini Cooper. The artist has attracted international interest with his eco-friendly creations and now tours schools and shopping centres running workshops for children.

Mark said: "I love creating things by hand and it's more enjoyable for me to do it that way. I like that it looks handmade and I like seeing the little imperfections.

"Cardboard is a scruffy material. It's packaging and something that you'd just throw away. It shouldn't look perfect. I want people to do a double take when they see what I make."

Style - *HOW would you describe it?*

- Modern – *simple, bold*
- Minimalist – *space, empty*
- Abstract – *cannot recognize it*
- Realistic – *traditional*
- Surreal - *dreamlike, unusual*

Media - *HOW* has the artist made it? What have they used?

Response?

- What do you like about it? Why?
- How can you use some things they have done in your own work?

Formal elements - *DESCRIBE how they have used?*

Line - *Expressive, wavy, harsh, dense, curved, parallel, dashed, dotted*

Shape - *2d, 3d, flat, perspective, angled*

Colour - *Bright, bold, hot, warm, cold, dull, vibrant*

Texture - *Grooves, ridges, rough, Space*

Composition - *depth, frame, position, layout*

Theme - *WHAT can you see ?*

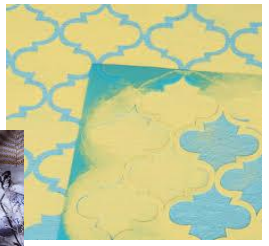
- Describe it
- What does it remind you of?

Product Design - *Cushion*

Martha Stewart

Martha Stewart creates products for the home sold at multiple retail and online markets.

Her printed textiles include geometric and floral design.



Skills and Techniques

Block Printing	Making and using a block to print a design. 
Repeat Patterns	A series of repeating lines, shapes and colors, that fit together. 
Hand Embellishing	The technique of decorating fabric with stitches made with thread 

Health and Safety

- Always store bags under tables.
- Pick up foot pedals and turn off sewing machines.
- Stop immediately when told to.
- Only one person at a time to a sewing machine.
- Keep pins in pots.
- Clear away dyes/paint.

Keywords

- Tessellation
- Plain seam
- Machine Rolled Hem
- Geometric
- Floral
- Block print
- Embellishment

Catering - *Energy in the Diet*

Different people need different amounts of dietary energy depending on their:

- age;
- gender;
- body size;
- level of activity;
- genes.

Key terms

Energy: The power the body requires to stay alive and function.
Digestion: The process by which food is broken down in the digestive tract to release nutrients for absorption.
Macronutrients: Nutrients needed to provide energy and as the building blocks for growth and maintenance of the body.
Micronutrients: Nutrients which are needed in the diet in very small amounts.

Nutrients

There are two different types of nutrients:

- macronutrients;
- micronutrients.

There are three macronutrients that are essential for health:

- carbohydrate;
- protein;
- fat.

There are two types of micronutrients:

- vitamins;
- minerals.

Energy

Energy is essential for life, and is required to fuel many different body processes, growth and activities. These include:

- keeping the heart beating;
- keeping the organs functioning;
- maintenance of body temperature;
- muscle contraction.

Energy in > Energy out = Weight gain

Energy from food

Energy intake is measured in joules (J) or kilojoules (kJ), but many people are more familiar with the term calories (kcal).

Different macronutrients provide different amount of energy.

	Energy per 100g
Carbohydrates	16kJ (3.75 kcals)
Protein	17kJ (4 kcals)
Fat	37kJ (9 kcals)

Computing - *Binary to Denary*

Binary to Denary Conversion

Denary - Denary, also known as "decimal" or "base 10," is the standard number system used around the world. It uses ten digits (0, 1, 2, 3, 4, 5, 6, 7, 8, and 9) to represent all numbers.

Binary Binary describes a numbering scheme in which there are only two possible values for each digit - 0 or 1 - and is the basis for all binary code used in computing systems.

Binary Number Line

128	64	32	16	8	4	2	1
0	0	0	0	0	0	0	1

In the above, there is a 1 in the 1 column and 0s in all other columns, therefore if we converted the binary number 00000001 to denary we would get 1.

128	64	32	16	8	4	2	1
0	0	0	0	0	0	1	0

In the above, there is a 1 in the 2 column and 0s in all other columns, therefore if we converted the binary number 00000010 to denary we would get 2.

128	64	32	16	8	4	2	1
0	0	0	0	0	1	0	0

In the above, there is a 1 in the 4 column and 0s in all other columns, therefore if we converted the binary number 00000100 to denary we would get 4.

Programming

Here is an example of the same algorithm coded in two different formats.

a block-based format and a textual programming language Python

```
1  import turtle
2  Terry = turtle.Turtle()
3  Terry.color("Red")
4  Terry.shape("turtle")
5  Terry.speed(10)
6
7  for i in range(4):
8      Terry.forward(120)
9      Terry.right(90)
```

French Key Vocabulary

Nouns

janvier Jan
février Feb
mars March
avril April
mai May
juin June
juillet July
août August
septembre Sept
octobre Oct
novembre Nov
décembre Dec
un (demi-)frère a (half/step) brother

deux frères two brothers
une (demi-)soeur a (half/step) sister
le sport sport
le foot football
le vélo cycling
le collège school
la danse dance
la musique music
les serpents snakes
les jeux vidéo video games
les BD comics
les mangas manga
les araignées Spiders

Opinions

je pense que c'est I think that it is
À mon avis c'est In my view it is
Je dirais que c'est I would say that it is
Je l'adore. I love it.
Je l'aime. I like it.
Je ne l'aime pas. I don't like it.
Je la déteste I hate it.

Time phrases/sequencers

Le premier jour The first day
Le dernier jour The last day
Un jour One day
D'abord Firstly
Puis Then
Ensuite Next
Finalement Finally

Verbs

(Present)
c'est it is
je suis I am
je ne suis pas I'm not
il est he is
elle est she is
il y a there is/are

(Past)
était was
n'était pas was not
il y avait there was/were
il n'y avait pas There wasn't
c'était it was

(Future)
Je vais + infinitive I am going to
Il/elle va + infinitive he/she is going to
Nous allons + infinitive we are going to

(Infinitives)
chanter to sing
danser to dance
surfer to surf the internet
chatter to chat
rigoler to have a laugh
étudier to study
nager to swim

Qualifiers

Assez quite
Très very
Tellement really
Extrêmement extremely
vraiment really
Trop too

Adjectives

sympa. nice.
Génial. great.
moderne. modern.
triste. sad.
nul. rubbish.
démodé. old fashioned.
moche. Ugly.
Chouette great
Fantastique fantastic
Formidable terrific
Ennuyeux boring
Affreux awful
Nul rubbish

1

Je peux...? *Can I....?*			
Exclamation	I verb	Item/Action	Manners
Pardon! Excuse me!	**Je peux** Can I	**ouvrir la fenêtre** open the window	**s'il vous plaît?** please (polite)
Je m'excuse I'm sorry..	**Est-ce que je peux** Can I	**fermer la fenêtre** close the window	**s'il te plaît?** please (casual)
Monsieur Sir		**enlever ma veste** take off my blazer	**merci!** thank you
Madame Miss		**aller aux toilettes** go to the toilet	
	Je peux avoir Can I have		
	Est-ce que je peux avoir Can I have	**un dictionnaire** a dictionary	
		un stylo noir a black pen	
	Je peux emprunter Can I borrow	**un stylo vert** a green pen	
		un crayon a pencil	
	Est-ce que je peux emprunter Can I borrow	**un cahier** a book	
		un bâton de colle a glue stick	
		une règle a ruler	
		des ciseaux scissors	
		un point a reward point	

Vous et moi You and me	
You'll hear	You'll say
Asseyez-vous Sit down	**Comment dit-on ___ en français?** How do you say ___ in French?
Levez-vous Stand up	**Comment dit-on ___ en anglais?** How do you say ___ in English?
Travaillez seul Work alone	**Répétez s'il vous plaît?** Repeat please?
Travaillez avec un partenaire Work with a partner	**J'ai besoin d'aide** I need help
Travaillez en silence Work silently	**Je ne sais pas** I don't know
Écrivez Write	**Je ne comprends pas** I don't understand
Écoutez Listen	
Regardez Look	
Sortez... Get out...	
Rangez... Put away...	

German Key Vocabulary

Nouns

Januar Jan
Februar Feb
März March
April April
Mai May
Juni June
Juli July
August Aug
September Sept
Oktober Oct
November Nov
Dezember Dec
Bruder brother
Schwester sister
Halbbruder half brother
Halbschwester half sister
Stiefbruder step brother
Stiefschwester step sister
Geschwister siblings
Einzelkind only child
Lehrer teacher (m)
Bildschirm (m) screen
Tafel (f) black board
Lehrerin teacher (f)
Tür (f) door
Schüler (p) pupils
Tische (p) tables
Stühle (p) chairs
Fenster (n) window

Opinions

Ich glaube, I believe
Ich denke, I think that
Ich würde sagen, I would say
Meiner Meinung nach In my opinion
Aus meiner Sicht from my point of view
Ich liebe es. I love it.
Ich mag es. I like it.
Ich mag es nicht. I don't like it.
Ich hasse es. I hate it.

Qualifiers

extrem extremely
sehr very
ziemlich quite
ein bisschen a bit
zu too

besonders especially

Time phrases/sequencers

Am ersten Tag The first day
Am letzten Tag The last day
Ein Tag One day
Zuerst Firstly
Dann Then
Danach After
Zuletzt Finally

Verbs

(Present)
Ich bin I am
Es gibt there is/are
Es ist it is
Sie sind they are
Wir sind we are
Er ist he is
Sie ist she is
Ich habe I have
Wir haben we have
Er/sie hat he/she has

(Past)
Es war it was
Ich war I was
Es gab there was/were
Ich habe ... gebrochen I broke
Ich habe ... verloren I lost
Ich bin gefallen I fell
Ich habe ... gespielt I played
Ich habe ... gemacht I did/made
Ich bin ... gefahren I travelled
Ich bin ... gegangen I went
Ich habe ... besucht I visited

(Future)
Ich werde ... bleiben I will stay
Ich werde ... reisen I will travel

Adjectives

sympathisch. nice.

toll. great.

modern. modern.

traurig. sad.

schrecklich. awful.

altmodisch. old fashioned.

hässlich. ugly.

schüchtern shy

großzügig generous

süß sweet

freundlich friendly

launisch moody

faul lazy

lustig funny

sportlich sporty

laut loud

Darf ich…? *May I….?*			
Exclamation	I verb	Item/Action	Manners
Entschuldige! Excuse me! **Es tut mir leid…** I'm sorry.. **Herr** Sir **Frau** Ms/Mrs	**Darf ich…** May I…	**das Fenster öffnen** open the window **das Fenster schließen** close the window **meine Jacke ausziehen** take off my blazer **auf die Toilette gehen** go to the toilet	**bitte?** please? **danke!** thank you
	Ich brauche I need **Hast du…** Do you have…	**ein Wörterbuch** a dictionary **einen schwarzen Stift** a black pen **einen grünen Stift** a green pen **einen Bleistift** a pencil **ein Heft** a book	
	Darf ich May I …	**einen Klebestift** a glue stick **ein Lineal** a ruler **Schere** scissors **einen Punkt** a reward point	**haben?** have?

Euch und ich *you and I*	
You'll hear	You'll say
Setzt euch! Sit down **Steht auf!** Stand up **Arbeitet allein!** Work alone **Arbeitet mit einem Partner!** Work with a partner **Arbeitet in Ruhe!** Work silently **Schreibt!** Write **Hört zu!** Listen **Seht!** Look **Holt … raus!** Get out… **Raumt … ein!** Put away…	**Wie sagt man __ auf Deutsch?** How do you say ___ in German? **Wie sagt man __ auf Englisch?** How do you say ___ in English? **Kannst du das bitte wiederholen?** Can you repeat that please? **Hilf mir!** Help me! **Ich weiß nicht** I don't know **Ich verstehe nicht** I don't understand

Spanish Key Vocabulary

Qualifiers

sumamente extremely
muy very
bastante quite
un poco a bit
demasiado too

Nouns
enero Jan
febrero Feb
marzo March
april April
mayo May
junio June
julio July
agosto Aug
septiembre Sept
octubre Oct
noviembre Nov
diciembre Dec
hermano brother
hermana sister
hermanastro step brother
hermanastra step sister
hijo único/a only child (m/f)
profesor teacher (m)
profesora teacher (f)
puerta door
alumnos pupils
mesas tables
sillas chairs
ventana window

Opinions

creo que I believe

pienso que I think that

diría que I would say

en mi opinión In my opinion

desde mi punto de vista from my point of view

me encanta I love it.

Me gusta I like it.

no me gusta. I don't like it.

Lo odio. I hate it.

Verbs
(present)
soy I am
hay there is/are
Es it is
son they are
somos we are
Él es he is
Ella es she is
Tengo I have

(past)
fue/era it was
era I was
había there was/were
Fui I went
Fuimos we went
Visité / visitamos I/we visited
Jugué / jugamos I/we played

(Near future)
Voy a + infinitive I am going to
Vamos a + infinitive We are going to

(Infinitives)
ir to go
jugar to play
visitar to visit
tener to have

Adjectives

sincero/a sincere

tímido/a shy

generoso/a generous

serio/a serious

listo/a clever

tonto/a silly

simpático/a nice

tranquilo/a calm

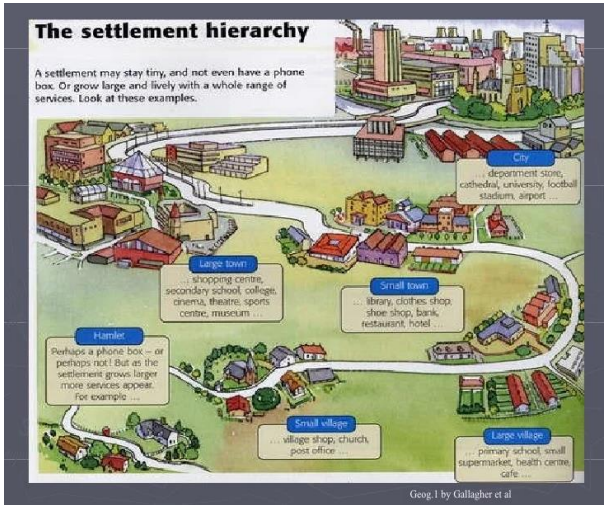
divertido/a fun

1. **¿Puedo...?** *Can I....?*			
Exclamation	I verb	Item/Action	Manners
¡Disculpe! Excuse me! **Lo siento...** I'm sorry.. **Señor** Sir **Señorita** Miss **Señora** Ms/Mrs	**¿Puedo...** Can I	**abrir la ventana** open the window **cerrar la ventana** close the window **quitarme la chaqueta** take off my blazer **ir al baño** go to the toilet	**por favor?** please? **¡gracias!** thank you
	Necesito I need **¿Tienes...** Do you have... **¿Puedo tener** Can I have	**un diccionario** a dictionary **un bolígrafo negro** a black pen **un bolígrafo verde** a green pen **un lápiz** a pencil **un cuaderno** a book **un pegamento** a glue stick **una regla** a ruler **unas tijeras** scissors **un punto** a reward point	**por favor?** please? **¡gracias!** thank you

Vosotros y yo You and me	
You'll hear	You'll say
¡Sentaos! Sit down **¡Levantaos!** Stand up **¡Trabajad solo!** Work alone **¡Trabajad en parejas!** Work with a partner **¡Trabajad en silencio!** Work silently **¡Escribid!** Write **¡Escuchad!** Listen **¡Mirad!** Look **¡Sacad!** Get out... **¡Quitad!** Put away...	**¿Cómo se dice __ en español?** How do you say ___ in Spanish? **¿Cómo se dice __ en inglés?** How do you say ___ in English? **¿Puedes repetir?** Can you repeat please? **¡Ayúdame!** Help me! **No lo sé** I don't know **No entiendo** I don't understand

Geography

Key term	Definition
Urbanisation	An increasing % of the population moving to towns and cities.
Rural migrants	People who are originally from rural areas but move to urban areas.
Push factors	Factors that push people to leave where they live.
Pull factors	Factors that attract people to an area.
Megacity	A city with a population of over 10 million people.
Squatter settlement	Poor quality housing with no or limited services such as water, sewerage or electricity.
Sustainable	Actions that meet the needs of the present without reducing the ability of future generations to meet their needs.



Urbanisation

- Occurs due to natural increase and rural-urban migration.
- Where cities are located is determined mainly by their geographical setting (usually flat land) and their links with other places (near the coast or a river) for trade and transport.
- Dubai is an example of a HIC city that has undergone urbanisation

Squatter settlements- Dharavi:

- Informal housing due to rapid urban migration
- Challenges: poor facilities, disease spreads easily, lack of healthcare
- Opportunities: sense of community, more jobs, better services
- Problems can solved by government redevelopment projects or by self-help schemes.

Push and Pull factors:
Push factors push people away from a place and are negative. Examples of push factors are a lack of education, high crime rates, lack of jobs etc.
Pull factors are the opposite, they pull someone towards an area and are positive. Examples of pull factors are better education, low crime rate, more jobs etc.

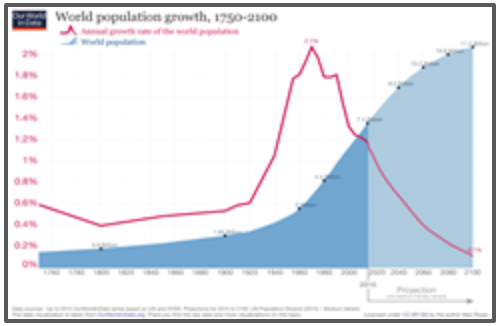
UK Resources

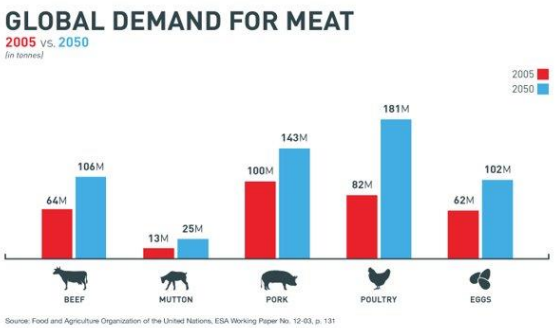
Resources	A naturally occurring material that is valuable to humans: Energy, Water, Food.
Supply	The level of availability of an item.
Demand	How many people want this item.
Sustainable	Meeting the needs of today without harming the needs of tomorrow
Malnourished	A person who lacks the nutrients to keep their body healthy
Obesity	A person who has excess body fat
Food security	Enough food to meet demand
Food insecurity	the condition of not having access to sufficient food, or food of an adequate quality, to meet one's basic needs
Famine	An extreme scarcity of food leading to large scale illness and death

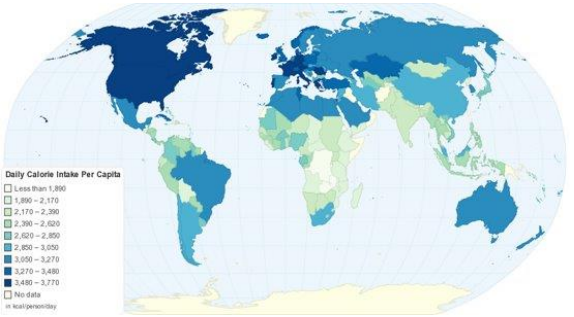
Food: The UK enjoys a temperate climate, with ample rainfall and moderate temperatures. Thanks to fertile soil, mild topography, and advanced technologies, the UK is one of the most efficient food producers in the world.
Water: Although there is an imbalance of supply and demand within the UK (with a surplus in the north and west and a deficit in the south and east), water availability is rarely a concern.
Energy: The UK possesses substantial reserves of fossil fuels (previously coal and now oil and gas), operates several nuclear power plants (utilising imported uranium), and holds potential for various forms of renewable energy including wind, solar, and hydroelectric power.

Problems of food insecurity

Famine: This is when there is a widespread shortage of food often causing malnutrition, starvation and death. There have been some devastating famines resulting from food insecurity. Former Soviet Union – droughts and crop failures resulted in the death of nine million people in the 1920s and 1930s. China – droughts and political decisions led to serious famines when millions died. There were famines in 1928-30, 1942-43 and 1959-60. Ethiopia – in the 1980s an estimated 400,000 people died of starvation due to drought and political conflict
Undernutrition: Undernutrition is the lack of a balanced diet, and deficiency in minerals and vitamins. The Food and Agricultural organisation (FAO) estimates that 805 million people suffered from undernutrition between 2012 and 2014. It is a major public health problem, particularly in southern Asia and sub-Saharan Africa. Diets in these regions are frequently deficient in protein, carbohydrates, fats, minerals and vitamins. This causes around 300,000 deaths per year and contributes to half of all child deaths

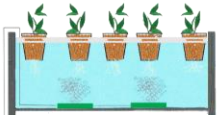






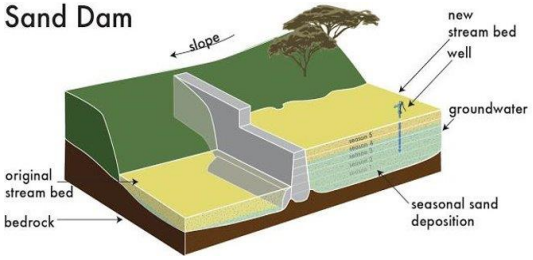
Cause of food insecurity	**Description**
Climate	LICs lack the money to invest in roads to transport crops, warehouses for safe storage, irrigation systems to water crops and machinery to increase the amount farmed.
Pests and Diseases	This will affect productivity because rainfall and temperature patterns will alter and weeds and pests may thrive in warmer conditions.
Technology	Some areas suffer water stress which means they lack water to irrigate crops. LICs may also be too poor to transfer water to areas where it is needed. Climate change will make some areas drier so less can grow.
Water supply	Drought and floods cause both loss of crops and livestock. Drought can lead to the salinisation of soil which can reduce fertile farmland. Flooding washes land and crops away.
Conflict	Poor people cannot afford to buy nutritious food which means they may not be able to farm or work. They cannot afford seeds or fertilisers which reduces the quality and quantity of crops grown.
Poverty	LICs suffer from a wider variety of pests and disease due to a lack of chemicals to treat them. Insects like locusts can decimate a crop. Human diseases like malaria can reduce the workforce available to farm.
Climate change	Wars can disrupt farming as people flee their homes. Food may be a weapon, seized by soldiers and destroyed. Area may contain landmines so can't be farmed. Food aid may not be able to reach the needy.

Increasing Food Supply



Irrigation: Irrigation can improve crop production in LICs by 100 to 400%. In Africa, only 10% of food comes from irrigated land. Introducing irrigation to dry areas or areas where the water supply is unreliable could provide enough grain to feed up to 2 billion people.

Biotechnology: Biotechnology is the use of science to produce plants and animals that have specific characteristics. Selective breeding of animals has been happening for a long time. This is where an animal with one beneficial characteristics, such as higher milk production or shorter calving periods, is bred with another of that species. Crops can be **genetically modified (gm)** to improve them e.g. a gene from scorpions which creates poison has been implanted into a type of cabbage. The cabbages poison caterpillars but not humans.



Sand dams store water in the ground, filtering and cleaning the rainwater as it soaks into the soil. With minimal operation and maintenance costs, sand dams provide a cost-effective and sustainable way to provide a water supply in rural areas
It has been very successful because crop yields and food security have increased and water-borne diseases have been reduced

Music

Key Vocabulary	
Form and Structure	The way a piece of music is set out, e.g. Section A and section B.
Call and Response	A musical form in which a melody is played/sung that is then followed by a played/sung answer back.
Culture	Ideas and customs of a people or society.
Chord Notation	How music is written down for instruments playing chords.
Techniques	The different ways an instrument can be played.
Walking Bass	A bass part with equal beats that moves in a motion like footsteps.
Blues Scale	A row of 6 notes with added "blue" notes (sharps or flats)
Strumming	Running fingers/thumb over several strings to form a chord.
Improvisation	Create music without preparation (on the spot!)
Software	A programme created for online or for a computer.
DAW	Digital Audio Workstation.
BandLab	Software for creating music online.
Layering	Combining multiple sounds.

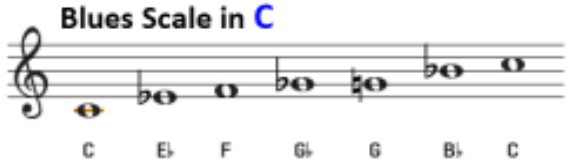
Year 9 – The 12 Bar Blues

12 Bar Blues Chord Progression in C

C	C	C	C
F	F	C	C
G	F	C	C

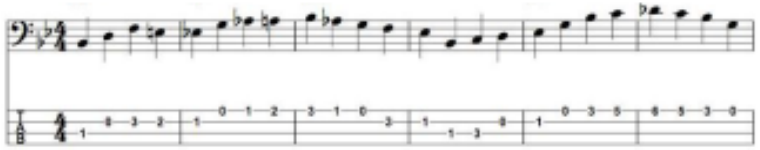
Each bar has four beats $\frac{4}{4}$ so each of the chords are played four times in each bar.

Blues Scale in C



Any melody instrument can improvise around the Blues scale, but most commonly piano, electric guitar, saxophone or trumpet.

A Walking Bass line



A Walking Bass can be played by any low pitched instrument. The most commonly used are double bass, piano or bass guitar

An example of layered tracks in the BandLab music creating software

Late 1800s

1940s

2000s

What we now know is the 12-bar blues is generally regarded as first appearing around the end of the 1800s in the region of the United States of America known as the Deep South. However, the blues wasn't invented at one point in time by one composer.
The history of the 12-bar blues is entirely bound up in the practice of slavery in what is now the United States of America.

The blues came entirely from people whom we today call African-Americans: those people who were brought from West Africa to the New World as slaves, and their descendents. Everything about the blues can be traced to West African music.

The first recognised form of the blues is the "field holler": a work song sung by African-American slaves as they worked in the fields, approx. 1850 - 1865. The field holler is often in a kind of **call-and-response** structure, and this is where the "12-bar" part comes in. In some field hollers, one person sings a four-bar phrase. Then the other workers alongside him join their voices together and sing the phrase back, like an echo. Then the leader sings the concluding (contrasting and different) four-bar phrase. This is often sung in the rhythm of the manual labor being done, in order to assist the workers in coming together to coordinate their muscles in moving or lifting something, for example.

2 genres of music that developed from the 12 Bar Blues are Jazz and Rock 'n' Roll.

PSHE – signposting support

Health and wellbeing

nhs.uk

NHS non emergency 111
111.nhs.uk

beateatingdisorders.org.uk

mind.org.uk

giveusashout.org
text *'shout'* to 85258

youngminds.org.uk

cancerresearchuk.org

teenagecancertrust.org

adfam.org.uk

Personal safety

alcoholchange.org.uk

talktofrank.com
0300 123 6600

wearewithyou.org.uk

childline.org.uk
0800 11 11

isthisok.org.uk

victimsupport.org.uk/you-co
0808 1689 111

Suffolk.police.uk

extremedialogue.org

Relationships and Sex Education

reportharmfulcontent.com

themix.org.uk
0808 808 4994

brook.org.uk

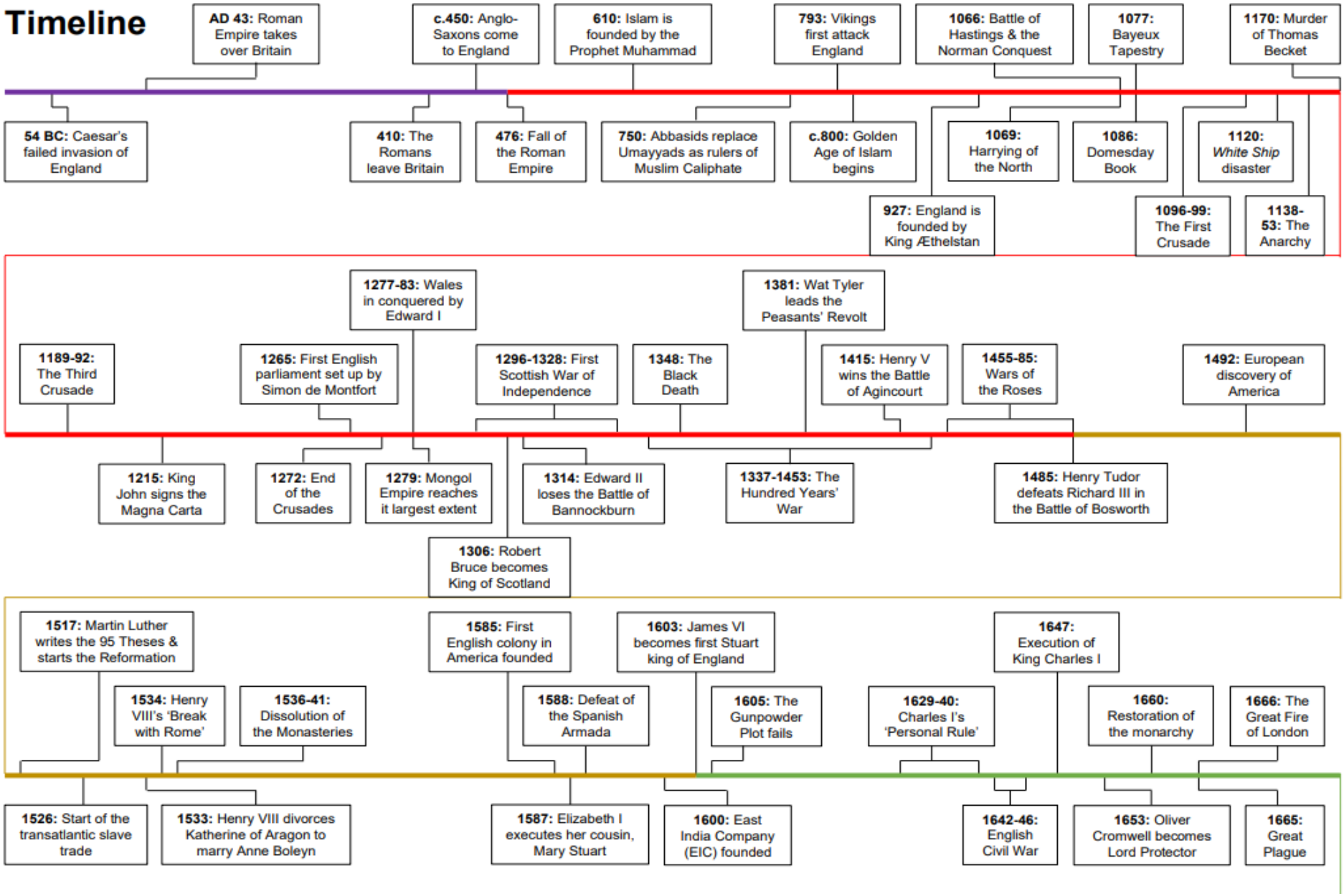
refuge.org.uk

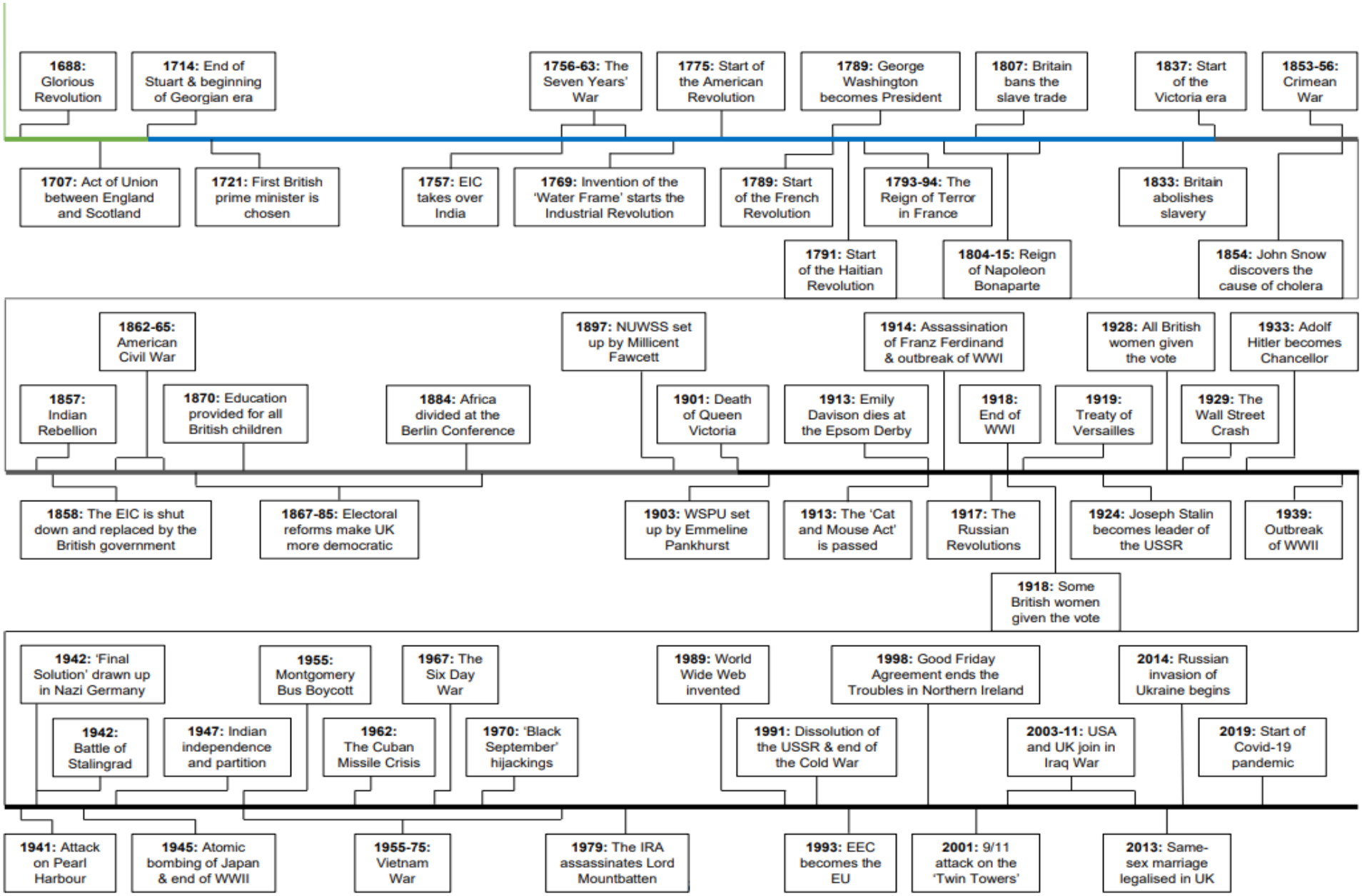
mankind.org.uk

galop.org.uk

Ceop.police.uk

Timeline


AD 43: Roman Empire takes over Britain
c.450: Anglo-Saxons come to England
610: Islam is founded by the Prophet Muhammad
793: Vikings first attack England
1066: Battle of Hastings & the Norman Conquest
1077: Bayeux Tapestry
1170: Murder of Thomas Becket
54 BC: Caesar's failed invasion of England
410: The Romans leave Britain
476: Fall of the Roman Empire
750: Abbasids replace Umayyads as rulers of Muslim Caliphate
c.800: Golden Age of Islam begins
1069: Harrying of the North
1086: Domesday Book
1120: White Ship disaster
927: England is founded by King Æthelstan
1096-99: The First Crusade
1138-53: The Anarchy
1277-83: Wales in conquered by Edward I
1381: Wat Tyler leads the Peasants' Revolt
1189-92: The Third Crusade
1265: First English parliament set up by Simon de Montfort
1296-1328: First Scottish War of Independence
1348: The Black Death
1415: Henry V wins the Battle of Agincourt
1455-85: Wars of the Roses
1492: European discovery of America
1215: King John signs the Magna Carta
1272: End of the Crusades
1279: Mongol Empire reaches it largest extent
1314: Edward II loses the Battle of Bannockburn
1337-1453: The Hundred Years' War
1485: Henry Tudor defeats Richard III in the Battle of Bosworth
1306: Robert Bruce becomes King of Scotland
1517: Martin Luther writes the 95 Theses & starts the Reformation
1585: First English colony in America founded
1603: James VI becomes first Stuart king of England
1647: Execution of King Charles I
1534: Henry VIII's 'Break with Rome'
1536-41: Dissolution of the Monasteries
1588: Defeat of the Spanish Armada
1605: The Gunpowder Plot fails
1629-40: Charles I's 'Personal Rule'
1660: Restoration of the monarchy
1666: The Great Fire of London
1526: Start of the transatlantic slave trade
1533: Henry VIII divorces Katherine of Aragon to marry Anne Boleyn
1587: Elizabeth I executes her cousin, Mary Stuart
1600: East India Company (EIC) founded
1642-46: English Civil War
1653: Oliver Cromwell becomes Lord Protector
1665: Great Plague


1688: Glorious Revolution
1714: End of Stuart & beginning of Georgian era
1756-63: The Seven Years' War
1775: Start of the American Revolution
1789: George Washington becomes President
1807: Britain bans the slave trade
1837: Start of the Victoria era
1853-56: Crimean War
1707: Act of Union between England and Scotland
1721: First British prime minister is chosen
1757: EIC takes over India
1769: Invention of the 'Water Frame' starts the Industrial Revolution
1789: Start of the French Revolution
1793-94: The Reign of Terror in France
1833: Britain abolishes slavery
1791: Start of the Haitian Revolution
1804-15: Reign of Napoleon Bonaparte
1854: John Snow discovers the cause of cholera
1862-65: American Civil War
1897: NUWSS set up by Millicent Fawcett
1914: Assassination of Franz Ferdinand & outbreak of WWI
1928: All British women given the vote
1933: Adolf Hitler becomes Chancellor
1857: Indian Rebellion
1870: Education provided for all British children
1884: Africa divided at the Berlin Conference
1901: Death of Queen Victoria
1913: Emily Davison dies at the Epsom Derby
1918: End of WWI
1919: Treaty of Versailles
1929: The Wall Street Crash
1858: The EIC is shut down and replaced by the British government
1867-85: Electoral reforms make UK more democratic
1903: WSPU set up by Emmeline Pankhurst
1913: The 'Cat and Mouse Act' is passed
1917: The Russian Revolutions
1924: Joseph Stalin becomes leader of the USSR
1939: Outbreak of WWII
1918: Some British women given the vote
1942: 'Final Solution' drawn up in Nazi Germany
1955: Montgomery Bus Boycott
1967: The Six Day War
1989: World Wide Web invented
1998: Good Friday Agreement ends the Troubles in Northern Ireland
2014: Russian invasion of Ukraine begins
1942: Battle of Stalingrad
1947: Indian independence and partition
1962: The Cuban Missile Crisis
1970: 'Black September' hijackings
1991: Dissolution of the USSR & end of the Cold War
2003-11: USA and UK join in Iraq War
2019: Start of Covid-19 pandemic
1941: Attack on Pearl Harbour
1945: Atomic bombing of Japan & end of WWII
1955-75: Vietnam War
1979: The IRA assassinates Lord Mountbatten
1993: EEC becomes the EU
2001: 9/11 attack on the 'Twin Towers'
2013: Same-sex marriage legalised in UK

Democracy

Who made the biggest difference: the Suffragists or the Suffragettes?

Conceptual Focus: Similarity & Difference

Thematic Focus: Society

Geographical Focus: Britain, America, Russia

5 Key Words

Election: an event in which lawmakers are voted on

Government: a group of MPs who suggest new laws

Militant: using violence to achieve an aim

Parliament: a group of lawmakers that votes on new laws

Suffrage: a person's right to vote

5 Key Dates

1897: Millicent Fawcett sets up the NUWSS

1903: Emmeline Pankhurst sets up the WSPU

1913: The 'Cat and Mouse' Act is introduced to prevent Suffragettes on hunger strike from starving

1918: Middle-class women over the age of 30 are given the vote

1928: All women are given the vote on the same terms as men

5 Key Takeaways

- The idea of 'democracy' started in Ancient Greece. It translates as 'the rule of the people' and means more than just voting
- The Suffragists (NUWSS) campaigned peacefully for women's suffrage. Their methods included petitions and rallies
- The Suffragettes (WSPU) campaigned militantly for women's suffrage. Their methods included smashing windows and hunger strikes in prison
- Emily Davison was a Suffragette who was killed by a horse while protesting at the 1913 Epsom Derby
- Some women were given the vote after working in factories during the First World War

Millicent Fawcett

Emmeline Pankhurst

Emily Davison

The First World War

What was the most significant aspect of the First World War?

Conceptual Focus: Historical Significance
Thematic Focus: Conflict
Geographical Focus: Britain, Europe

5 Key Words

Alliance: an agreement between countries to support each other

Artillery: large guns used in modern warfare, similar to earlier cannons

Imperialism: the process of building an empire

Militarism: the belief that one's country requires a stronger army and navy

Nationalism: the belief that one's country is better than others and deserves to benefit at others' expense

5 Key Dates

1882: The Triple Alliance is formed between Germany, Austria-Hungary and Italy

1894: The Triple Entente is formed between Britain, France and Russia

1914: The assassination of Franz Ferdinand leads to the outbreak of war

1916: The Battle of the Somme takes place

1917: Russia leaves the war and the USA enters the war, leading to its end a year later

5 Key Takeaways

- War between Austria-Hungary and Serbia started after Archduke Franz Ferdinand was assassinated by a Serbian
- Russia, Germany, Britain and France entered the war due to alliances with countries already involved in the fighting
- Trenches were developed to protect soldiers from new forms of weaponry. Trenches used dugouts and barbed wire to keep people safe, but soldiers lived in very poor conditions
- Britain suffered over 57,000 casualties on the first day of the Battle of the Somme. This is often blamed on decisions made by General Haig
- The First World War was also fought at sea due to Britain's blockade of Germany. German submarines caused the USA to enter the war

Archduke Franz Ferdinand

Gavrilo Princip

Douglas Haig

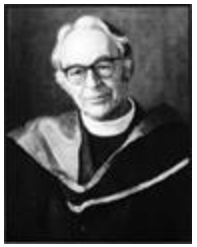
Religious Education - Philosophy of Religion

Key word	Definition
A priori	A conclusion that must be true. You don't need evidence to support your claim.
A posteriori	A conclusion that has to have experience or sense data to prove or disprove it.
Intent	intention or purpose
Causation	the relationship between cause and effect; causality
Conscience	a person's moral sense of right and wrong, viewed as acting as a guide to one's behaviour
Numinous	having a strong religious or spiritual quality; indicating or suggesting the presence of a divinity.
Miracle	an extraordinary and welcome event that is not explicable by natural or scientific laws and is therefore attributed to a divine agency.

William Paley said that God must exist because everything in the universe is clearly designed by an intelligent designer.

Thomas Aquinas said that God must exist because everything in the universe has a cause, but something must have started it all off, something that did not need a cause.

Cardinal Newman argued that we find proof that God exists through our consciences. When we have a guilty conscious, we are hearing the voice of God.



Father Frederick Copleston said that when people have an experience of 'overflow of dynamic and creative love' that changes them, then the must be experiencing God.

St. Augustine of Hippo argued that miracles are direct signs and messages from God.

Aristotle developed and used syllogisms as a way of constructing arguments. Syllogisms are a great way of creating a priori arguments.

Premise: All humans will die one day.
Premise: All men are humans.
Conclusion: All men will die one day.

We call this structure of argument a **syllogism**.

The premises both also have to have a word in common...what is it?

This syllogism is **valid**, because if the premises are true, then you have to reach that conclusion.

Some syllogisms aren't **valid** though! We can say an argument is 'weak' if the premises make an assumption or the conclusion doesn't follow.

P: My teacher is tall.
P: My last teacher was tall.
C: All teachers are tall.
This example, however can be proven wrong with sense experience so is A Posteriori

Religious Education - Islam

Key word	Definition
Tawhid	The oneness/uniqueness of God
Islam	Surrender or submit to the will of God
Prophet	A messenger from God
Shariah	Clear/straight path
Haram	Not allowed
Halal	Allowed
Jihad	struggle
Greater Jihad	The personal inward struggle to stay on the path of God
Lesser Jihad	The outward struggle to defend Islam agaisnt external threats.

1 Belief about God

Muslims believe that there is a single god in the universe, and the word they use to describe this god is Allah.
Muslims think that Allah is unique. There is literally nothing like or equal to Him. This is known as the principle of **Tawhid**, or 'oneness/uniqueness'.

Laws and Customs (Shariah Law)

-There are many laws and customs outlined in the Qur'an, that Muslims should follow.
-They must dress modestly, e.g. many Muslims wear long clothes that cover their bodies, and women wear a hijab which covers parts of their hair/face. Food must be halal, meaning animals must be killed in a certain way.

Muhammad

- Muslims believe that God sent his final message to Earth through Muhammad, 1400 years ago.
- he was around 40 years old, Muhammad is believed to have been approached in a cave by the angel Gabriel, who sent 'revelations' from Allah.
- The messages that Muhammad received were later collected and made into the Qu'ran. Muslims believe that they should follow the example set by Muhammad throughout their own lives.

Jihad

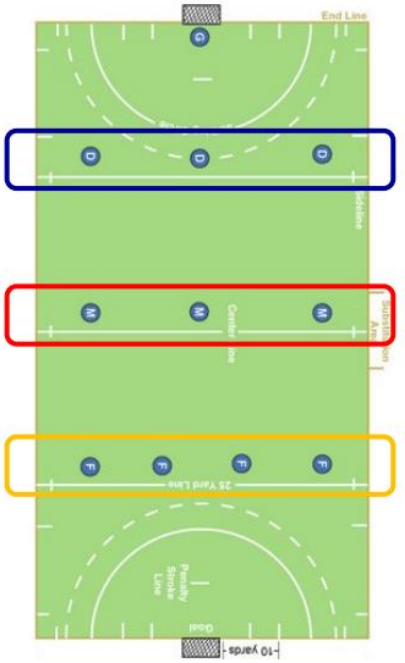
- Greater Jihad is the struggle to keep ones faith and follow the rules of Islam. For example, giving up time to pray 5 times a day or keeping food laws around people who do not keep the same food laws.
- Lesser Jihad is the struggle to defend the faith against outside threats. For example, in the early days of Islam Muhammads followers were being killed by the ruling families so they had to take up arms to defend themselves.

Where do Muslims worship God?		-Muslims pray in a building called a mosque. -The word for mosque in Arabic is 'masjid.' -Muslims take off their shoes before entering the mosque to pray. This is a sign of respect. -On Fridays at noon, the most important religious service of the week is held in the mosques.
Where do most Muslims live in the world?		-There are about 50 countries around the world in which Islam is the largest religion. -The Arab world (the Middle East and Northern Africa) accounts for about 20% of all Muslims. -After Christianity, Islam is the 2nd largest religion in most European countries.

Hockey

Key Vocabulary	Skills	
Stick – The equipment used to hit and move the ball **Side In –** Free hit awarded to a team after the opponent hits the ball out of bounds over the side line. Also called "hit-in" or "push-in." **Free Hit –** Awarded after most penalties. Defenders must stand five yards from the ball until it is played. **Control –** keeping the ball as close to the stick as possible when dribbling or receiving the ball. Or knowing what you are doing with it to keep the ball away from defenders **Receive –** when a teammate passes to you, you receive the ball **Block Tackle –** Knees bent/ back straight/ stick flat on the floor/ left fist on the ground/ stick slightly tilted forward **Jab Tackle -** Standing on the left of an opponent/ stick in left hand on reverse/ jabbing motion to knock ball away from opponent **Foot Foul –** Occurs anytime an outfield player's foot is hit by the ball even if unintentional	**One Stick** In hockey all sticks are primarily the same, with a flat and curved side, which is always the same way around. Players may only touch the ball with the flat side of the stick, meaning that a player has to move their stick, or themselves when the ball is on their left-hand side. Top stick shows the flat side and bottom stick the curves side.  **Grip** Left (top) hand above the right (bottom) is a great start and holding the top (grip) of the stick. Make sure there is a gap between the top and bottom hand as this provides control, this gap can decrease as control improves and also for certain passes. Holding the grip correctly allows an easy transfer to the reverse side.  **Dribbling** **Open stick:** Left hand at top, right at bottom of grip/ knees bent/ back straight/ elbow up/ ball at 1/2o'clock on right hand side **Indian:** Left hand at top, right hand at bottom of grip/ knees bent/ back straight/ stick rolls over ball pulling it right on reverse/ open stick dribble again slightly to the left before pulling right again 	**Passes/Shots** **Push Pass:** Left hand at top, right hand at bottom of grip/ left foot forwards/ push ball from behind body/ follow through with stick in direction you want ball to go. Used for a shorter pass  **Slap Pass:** Left hand at top, right hand at bottom of grip, hands can come together/ left foot forwards/ knees bent/ aim for chest on knee/head over ball/ stick draws semi-circle across ground contacting ball slightly in front of body. Used for a longer pass  **Hit:** Both hands at top of grip/ ball in line with left foot/ head over ball/ contact ball with flat stick face and follow through where you want ball to go. Used for more power. **Uni-hoc** Adopts many of the same rules as regular hockey with the main difference being the stick used and a softer ball. The uni-hoc stick is plastic and resembles for of an ice-hockey stick. This means that both sides of the stick can be used to hit the ball. This provides more control for young children and can be used to build to regular hockey

What a hockey pitch looks like



Wooden hockey sticks:

Year 9 - Dance Knowledge Organiser – Stimulus Awareness.

Key vocabulary – Physical & Performance Skills

Extension	The lengthening of body parts outwards. E.g. Straight arms and pointed toes
Flexibility	The range of movement possible in the joints/muscles
Coordination	The ability to use different parts of the body together smoothly and efficiently.
Posture	The way the body is held
Stamina	Ability to maintain physical and mental energy over periods of time.
Timing	Performing the correct movement at the correct time. This should be in time with your group
Musicality	How in time you are with the music
Energy	How much physical effort you apply to the performance
Facial Expressions	Animating the face to engage with your audience/communicate the theme of your performance
Projection	Projecting your movements outwards into the space with appropriate energy.
Dynamic Awareness	Noticing and applying the correct quality to each movement. For example: sharp, soft, fluid etc.

Key questions

Key question	Answer
What is a stimulus?	A stimulus is the starting point/theme of a dance. Anything can be used as a stimulus if it allows the choreographer to generate ideas for movement. The stimulus of a dance can be communicated to the audience through movement or through constituent features.
What is a choreographic device?	Choreographic devices are the tools we use to manipulate movement in order to enhance, exaggerate and embody actions. They're a great way to give a class or a group of children ownership over their dance.

Year 9 - Dance Knowledge Organiser –Stimulus Awareness.

Key vocabulary - Choreographic Devices:

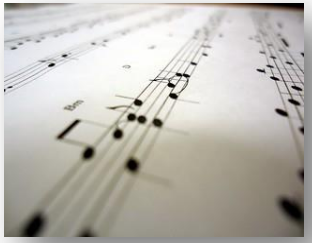
Canon	Performing the same movement one after another.
Unison	Performing the same movement at the same time
Formation	The position you stand in to perform.
Levels	The height at which you perform your movement
Repetition	Repeating the same movement or phrase more than once
Accumulation	Gaining dancers as a phrase is performed
Retrograde	Performing the movement backwards.
Juxtaposition	Showing a contrast on stage. This can be applied using speed or style etc
Fragmentation	Dividing the dance into smaller chunks and reordering this to create a new phrase

Contemporary Dance:

Contemporary dance is a style of interpretive dance that embraces innovation, blending techniques from various genres, including classical ballet, jazz, moder dance, and lyrical dance. This genre of dance, which focuses more on floor work over leg work and pointe isn't restricted by the rules that govern traditional dance forms

Different stimulus:

- **Auditory Stimuli – Music or Sounds**
- **Kinaesthetic Stimuli – Movement or Actions**
- **Visual Stimuli – Pictures or Words.**



Key questions

Top tips when choreographing a dance:

1. **Analyse the brief** – write down all of your initial ideas when looking at your stimulus. This can include facts colours, textures, themes, era's etc.
2. **Generate more than one initial response** and explore your ideas before choosing your final idea
3. **Generate a motif** that communicates your stimulus
4. Pick a piece of **music that will communicate the stimulus** to your audience/compliment your dance
5. **Motif development** – develop your motif using choreographic devices and RADS.
6. **Structure** – Choose a structure for your dance that allows you to communicate your stimulus with the audience.
7. **Rehearse and Refine** – Rehearse your movement, use self and peer assessment to refine your ideas.
8. **Perform & Evaluate** – Perform your final piece of choreography. Evaluate this once you have performed.

RADS:

When creating a piece of choreography from a stimulus it is useful to consider RADS. RADS are used to ensure that the features of a performance communicate the stimulus to the audience.

R- Relationships

Who you dance with on stage/How you dance with others. For example solo, duet, ensemble, and quartet.

A – Action

The movement that you perform.

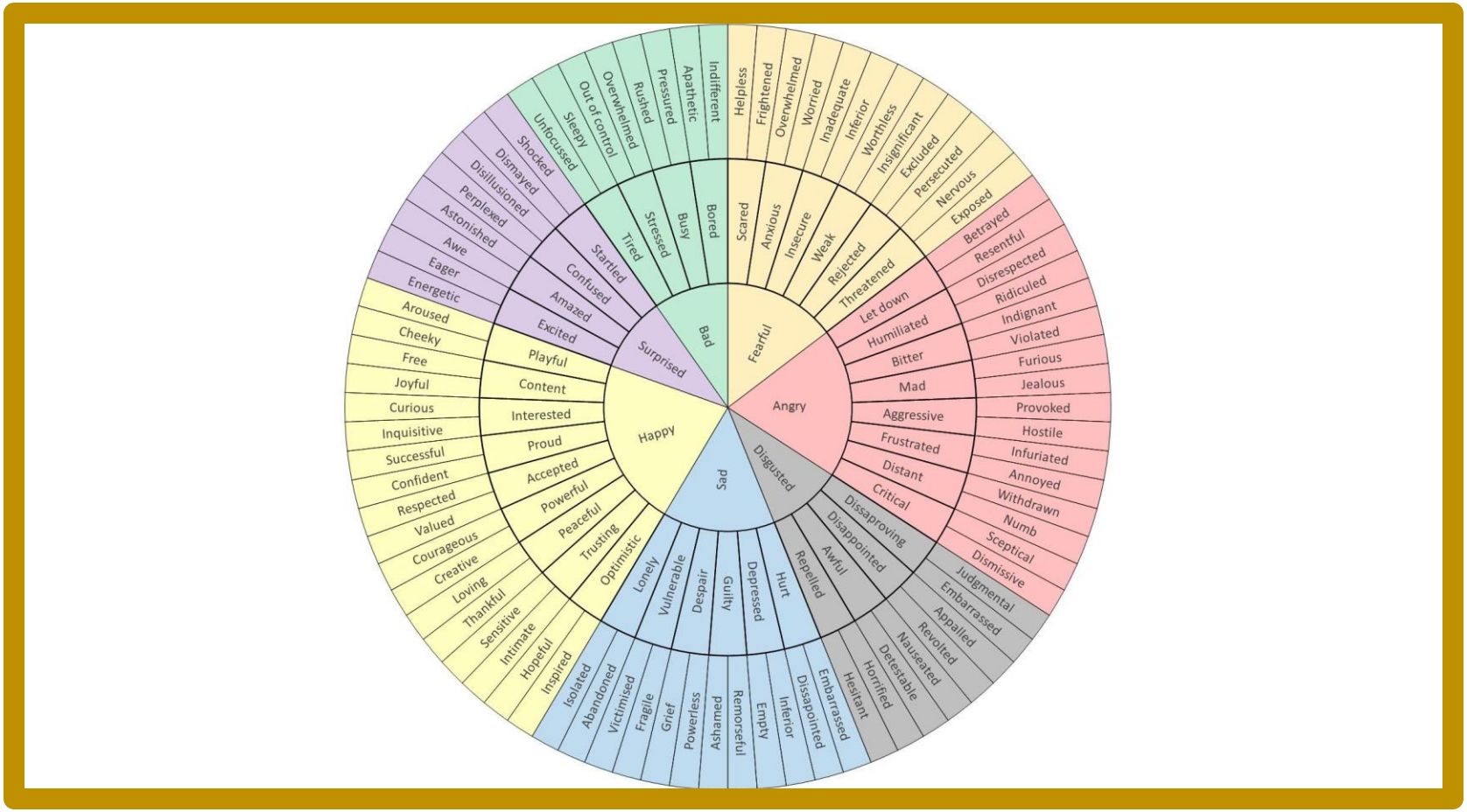
D – Dynamics

The quality that you attach to each movement for example fluid, sharp, soft etc.

S – Space

The area in which you perform your dance. The formation, level and shape and size of your movement.

Key question	Answer
Who is Andrew Winghart?	Andrew Winghart is a famous for being a Choreographer. He has cited people like Travis Wall and Mia Michaels as key influences. The 31-year-old choreographer was born in Wisconsin, United States. He began training at the Accent on Dance Studios in Waukesha, Wisconsin at age 9. He later accepted a full-ride academic scholarship to the University of Southern California, where he studied Business Administration and Cinematic Arts.
What is the main role of a choreographer?	• Put together moves in a sequence to create new dances or interpretations of existing dances • Choose the music that will accompany a dance routine • Audition dancers for a role in a show or within a dance company • Assist with costume design, lighting, and other artistic aspects of a show • Teach complex dance movement
What is a Dancers Role?	A dancer's responsibility it to continuously develop their performance and technical skills so that they are able to learn and perform new movements. They should learn and remember the choreography as well as contributing to any choreography tasks that are set. They must attend all rehearsals and apply any feedback given by the choreographer. Skills needed to do this include the following: • Creativity • Communication skills • Organisation skills • Time management skills • Technical & performance skill


Bad
Fearful
Angry
Disgusted
Sad
Happy
Surprised
Bored
Busy
Stressed
Tired
Scared
Anxious
Insecure
Weak
Rejected
Threatened
Let down
Humiliated
Bitter
Mad
Aggressive
Frustrated
Distant
Critical
Dissaproving
Disappointed
Awful
Repelled
Hurt
Depressed
Guilty
Despair
Vulnerable
Lonely
Optimistic
Trusting
Peaceful
Powerful
Accepted
Proud
Interested
Content
Playful
Excited
Amazed
Confused
Startled
Indifferent
Apathetic
Pressured
Rushed
Overwhelmed
Out of control
Sleepy
Unfocussed
Shocked
Dismayed
Disillusioned
Perplexed
Astonished
Awe
Eager
Energetic
Helpless
Frightened
Overwhelmed
Worried
Inadequate
Inferior
Worthless
Insignificant
Excluded
Persecuted
Nervous
Exposed
Betrayed
Resentful
Disrespected
Ridiculed
Indignant
Violated
Furious
Jealous
Provoked
Hostile
Infuriated
Annoyed
Withdrawn
Numb
Sceptical
Dismissive
Judgmental
Embarrassed
Appalled
Revolted
Nauseated
Detestable
Horrified
Hesitant
Embarrassed
Disappointed
Inferior
Empty
Remorseful
Ashamed
Powerless
Grief
Fragile
Victimised
Abandoned
Isolated
Inspired
Hopeful
Intimate
Sensitive
Thankful
Loving
Creative
Courageous
Valued
Respected
Confident
Successful
Inquisitive
Curious
Joyful
Free
Cheeky
Aroused