Year 9

Knowledge Organiser

Term 1: 2019

GREENSHAW LEARNING TRUST

Foreshadowing	an advance sign or warning of what is to come in the future.	Direct address	the name of the person (normally) who is being directly spoken to.
End-stopping	A line of poetry ending with punctuation	Monologue	a long speech by one actor in a play or film
Structure	the structural framework that underlies the order and manner in which a narrative is presented to a reader, listener, or viewer. The narrative text structures are the plot and the setting.	Dramatic irony	the full significance of a character's words or actions is clear to the audience or reader although unknown to the character.
Humour	a literary tool that makes audience laugh, or that intends to induce amusement or laughter	Epic	a long poem, typically one derived from ancient oral tradition, narrating the deeds and adventures of heroic or legendary figures or the past history of a nation.
Realism	to describe story elements without using elaborate imagery, or figurative language.	Figurative language	words or expressions to convey a **meaning** that is **different** from the literal interpretation.
Dialect	a particular form of a language which is peculiar to a specific region or social group.	Form	a **poem's** physical structure. Elements like the **poem's** type, stanza structure, line lengths, rhyme scheme, and rhythm express its **form**.
Oxymoron	a figure of speech in which apparently contradictory terms appear in conjunction (e.g. *faith unfaithful kept him falsely true*).	Half-rhyme	a **rhyme** in which the stressed syllables of ending consonants match, however the preceding vowel sounds do not match.
Metaphor	a figure of speech in which a word or phrase is applied to an object or action to which it is not literally applicable. "time is money"	Iambic pentameter / tetrameter	a line of verse with five metrical feet, each consisting of one short (or unstressed) syllable followed by one long (or stressed) syllable/ four iambic feet.
Simile	comparison of one thing with another thing of a different kind, used to make a description more emphatic or vivid (e.g. *as brave as a lion*).	Internal rhyme	a rhyme involving a word in the middle of a line and another at the end of the line or in the middle of the next.
Imagery	visually descriptive or figurative language, especially in a literary work. "Tennyson uses imagery to create a lyrical emotion"	Onomatopoeia	the formation of a word from a sound associated with what is named (e.g. *cuckoo*, *sizzle*).
Sibilance	Letter combinations creating hissing sounds.	Personification	Giving something inanimate human features.
Tragedy	a play dealing with tragic events and having an unhappy ending, especially one concerning the downfall of the main character.	Rhyming couplet	a rhyming pair of successive lines of verse, typically of the same length.
Protagonist	the leading character or one of the major characters in a play, film, novel, etc.	Semantic field	a set of words grouped together that refers to a specific subject.
Denouement	the final part of a play, film, or narrative in which the strands of the plot are drawn together and matters are explained or resolved.	Juxtaposition	the fact of two things being seen or placed close together with contrasting effect. "the juxtaposition of these two images"
Allusions	calling something to mind without mentioning it explicitly.	Climax	the most intense, exciting, or important point of something; the culmination.
Blank verse	verse without rhyme, especially that which uses iambic pentameters.	Sonnet	a poem of fourteen lines using any of a number of formal rhyme schemes, in English typically having ten syllables per line.
Caesura	a pause in a line of poetry.	Volta	In a sonnet, the turn of thought or argument.
Enjambment	the continuation of a sentence without a pause beyond the end of a line	Characterisation	the creation or construction of a fictional character.
Exposition	The opening of a story, introducing characters, setting and plot.	Context	circumstances forming a background of an event. **Context** may be something cultural, historical, social, or political.
Metre	the rhythm of a piece of poetry, from the number and length of feet in a line.	Dialogue	a conversation between two or more people

Journey's End Knowledge Organiser

Themes:

Realities of War: The poor treatment of soldiers, futility of war, lack of care from commanding officers, the fact the Germans weren't evil monsters and the pointless deaths of soldiers (and young life) are all evident throughout the play.

Comradeship: Stanhope inspires comradery and unity amongst his men. Fear: Stanhope and Hibbert both show fear, but deal with it in differing ways. To what extent are the other soldiers' fearful?

Heroism/ Stoicism: Stanhope doesn't see himself as a hero, despite the fact he works incredibly hard; Raleigh hero worships him. To what extent could the other soldier's be deemed 'heroes'?

Pointlessness of War: The deaths of the soldiers seems avoidable- in both the Raid and the Big Attack- if only superior officers cared about the lives of the men.

Home: The characters talk about home (and nature) to distract themselves from the reality of the trenches and to remind themselves of why they are fighting.

Plot Summary:

Act I: The play opens with Hardy, a company commander, drying his damp sock over a candle; he is interrupted by Osborne who is there to relive him of his duty. Hardy tells Osborne about the German trucks that have been heard across No Man's Land- a sure sign that an attack is coming, we also learn that it is expected within the next six days. After Hardy has left, Raleigh arrives and reveals to Osborne how he knew Stanhope from home, yet Raleigh is completely unaware that Stanhope has turned to alcohol as a coping mechanism for his fears of war (and is the reason he didn't return home last time he was on leave). This cause tension once Stanhope and Raleigh meet and, after Raleigh goes on duty, Stanhope gets drunk- resulting in Osborne having to put him to bed.

Act 2 Scene I: Trotter complains about the poor rations of food whilst Osborne and Raleigh bond over rugby. Raleigh and Osborne then discuss how 'silly' the war is- as the Germans aren't really that bad, and how war is completely different to what Raleigh expected. When Stanhope comes into the dugout Raleigh leaves to write a letter- Stanhope worries that Raleigh will write about how he spends all of his time drinking whiskey (as Raleigh had seen Stanhope drinking when he came of duty the night before). This leads to a tense confrontation where Stanhope forces Raleigh to hand over his letter- only for Osborne to reveal that Raleigh has only said positive things.

Act 2 Scene 2: The Colonel visits to inform Stanhope that Osborne and Raleigh are to direct a raid on the German trenches (with almost certainty that at least one of them will die) in order to find out information for the big attack. Hibbert attempts to go home; Stanhope tries to stop him by threatening to shoot him but eventually offers to support Hibbert and go on duty with him. Osborne takes news of the raid stoically and insists that Trotter doesn't tell Raleigh about the true nature of the raid. When Raleigh enters the dugout, he is excited at the thought of being chosen.

Act 3 Scene 1: Raleigh and Osborne prepare for the raid; the Colonel cowardly implies the Raleigh this will be easy. Osborne gives Stanhope his wedding ring and a letter to his wife. Osborne is killed by a hand grenade waiting for Raleigh. A German prisoner is captured, but very little information is gleaned from him. Raleigh returns from the raid in a daze- shocked at the brutal reality of war.

Act 3 Scene 2: Stanhope, Trotter and Hibbert drink champagne, eat chicken and smoke cigars (as rewards for the raid going 'well'). Despite the attach being at 6am in the morning, Stanhope is determined to get drunk- he becomes frustrated at Hibbert and promotes Trotter to his Second in Command (Osborne's old position). Raleigh refuses to eat in the dugout, believing the men are celebrating despite Osborne's death. When Stanhope confronts him about this, Stanhope eventually breaks down- clearly a man on the edge- and reveals that he drinks to forget.

Act 3 Scene 3: Stanhope wakes up with a hangover. Trotter has already got everyone up and ready for the attack. When the attack comes, Trotter is first up, followed by Raleigh (he and Stanhope haven't spoken since the argument the previous night). Hibbert tries to delay going up but Stanhope forces him to go up to show Mason the way. Suddenly there is a call for stretcher bearers- Stanhope learns Raleigh has been hit in the back by a shell and is paralysed. The bombing is too heavy to take him for treatment so Stanhope orders him to be brought into the dugout. Stanhope conceals the true nature of Raleigh's injuries (who believes he is only winded- like he was playing rugby at school'. Stanhope goes to get Raleigh another blanket and Raleigh dies alone, in agony. Stanhope is clearly grief stricken but forces himself up into the steps for the Big Attack. The noise of the Germans' guns becomes overpowering and the entire dugout is destroyed- symbolising the deaths of all the men.

Context:

World War One: 1914-1918. Considered one of the most brutal and bloodiest conflicts in history.
Propaganda: Convinced young soldiers to sign up- that fighting in WWI was noble. Also presented Germans as evil monsters.
Vimy Ridge: A horrific battle whereby commanding officers ordered their soldiers to run at German machine guns.
Shell Shock: Nowadays known as 'post-traumatic stress disorder'. Soldiers were effectively paralysed with fear.
Superior officers: Soldiers were expected to follow the command of their superior officer, regardless of how daft the order was. Any refusal (also known as insubordination) would result in being court marshalled and shot.

Characters:

Stanhope: Commander of 'C' Company
Osborne: Second in Command
Trotter: Lieutenant
Hibbert: Lieutenant
Raleigh: Stanhope's friend from Barford and Madge's brother (2nd Lieutenant)
Mason: Cook
Sergeant Major: A Senior Officer
The Colonel: Stanhope's superior
Hardy: Another commanding officer
Madge: Stanhope's girlfriend (and unofficial fiancé) [unseen character]
Dr Preston: Never let a 'shirker' past him [unseen character]
Brigadier: The Colonel's superior [unseen character]

Symbolism and Motifs:

Time: There are constant references to time and 'waiting' throughout the play- to reflect the boredom of life in the trenches and the reality that the soldiers are simply waiting to die in the big attack (or raid).
Light: Through the play, the light in the trenches becomes increasingly dim- to reflect either the darkening mood or increasing lack of hope. After Osborne's death, artificial light (the dugouts is 'festively lit with candles') to symbolise the artificial 'happiness' of Stanhope.
Osborne's Pipe: Osborne has to leave his pipe, unfinished and whilst it still has a 'glow' on it, to go on the raid- which is symbolic for how his and other soldiers' lives were cut short.
Earwigs: If you dip an earwig in whiskey it will go faster- just like a soldier.
Uniforms: Used to reflect the characters' mental states. Stanhope's is tidy but 'war-stained', whilst Raleigh's is 'fresh'. However, after the Raid his too has become war-stained. This is symbolic for the minds of the soldiers.

AQA GCSE The rate and extent of chemical change

Rate of reaction

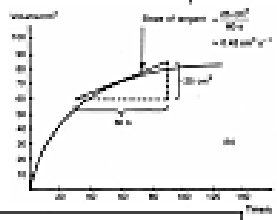
Calculating rates of reactions

Rate of chemical reaction	*This can be calculated by measuring the quantity of reactant used or product formed in a given time.*

Rate = $\frac{\text{quantity of reactant used}}{\text{time taken}}$

Rate = $\frac{\text{quantity of product formed}}{\text{time taken}}$

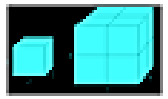
Quantity	Unit
Mass	Grams (g)
Volume	cm^3
Rate of reaction	Grams per cm^3 (g/cm^3) HT: moles per second (mol/s)



Factors affecting rates

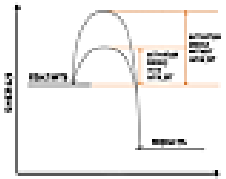
Factors affecting the rate of reaction	
Temperature	*The higher the temperature, the quicker the rate of reaction.*
Concentration	*The higher the concentration, the quicker the rate of reaction.*
Surface area	*The larger the surface area of a reactant solid, the quicker the rate of reaction.*
Pressure (of gases)	*When gases react, the higher the pressure upon them, the quicker the rate of reaction.*

Collision theory and activation energy



Collision theory	*Chemical reactions can only occur when reacting particles collide with each other with sufficient energy.*	Increasing the temperature increases the frequency of collisions and makes the collisions more energetic, therefore increasing the rate of reaction. Increasing the concentration, pressure (gases) and surface area (solids) of reactions increases the frequency of collisions, therefore increasing the rate of reaction.
Activation energy	*This is the minimum amount of energy colliding particles in a reaction need in order to react.*	

Catalysts



If a catalyst is used in a reaction, it is not shown in the word equation.

Catalyst	A catalyst changes the rate of a chemical reaction but is not used in the reaction.
Enzymes	These are biological catalysts.
How do they work?	Catalysts provide a different reaction pathway where reactants do not require as much energy to react when they collide.

Reversible reactions and dynamic equilibrium

Reversible reactions

Reversible reactions	In some chemical reactions, the products can react again to re-form the reactants.
Representing reversible reactions	A + B $\rightleftharpoons$ C + D
The direction	The direction of reversible reactions can be changed by changing conditions: A + B $\overset{\text{heat}}{\underset{\text{cool}}{\rightleftharpoons}}$ C + D

Energy changes and reversible reactions

If one direction of a reversible reaction is exothermic, the opposite direction is endothermic. The same amount of energy is transferred in each case.

For example: Hydrated copper sulfate $\overset{\text{endothermic}}{\underset{\text{exothermic}}{\rightleftharpoons}}$ Anhydrous copper + Water sulfate

Equilibrium

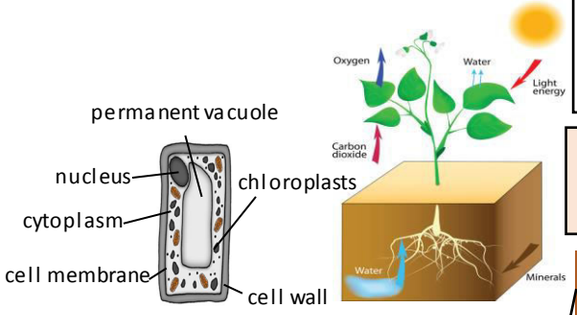
Equilibrium in reversible reactions	When a reversible reaction occurs in apparatus which prevents the escape of reactants and products, equilibrium is reached when the forward and reverse reactions occur exactly at the same rate.

Changing conditions and equilibrium (HT)

The relative amounts of reactants and products at equilibrium depend on the conditions of the reaction.

Le Chatelier's Principles	States that when a system experiences a disturbance (change in condition), it will respond to restore a new equilibrium state.
Changing concentration	If the concentration of a reactant is increased, more products will be formed. If the concentration of a product is decreased, more reactants will react.
Changing temperature	If the temperature of a system at equilibrium is increased: - Exothermic reaction = products decrease - Endothermic reaction = products increase
Changing pressure (gaseous reactions)	For a gaseous system at equilibrium: - Pressure increase = equilibrium position shifts to side of equation with smaller number of molecules. - Pressure decrease = equilibrium position shifts to side of equation with larger number of molecules.

AQA GCSE BIOENERGETICS part 1



Respiration, stored as insoluble starch, fats or oils for storage, cellulose for cell walls, combine with nitrates from the soil to form amino acids for protein synthesis

Plants use the glucose produced in photosynthesis in a variety of ways

Photosynthetic reaction

The plant manufactures glucose from carbon dioxide and water using energy transferred from the environment to the chloroplasts by light

Photosynthesis	***Plants make use of light energy from the environment (ENDOTHERMIC) to make food (glucose)***	Carbon dioxide + Water $\xrightarrow{\text{light}}$ Oxygen + Glucose
		$CO_2 + H_2O \xrightarrow{\text{light}} O_2 + C_6H_{12}O_6$

Control conditions in greenhouses to reduce limiting factors can improve crop yields

Heating	Used to provide optimum temperatures for maximum plant growth.
Artificial lighting	Enhances the natural sunlight especially overnight and on cloudy days.
Extra carbon dioxide	Gas can be pumped into the air inside the greenhouse.

Growers must balance the economics of additional costs of controlling the conditions to maximise photosynthesis with making a profit.

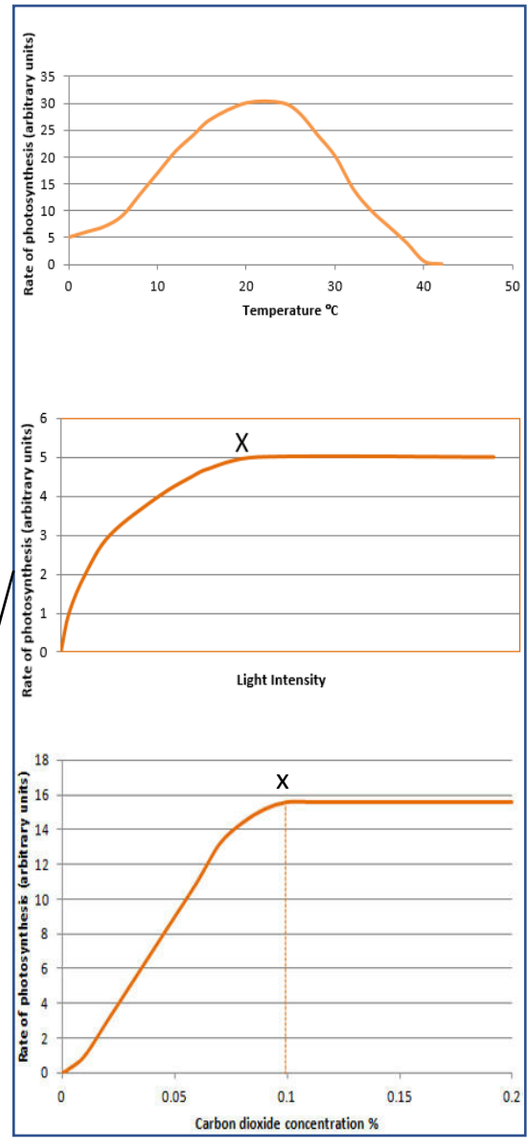
Rate of photosynthesis HT Only

Rate of photosynthesis

The rate of photosynthesis is affected by temperature, light intensity, carbon dioxide concentration, and the amount of chlorophyll

Factors affecting the rate of photosynthesis

Factor	How the rate is affected	Limiting factors (why the rate stops going up)
Temperature	***As the temperature of the environment the plant is in increases rate of photosynthesis increases (up to a point) as there is more energy for the chemical reaction.***	Photosynthesis is an enzyme controlled reaction. If the temperature increases too much, then the enzymes become denatured and the rate of reaction will decrease and stop
Light intensity	***Light intensity increases as the distance between the plant and the light sources increases. As light intensity increases so does the rate of photosynthesis (up to a point) as more energy is available for the chemical reaction.***	At point X another factor is limiting the rate of photosynthesis. This could be carbon dioxide concentration, temperature or the amount of chlorophyll
Carbon dioxide concentration	***Carbon dioxide is needed for plants to make glucose. The rate of photosynthesis will increase when a plant is given higher concentrations of carbon dioxide (up to a point).***	At point X another factor is limiting the rate of photosynthesis. This could be light intensity, temperature or the amount of chlorophyll
Amount of chlorophyll	***Chlorophyll is a photosynthetic pigment that absorbs light and allows the reaction between water and carbon dioxide to occur (photosynthesis)***	Another factor could limit the rate of photosynthesis. This could be light intensity, temperature or the carbon dioxide concentration



Light intensity obeys the inverse square law. This means that if you double the distance between the plant and the light source you quarter the light intensity

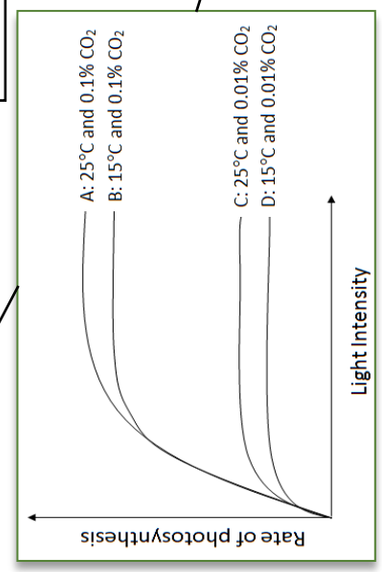
Graph lines C and D: If temperature is increased by 10°C then a slight increase in rate of photosynthesis occurs.

Graph lines A and D: If carbon dioxide concentration and temperature are increased the rate of photosynthesis increases significantly up to a point.

Graph line A: Rate could be limited by temperature and/or amount of chlorophyll. Plant tissue can be damaged when carbon dioxide concentrations exceed 0.1%

Explain graphs of two or three factors and decide which is the limiting factor

Graph Lines A and B: If carbon dioxide concentration is increased from 0.01% to 0.1% then a large increase in rate occurs up to a point.

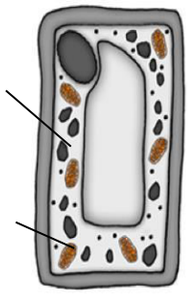


AQA GCSE BIOENERGETICS part 2

Respiration

Cellular respiration is an exothermic reaction which is continuously occurring in all living cells

animal cell



plant cell

Electron micrograph of a mitochondrion

Anaerobic respiration

Respiration when oxygen is in short supply. Occurs during intensive exercise

During hard exercise, muscle cells are respiring so fast that blood cannot transport enough oxygen to meet their needs.

Glucose is partially oxidised to produce lactic acid which builds up in muscle tissue causing them to become painful and fatigued.

glucose → lactic acid

Anaerobic respiration releases a much smaller amount of energy than aerobic respiration.

The incomplete oxidation of glucose causes a build up of lactic acid and creates an oxygen debt

Aerobic respiration

Respiration with oxygen. Occurs inside the mitochondria continuously

Glucose is oxidised by oxygen to transfer the energy the organism needs to perform it's functions.

$C_6H_{12}O_6 + O_2 \rightarrow CO_2 + H_2O$

glucose + oxygen → carbon dioxide + water

Aerobic respiration releases a large amount of energy from each glucose molecule

Anaerobic respiration in plant and yeast cells

The end products are ethanol and carbon dioxide. Anaerobic respiration in yeast cells is called fermentation

glucose → ethanol + carbon dioxide

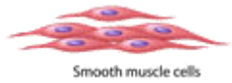
This process is economically important in the manufacture of alcoholic drinks and bread.

Response to exercise

During long periods of vigorous activity muscles become fatigued and stop contracting efficiently

During exercise the human body reacts to increased demand for energy	***Heart rate increases***	Top pump oxygenated blood faster to the muscle tissues and cells.
	Breathing rate and breath volume increase	This increases the amount of oxygen entering the blood stream.

An organism will receive all the energy it needs for living processes as a result of the energy transferred from respiration

For movement	 Smooth muscle cells	To enable muscles to contract in animals.
For keeping warm		To keep a steady body temperature in a cold environment.
For chemical reactions		To build larger molecules from smaller one.

Metabolism

Metabolism is the sum of all the reactions in a cell or the body

Metabolism	***The energy transferred by respiration in cells is used by the organism for the continual enzyme controlled processes of metabolism.***	Conversion of glucose to starch, glycogen and cellulose.
		The formation of lipid molecules from a molecule of glycerol and three molecules of fatty acid.
		The use of glucose and nitrate ions to form amino acids which in turn are used to synthesise proteins.
		Respiration
		Breakdown of excess proteins to form urea for excretion.

Response to exercise HT only

The extra amount of oxygen required to remove all lactic acids from cells is called the oxygen debt

Lactic acid builds up in the muscles cells during exercise → Blood flows through the muscle cells and transports the lactic acid to the liver → The liver oxidises the lactic acid and converts it back to glucose

BHS Science

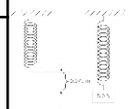
AQA ENERGY – part 1

Energy stores and changes

Mechanical	*Force acts upon an object*
Electrical	*Electric current flow*
Heat	*Temperature difference between objects*
Radiation	*Electromagnetic waves or sound*

Energy pathways

Kinetic energy	*Energy stored by a moving object*	½ X mass X (speed)^2 ½ mv^2
Elastic Potential energy	*Energy stored in a stretched spring, elastic band*	½ X spring constant X (extension)^2 ½ ke^2 (Assuming the limit of proportionality has not been exceeded)
Gravitational Potential energy	*Energy gained by an object raised above the ground*	Mass X gravitational field strength X height mgh



System	*An object or group of objects that interact together*	EG: Kettle boiling water.
Energy stores	*Kinetic, chemical, internal (thermal), gravitational potential, elastic potential, magnetic, electrostatic, nuclear*	Energy is gained or lost from the object or device.
Ways to transfer energy	*Light, sound, electricity, thermal, kinetic are ways to transfer from one store to another store of energy.*	EG: electrical energy transfers chemical energy into thermal energy to heat water up.
Unit	*Joules (J)*	

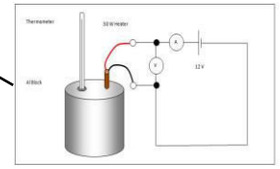
Work	*Doing work transfers energy from one store to another*	By applying a force to move an object the energy store is changed.	Work done = Force X distance moved W = Fs
Power	*The rate of energy transfer*	1 Joule of energy per second = 1 watt of power	Power = energy transfer ÷ time P = E ÷ t Power = work done ÷ time, P = W ÷ t

	Units
Specific Heat Capacity	*Joules per Kilogram degree Celsius (J/Kg°C)*
Temperature change	*Degrees Celsius (°C)*
Work done	*Joules (J)*
Force	*Newton (N)*
Distance moved	*Metre (m)*
Power	*Watts (W)*
Time	*Seconds (s)*

Change in thermal energy = mass **X** specific heat capacity **X** temperature change

ΔE= m **X c X** Δθ

Specific Heat Capacity	*Energy needed to raise 1kg of substance by 1°C*	Depends on: mass of substance, what the substance is and energy put into the system.

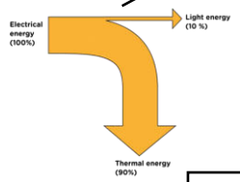


HIGHER: efficiency can be increased using machines.

Efficiency = Useful power output / Total power input

Efficiency = Useful output energy transfer / Total input energy transfer

Efficiency	*How much energy is usefully transferred*



Useful energy	*Energy transferred and used*
Wasted energy	*Dissipated energy, stored less usefully*

Prefix	*Multiple*	Standard form
Kilo	*1000*	10^3
Mega	*1000 000*	10^6
Giga	*100 000 000*	10^9

Energy Conservation and Dissipation

Dissipate	*To scatter in all directions or to use wastefully*	When energy is 'wasted', it dissipates into the surroundings as internal (thermal) energy.

Ways to reduce 'wasted' energy	*Energy transferred usefully*	Insulation, streamline design, lubrication of moving parts.

Principle of conservation of energy	*The amount of energy always stays the same.*	Energy cannot be created or destroyed, only changed from one store to another.

	Units
Energy (KE, EPE, GPE, thermal)	*Joules (J)*
Velocity	*Metres per second (m/s)*
Spring constant	*Newton per metre (N/m)*
Extension	*Metres (m)*
Mass	*Kilogram (Kg)*
Gravitational field strength	*Newton per kilogram (N/Kg)*
Height	*Metres (m)*

HIGHER: When an object is moved, energy is transferred by doing work.

Work done = Force X distance moved

Frictional forces cause energy to be transferred as thermal energy. This is wasted.

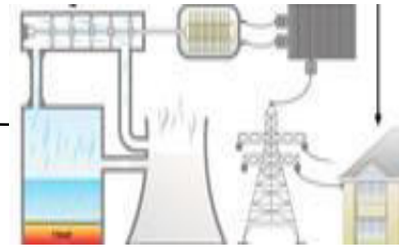
Reducing friction - using wheels, applying lubrication. Reducing air resistance – travelling slowly, streamlining.

Closed system	*No change in total energy in system*
Open system	*Energy can dissipate*

Global Energy Resources

AQA ENERGY – part 2

National Grid



Power station – NB: You need to understand the principle behind generating electricity. An energy resource is burnt to make steam to drive a turbine which drives the generator.

Power station	***Generates electricity***	Fuel burnt releasing thermal energy →	Water boils into steam →	Steam turns turbine →	Turbine turns generator →	Generator induces voltage
National Grid	***Transports electricity across UK***	Power station →	Step-up transformer →	Pylons →	Step-down transformer →	House, factory

Using fuels

Transport	***Petrol, diesel, kerosene produced from oil***	Used in cars, trains and planes.
Heating	***Gas and electricity***	Used in buildings.
Electricity	***Most generated by fossil fuels***	Used to power most devices.

Using renewable energy will need to increase to meet demand.

Renewable energy makes up about 20% of energy consumption.

Fossil fuel reserves are running out.

Energy demand is increasing as population increases.

Energy resources

Non-renewable energy resource	***These will run out. It is a finite reserve. It cannot be replenished.***	e.g. Fossil fuels (coal, oil and gas) and nuclear fuels.
Renewable energy resource	***These will never run out. It is an infinite reserve. It can be replenished.***	e.g. Solar, Tides, Waves, Wind, Geothermal, Biomass, Hydroelectric

Energy resource	***How it works***	Uses	Positive	Negative
Fossil Fuels (coal, oil and gas)	***Burnt to release thermal energy used to turn water into steam to turn turbines***	Generating electricity, heating and transport	Provides most of the UK energy. Large reserves. Cheap to extract. Used in transport, heating and making electricity. Easy to transport.	Non-renewable. Burning coal and oil releases sulfur dioxide. When mixed with rain makes acid rain. Acid rain damages building and kills plants. Burning fossil fuels releases carbon dioxide which contributes to global warming. Serious environmental damage if oil spilt.
Nuclear	***Nuclear fission process***	Generating electricity	No greenhouse gases produced. Lots of energy produced from small amounts of fuel.	Non-renewable. Dangers of radioactive materials being released into air or water. Nuclear sites need high levels of security. Start up costs and decommission costs very expensive. Toxic waste needs careful storing.
Biofuel	***Plant matter burnt to release thermal energy***	Transport and generating electricity	Renewable. As plants grow, they remove carbon dioxide. They are 'carbon neutral'.	Large areas of land needed to grow fuel crops. Habitats destroyed and food not grown. Emits carbon dioxide when burnt thus adding to greenhouse gases and global warming.
Tides	***Every day tides rise and fall, so generation of electricity can be predicted***	Generating electricity	Renewable. Predictable due to consistency of tides. No greenhouse gases produced.	Expensive to set up. A dam like structure is built across an estuary, altering habitats and causing problems for ships and boats.
Waves	***Up and down motion turns turbines***	Generating electricity	Renewable. No waste products.	Can be unreliable depends on wave output as large waves can stop the pistons working.
Hydroelectric	***Falling water spins a turbine***	Generating electricity	Renewable. No waste products.	Habitats destroyed when dam is built.
Wind	***Movement causes turbine to spin which turns a generator***	Generating electricity	Renewable. No waste products.	Unreliable – wind varies. Visual and noise pollution. Dangerous to migrating birds.
Solar	***Directly heats objects in solar panels or sunlight captured in photovoltaic cells***	Generating electricity and some heating	Renewable. No waste products.	Making and installing solar panels expensive. Unreliable due to light intensity.
Geothermal	***Hot rocks under the ground heats water to produce steam to turn turbine***	Generating electricity and heating	Renewable. Clean. No greenhouse gases produced.	Limited to a small number of countries. Geothermal power stations can cause earthquake tremors.

Concept	Remember	Definition	Example related to topic
Components of fitness			
Aerobic endurance	**A**thletes	The ability of the cardiorespiratory system to work efficiently, supplying oxygen and nutrients to the working muscles during **sustained physical activity**.	**Sustained physical activity**- exercise at moderate to high intensity for **30 minutes or longer**. Eg Long-distance runners, games players (football, rugby, hockey, netball); swimmers, cyclists.
Body composition	**B**uild	The ratio of fat mass to fat-free mass. Fat-free mass includes heart, lungs, muscle tissue and bone.	Long distance runners-small muscles and very little body fat so they carry less weight. Gymnasts- lots of muscle and little body fat, they need to be light but also powerful. Shot putter- high levels of muscle to create power, often have excess body fat.
Muscular endurance	**M**uscle	Where a muscle can continue contracting over a period of time against a fixed resistance or load.	Rugby-keep pushing in a ruck or scrum. Rowing- to keep stroke rate high. Football- keep kicking the ball hard. Netball to keep moving at speed.
Flexibility	**F**or	The range of movement around a joint and ability to move a joint fluidly through its complete range of movement.	Gymnasts, athletes, games players (football, rugby, hockey, netball); martial arts competitors
Speed	**S**peed	The distance travelled, divided by the time taken. How quickly a distance can be covered, or an action performed.	Athletes; games players (football, rugby, hockey, netball), whilst sprinting to get a ball or intercept a pass. Striking/hitting, how quickly you can swing the bat or racquet to hit an object.
Power	**P**ower	The ability to undertake strength performances quickly – SPEED x STRENGTH	Most sports require an element of power, the force applied can be into our own body, into someone else or into an object.
Strength	And **S**trength	The maximum force (in Kg or N) that can be generated by a muscle or group of muscles.	Related to how much muscle mass a person has. The more muscle the more force they can produce. Rugby players and weight lifters.
Fitness testing		To test a person's components of fitness to determine strengths and areas for development in a training programme.	For each test there will be a specific protocol (exactly how the test is carried out). A warm-up should be conducted before the test,
Normative data		What is usually expected for a specific population.	Normative tables are available for different groups of the population: Girls and boys (14-16), men and women, elite performers and older people 65+
Reliability		The repeatability of results	If the test is repeated in exactly the same way, the same results should be achieved
Cooper's 12m Run	Aerobic endurance	Protocol: You run a set course for 12 mins and measure your distance covered to the nearest 10 metres.	It tests your aerobic endurance, the ability of the respiratory system to work efficiently, supplying oxygen and nutrients to the working muscles). As a running test, it is a less effective measure for cyclists and swimmers.
One Minute Sit Up Tests	Muscular endurance	Protocol: Perform each sit up with correct technique. Complete as many sit-ups within one minute, record score.	Tests muscular endurance in abdominal muscles, which is not necessarily a good indicator for other muscles in the body. Requires a high degree of motivation to push for as many as you can.
Hand grip dynamometer test	Strength	Protocol: With your arm hanging by your side, squeeze a hand grip dynamometer with your dominant hand for 5 seconds.	This tests muscular strength in your hand and forearm. This is not always indicative of the strength of other muscles in your body.
Sit and Reach Test	Flexibility	Protocol: You sit with your feet against a bench and your legs straight. You reach forwards and a partner measures how far in front of your toes you can reach with your fingers.	This measures the flexibility of the muscles at the backs of your legs, (your hamstrings). A person may have better flexibility in other muscles. Results are also dependent on your warm up.
Sargent Jump Test	Power	Protocol: The Sergeant jump is done by jumping upwards. You chalk your fingers and leave a marker on a wall as high as you can. You then jump up as high as possible and touch the wall again leaving another mark. Your partner measures the difference between the 2 marks.	Tests power in the legs.
30- metre sprint test	Speed	Protocol: From a standing start, on 'Go', sprint 30m as fast as you can.	The surface the test takes place on can affect results eg if it is bumpy or slippery.

	Sport-related advantage	Examples of related sports	Equipment related advantage	Other advantages	Sport-related disadvantage	Equipment related disadvantage	Other disadvantages
Training methods to improve aerobic endurance.							
Continuous training	For sports with constant work rate /intensity	10k running, open water swimming, rowing	Very little equipment needed Other than that for the sport eg bike for cycling. Mostly done outdoors so nothing other than space to train is required. It can be done indoors on a treadmill, exercise cycle or rower.	Can be done on your own whenever you like	Very few sports are at a constant pace the whole time	These types of training are often outside and therefore the weather can impact on performance. Heat can increase fatigue. Cold and wet weather may put people off training.	People may find it boring. Injury risk running on a hard surface. Takes at least 30mins so some people may find it difficult to make time regularly.
Fartlek training	Good for sports with varied intensity (running + sprinting)	Cross-country running Mountain biking		Can control your own pace so can change intensity as needed and to reduce tedium	There is no rest period in this type of training		
Interval training	Good for sports that have varied intensity with recovery periods	Team sports such as hockey- having to sprint for the ball then jog or walk back to position.		Helps to plan for progression in the training programme by increasing the intensity of the work periods or decrease the rest periods			
Training methods to improve muscular endurance.							
Circuit training	Stations can be designed for specific activities and muscle groups and also include sport specific skills	Team sports such as volleyball, hockey, football and individual sports such as squash	A wide range of equipment or bodyweight can be used as a form of resistance, so the cost can be minimal	The stations can be varied, and the time spent on each station can be changed so this is good for avoiding boredom	None	Usually, a card or sign shows what is to be done at each station. Stations need to be organised so you use different muscles at each station	This type of exercise is usually performed as a group. This is more sociable but does restrict when you can do it.
Core stability training	Core stability is required for all sports and activities to maintain posture and reduce back injury	All sports	No equipment is needed as most core stability exercises use only bodyweight. A stability ball is low cost	Can be carried out by an individual at times that fit in with their own commitments	None	None	None
Training methods to improve strength.							
Free weights	Increase strength over a large range of movement	Specific muscles and groups can be targeted to increase strength in these areas eg chest for breast stroke swimmer	Can be stored and used at home and used for a range of muscles		Movements with weights don't exactly replicate the action in sport. Strength will increase but range of motion may not.	Cost to buy barbell/dumbbell Spotter needed	If you had no spotter you may injure yourself
Resistance machines	Increase strength of target muscles for specific sport			Safer for new users less chance of injury, train alone		Very expensive machines which train one muscle group each	
Training methods to improve flexibility							
Static stretching	Help to increase flexibility in specific areas required for specific sports	Increased range of movement at shoulders for a swimmer performing butterfly or increase hip mobility to get low across the hurdle to increase speed	No equipment needed, so no costs or time needed to set up equipment		None	None	None
Dynamic stretching				Good as part of warm up as keeps heart rate raised			
Proprioceptive neuromuscular facilitation (PNF) stretching				Helps to develop flexibility at faster rate compared to other types of flexibility training		Requires an experienced person helping	Increase risk of injury if the person helping does not have experience
Training methods to improve power							
Plyometrics	Can be specific to the muscles that need power	High jump, long jump, basketball, gymnastics	Equipment is cheap and relatively easy to set up	Can be carried out on own at times to suit the individual	None	Benches and bars need to set up to on/off or over	Can cause injury, muscles experience great stress
Anaerobic hill sprints	Good for high intensity running sports	Cross country running	No setting up or cost required		Only specific to sports that require running	Access to a hill is required	Requires high intensity of work, not for the unfit
CrossFit	Can be made sport-specific	Sprinting, shot put, gymnastics	Equipment relatively cheap and not much to set up	Intensity can be varied to cater for different ability levels	None	A range of equipment is required	
Training methods to improve speed							
Interval training	Good for sports that have varied intensity with recovery periods	Team sports where you sprint for the ball then walk or jog back to position	Very little equipment needed Other than that for the sport. Mostly done outdoors so nothing other than space to train is required.	Helps to plan for progression in the training programme by increasing the intensity of the work periods or decrease the rest periods	Does not always replicate the movements from sports as it does not always use sport specific equipment for training	None	This type of exercise if usually performed as a group. This is more sociable but does restrict when you can do it.
Sprint training	Good for sports that require speed	Speed in a straight line eg 100m or the long jump	Inexpensive parachute or bungee ropes can increase resistance	These types of training can use different types of equipment which can reduce boredom	Only useful for straight sprint	Not much equipment, but needs to be bought and stored	
Sport specific training (SAQ) Speed, agility, quickness	Can be sport specific- such as running and dribbling	Good for sports requiring agility eg rugby, basketball or hockey	Can use cones, hurdles and ladders to move around at pace		None	Not much equipment, but needs to be set up before use	

HISTORY KNOWLEDGE ORGANISER: 20th Century Britain

Mud March 1907 | 1914-----World War 1----1918 | Amritsar Massacre 1919 | 1939-----World War 2----1945 | NHS 1948 | Suez Crisis 1956 | Ford Machinists Strike 1968 | Britain joins Europe 1973

Boer War 1899-1902 | Emily Davison killed 1913 | Russian Revolution 1917 | Votes for Women 1918 | Housing Act 1924 | Blitz 1940-41 | Windrush 1948 | Equal Pay Act 1970

KPI 1 The Boer War 1899-1902

Causes

From 1899 to 1902, Britain fought a war in South Africa against Dutch farmers known as **Boers**.

The British wanted to control the **Boers'** land because diamonds and gold had been discovered there.

Events

Britain was the most powerful country in the world. The Boers were poor and untrained. Nevertheless, during **'Black Week'** in 1899, the **Boers** won several surprise victories against the British, for example at **Spion Kop**.

The British army had to bring in reinforcements. However, due to poverty and poor living conditions at home, 40% of new **recruits** were too unfit to fight.

The British eventually defeated the Boers, although 45,000 British soldiers died and the war cost £211 million.

SIGNIFICANCE 1 The **Boer War** showed that it was not easy for Britain to defend the Empire. It showed Britain's rivals – like Germany – that she could be defeated.

SIGNIFICANCE 2 The war revealed that British men were not fit enough to fight a war. This led the **Liberal** government elected in 1906 to introduce the first elements of the **welfare state**, which included sick pay and free school meals.

KPI 2 Votes for Women

Role of Women in Britain

Britain in the 19th Century was a **patriarchal** society. Women could not vote and were expected to stay at home and look after children.

Suffragists

The **suffragists** were women who protested for the right to vote using peaceful and legal methods. The main **suffragist** group was the NUWSS, led by **Millicent Fawcett**.

The NUWSS put pressure on MPs to introduce new laws giving women the right to vote. They also organised protests like the 1907 **Mud March**, which was attended by 3,000 people.

Suffragettes

Suffragettes used illegal methods to protest. Led by the Pankhurst family and the WSPU, **suffragettes** smashed windows, set bombs in politicians houses, and went on **hunger strike**. In 1913, **Emily Davison** was killed when she ran in front of the King's horse at the **Epsom Derby**.

SIGNIFICANCE 1 Although the **suffragists** and **suffragettes** gained publicity for women's suffrage, the government did not allow women to vote. During World War I, most protests stopped.

KPI 3 World War I

Overview

In 1914, war broke out between the **alliance** of France, Britain, and Russia and the **alliance** of Germany, Austria-Hungary, and Italy.

Battles took place in France and Belgium, called the **Western Front**, and in Russia, called the **Eastern Front**. There was also fighting the Middle East and parts of Africa.

Trench Warfare

In 1914, the German army advanced into France. However, they were stopped by the French and British armies. Each side dug **trenches**.

Life in the **trenches** was difficult. Soldiers lived under constant threat of enemy attack. They were very muddy, uncomfortable and the toilets overflowed. These conditions caused some soldiers to develop medical problems such as **trench foot**.

Women

During World War I, women were needed to do jobs that men had done before.

Over one million women worked in factories, producing **munitions** for the army. This work was very dangerous, with many dying in explosions or from diseases caught in factories.

The Empire

Britain's **colonies** sent men to fight for Britain during the war. 1.5 million Indians fought for Britain.

Britain encouraged Indian soldiers to join the army by promising **India** some **independence** from the Empire.

SIGNIFICANCE 1 Women's contribution to the war effort proved that they were the equal of men and encouraged the government to give them the vote.

SIGNIFICANCE 2 British men and women sacrificed so much that the government felt pressured to improve their lives. In 1919, the government promised to build **'Homes for Heroes'** to replace old **slums**.

SIGNIFICANCE 3 The experience of fighting a war together brought Britain closer to her **colonies**. However, Indians now saw themselves as equals and were hungry for **independence**.

KPI 4 Red Clydeside

Conditions in Cities

During the years before World War I, Britain had undergone rapid industrialisation.

In cities like London and Glasgow, people had to live in overcrowded **slum housing** with toilets shared by up to 40 people and no running water.

Communism

In Europe, some people were turning towards **communism**: this involved using the power of the government to make society freer and fairer.

In 1917, communists killed the Russian royal family and took power. The **Russian Revolution** terrified governments across Europe because the **communists** tried to share wealth amongst the people.

Red Clydeside

In Glasgow, **communists** working at the shipyards on **Clydeside** threatened to go on **strike** and stop building ships for war unless their demands for better conditions were met. In response, the government kept rents low.

The **Glasgow Women's Housing Association** called a **rent strike** in 1915, refusing to pay rent to protest the poor quality of housing. They wanted the government to take control of housing.

SIGNIFICANCE 1 The threat of **communism** abroad and the strikes on **Red Clydeside** forced the government to develop the **welfare state**. For example, Labour MPs elected from **Red Clydeside** passed the **1924 Housing Act** which led to the building of half a million decent houses which could be rented cheaply.

KPI 5 After World War I

Debt

Although Britain won, World War I was expensive. Britain took out loans from the USA and was £7.4 billion in **debt** by 1919.

The Amritsar Massacre

Although Britain had promised some **independence** to India after the war, this promise was broken.

When Indians, led by **Mahatma Gandhi**, began non-violent protests against British rule, the British responded with violence. In 1919, 400 Indian protestors were shot dead by British forces led by **General Dyer**. This was known as the **Amritsar Massacre**.

Votes for Women

The contribution of women to the war persuaded Parliament to act. In 1918, **the Representation of the People Act** was passed, giving all women over 30 the vote. In 1928, all women over 21 were given the vote, the same as men.

SIGNIFICANCE 1 The war weakened the British Empire by making Britain poorer and encouraging Indians to protest. Events like the Amritsar Massacre made Indians even more desperate for independence.

SIGNIFICANCE 2 The war encouraged Parliament to give women the right to vote.

KPI 6 World War II

Britain's role in World War II

Britain fought against **Hitler's** Germany in World War II. For a time in 1940, Britain stood alone against Nazi Germany. During the Battle of Britain, the **Royal Air Force** defeated the **Luftwaffe** and stopped Hitler invading.

Britain lost many colonies during the war, including **Singapore**, which was captured by Japan in 1942.

In 1941, Russia and the USA joined the war against Hitler. By 1945, the **allies** defeated Germany.

The Blitz

During 1940-1, the **Luftwaffe** bombed British cities. More than 40,000 people were killed in the **Blitz**.

The government took a greater role in people's lives to protect them during the **Blitz**, this included evacuating children to the countryside, enforcing a **blackout**, and building bomb shelters. The government also introduced **rationing** to make sure the country did not run out of food.

Women

During World War II, British women played an important role.

Women worked in factories and on farms, doing work normally done by men.

Women also made up most of the workforce at **Bletchley Park**, a secret intelligence base where early computers were used to break Nazi codes.

SIGNIFICANCE 1 Women proved their ability to work outside the home

SIGNIFICANCE 2 The British Empire declined as Britain lost colonies and fell further in **debt**

SIGNIFICANCE 3 The government took a greater role in the lives of ordinary people, preparing the way for the **welfare state**.

KPI 7 1945

The Welfare State

In the 1945 General Election, the country elected a Labour government who were committed to building a **welfare state** for the people who had sacrificed so much during World War II.

During the 1940s, the government introduced a **National Insurance Act** which provided sick pay and built 1.25 million new homes.

The NHS

Most importantly, the government set up the **National Health Service** in 1948. This meant that everyone could get free healthcare '**from the cradle to the grave**.'

The NHS provided free GP visits, hospital care, and medicines. As a result, **life expectancy** has increased from 63 in 1945 to 81 today.

Decolonisation

In 1945, Britain was **bankrupt** and owed billions to the US. More money was also being spent on the **welfare state**.

As a result, Britain could not afford a large empire and India won **independence** in 1948.

SIGNIFICANCE 1 The creation of a '**cradle to grave**' welfare state in 1945 meant the government now accepted full responsibility for people's lives

SIGNIFICANCE 2 Britain could no longer afford to a large empire

KPI 8 Immigration

Empire Windrush

In 1948, a ship called the **Empire Windrush** brought 500 Jamaicans to London. This was the start of the mass **immigration** of people from British **colonies** to Britain.

In the years that followed, the British government encouraged **migration** because Britain needed people to work in the NHS and help rebuild cities after the Blitz.

Later Immigration

In the 1960s, **Indians and Pakistanis** arrived in Britain fleeing violence. Many found work in **textile mills** in Manchester.

During the 1970s, Asian people who had been kicked out of ex-British **colonies Uganda** and **Kenya** also settled in Britain.

SIGNIFICANCE 1 The relationship with the British Empire changed as people who lived in British colonies came to live in Britain

SIGNIFICANCE 2 The **welfare state** benefited from migrant workers

KPI 9 Britain and the Postwar World

The Suez Crisis

Although the Empire was in decline, the British still had important bases across the world. One of these was the **Suez Canal**, located in **Egypt**.

In 1956, the Egyptian president, **Nasser**, nationalised the canal. The British prime minister, **Eden**, responded by making a secret plan with France and Israel to attack Egypt.

When America found out about the plan, they ordered British troops to withdraw. The US **President Eisenhower** threatened to withdraw US loans. Eden had to back down.

Britain and Europe

After World War II, **France**, **Germany**, and other European countries formed the **European Community**. This made trade and **migration** between member countries easier and made war less likely.

Without an Empire, Britain turned to Europe. France blocked British entry twice, but Britain finally voted to join the **European Community** in 1973. Being part of Europe allowed Britain to become wealthier because it could trade freely with **Germany** and **France**. Britain also had to follow European law, for example making sure men and women were paid equally for the work they did. Membership of the **EC** also led to **immigration** from countries like **Poland** and **Romania**.

SIGNIFICANCE 1 The **Suez Crisis** showed that Britain could not hold on to its colonies if they wanted **independence**. The British Empire was over.

SIGNIFICANCE 2 Entry into the **European Community** was significant because it led to immigration and better trade opportunities.

KPI 10 Equal Pay

Ford Machinists Strike

In 1968, women working at the Ford car factory in Dagenham went on strike. They were paid 15% less than men doing the same work and wanted equal pay.

The strike lasted three weeks and car production was stopped. With the help of **Barbara Castle**, a Labour politician, the strikers won a pay rise, although they were still not paid the same as men.

Equal Pay Act 1970

The Ford strike inspired women to protest about inequality at work, leading to a march for equal pay in 1969.

In 1970, MPs passed the **Equal Pay Act** which made it illegal to pay women less than men for the same work.

Despite the act, by 1997 the average woman still earnt 17.4% less than the average man.

SIGNIFICANCE 1 The Ford strike started a movement which led to the government taking action on the **gender pay gap**. Women now moved towards economic, as well as political, equality.

Alliance	a group of countries fighting together	**Luftwaffe**	The German air force
Bankrupt	Run out of money	**Munitions**	Shells and bullets
Boers	Dutch farmers in South Africa	**Nazis**	Political party ruling Germany 1933-45
Blackout	No lights allowed after dark	**Patriarchal**	Run by men
Blitz	German bombing of UK cities	**Rationing**	Limiting how much food you can have
Clydeside	Shipbuilding area of Glasgow	**Recruits**	People joining the army
Communism	Political idea of equality	**Rent Strike**	Stopping paying rent as a protest
Colonies	Parts of an empire	**Royal Air Force**	The British air force
'Cradle to Grave'	Throughout your life	**Russian Revolution**	When communists took power in Russia, 1917
Decolonisation	When colonies leave an empire	**Singapore**	British colony in southeast Asia
Epsom Derby	Famous horse race	**Slums**	Poor quality housing
European Community	Group of European countries, now EU	**Strike**	Stopping work as a protest
Gender pay gap	Gap between male/female wages	**Suez Canal**	Canal across Egypt, important for British trade
Hitler	German leader in WW2	**Suffragettes**	Violent protestors for women's votes
Hunger Strike	Stopping eating as a protest	**Suffragists**	Non-violent protestors for women's votes
Immigration	People moving to a new country	**Textile Mills**	Factories making cotton and cloth
Independence	Free from an empire	**Trenches**	Narrow holes in the ground for protection
Industrialisation	More people working in factories	**Trench Foot**	Disease caused by standing in cold mud
Labour Party	Party of poor people, pro government	**Welfare State**	When the government looks after people
Liberal Party	Party of rich people who help poor	**Western Front**	Trench warfare between Ger, Fr, and Br in WW1

Y9 History Knowledge Organiser: The Jim Crow South

TIMELINE

1619	The first African slaves arrive in America
1861	**American Civil War** begins
1863	The **Emancipation Proclamation**
1865	North wins the **Civil War**; slavery ends
1877	**Reconstruction** ends
1887	Thibodaux Sugar Massacre
1889	Thomas Moss is lynched
1890s	Jim Crow laws are introduced
1896	Plessy vs. Ferguson
1909	NAACP set up
1910	Johnson wins 'Fight of the Century'
1913	Woodrow Wilson segregates White House
1915	*Birth of a Nation* released

KPI 1 Slavery and the American Civil War

American Slavery

Between the 17th and 19th centuries, Europeans and white Americans captured and bought Africans and sold them as slaves. Slaves were:

- not paid
- not free to leave for another job
- seen as a piece of property to be bought and sold

By 1860 around 4 million slaves worked on tobacco and cotton **plantations** in **the South**.

The American Civil War

In 1860, Abraham Lincoln was elected president. He opposed slavery.

In response, the southern states broke away from the US. Between 1861 and 1865, the North fought a **civil war** against the **South** to decide whether slavery would continue spreading.

In 1863, **President Lincoln** signed the **Emancipation Proclamation** which made all slaves free. The northern states won the **Civil War** in 1865 and slavery ended.

Reconstruction

After the Civil War, **the South** was ruled by **the North** during the period of **Reconstruction**. **African Americans** won the right to vote.

African Americans were granted the right to vote and over 1500 black politicians won elections.

However, in 1877, white southerners regained their independence. Slowly, they began to introduce laws that limited the power and freedom of African Americans.

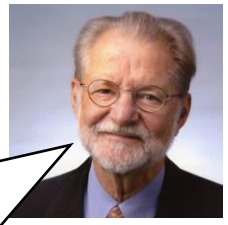
KPI 2 Pete Daniel and the Jim Crow South

Jim Crow

In the years after **Reconstruction**, a system of laws and violence emerged that made sure that African Americans remained **second-class citizens**, even though slavery had ended. This system was called **Jim Crow**, after a popular theatre character. It remained in place until the 1960s.

Pete Daniel

In 1979 the historian Pete Daniel used a metaphor to describe the **Jim Crow** system of laws that came after slavery:



*"The system of racial oppression that emerged after slavery can be likened to an unfinished **patchwork quilt**; year by year the design would change - a law added here, a law there, while **lynchings**, beatings, **vagrancy** laws, and **illiteracy** eventually pieced it out. Yet the quilt **transcended** the patches; its ultimate pattern was greater than its parts. There was a strength in its design that may well have been **aesthetically pleasing** to the people who sewed it, but to those it covered, it was **stifling**."*

In other words: African Americans faced lots of little problems → Each problem made the other problems worse → The problems combined to stop African Americans being free and equal

KPI 3 Segregation

Segregation meant the separation of black and white people.

In the years after 1877, state governments in the South introduced **Jim Crow** laws which forced African Americans to use separate…

- Train carriages
- Schools
- Restaurants
- Swimming Pools
- Toilets and water fountains

In 1896 the **Plessy vs. Ferguson Supreme Court** decision ruled that **segregation** was legal, as long as **facilities** were equal.

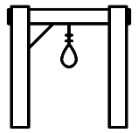
In reality, however, **segregated facilities** were almost always **inferior** to white facilities.

As a result…

- **Black schools were underfunded** — Alabama spent $37 on each white child and just $7 on each black child → **By 1890, more than 60% of black Americans were illiterate**
- **Black children had low self-esteem**

KPI 4 Disenfranchisement

African Americans could not vote for representatives in Congress or presidents because of **disenfranchisement.** White southerners used different methods to stop African Americans voting including:



Intimidation: African Americans who tried to vote were threatened with violence, including lynching

Literacy Tests: voters had to take a literacy test, which many black Americans failed because they were illiterate

Poll Tax: voters had to pay a tax to vote. In Texas, everyone had to pay $1.50 each year to be able to vote.

As a result…

- **African Americans could not elect politicians who stood up for them**
- **African Americans were unable to change segregation laws**
- **African Americans were unable to make lynching illegal**

KPI 5 White Supremacy

Pseudoscience

White supremacy is an **ideology** that states that white people are *naturally* better than black people.

This was supported by scientific ideas at that time. In the Biology department of **Harvard University**, students learnt that African Americans were closer to chimpanzees than whites. We would now call this **pseudoscience**.

Laws

White supremacy was a widespread idea amongst American politicians. As a result they supported Jim Crow. For example:

The Supreme Court

In 1896, the **Supreme Court** ruled in the **Plessy vs. Ferguson** case that segregation was legal.

The President

President Woodrow Wilson (1912-1920) **segregated** the White House in 1913

As a result…

- **Jim Crow laws had support from a large part of white America**
- **It was difficult for African Americans to change laws to secure freedom and equality**

KPI 6 Sharecropping

When slavery ended, many former slaves continued to work as **sharecroppers** on the **plantations** of former slave owners.

Sharecroppers were not paid but received a share of the profit when the crops were sold at harvest time.

Sharecroppers were forced to loan money from the plantation owner during the year. Usually, the share of the profit they received was not enough to repay the **debt**.

As a result of **illiteracy**, **sharecroppers** often misunderstood the complex contracts they signed with plantation owners. This led to them receiving a lesser share of the **profit**.

Thibodaux Sugar Massacre

Many **sharecroppers** tried to change this situation. In **Thibodaux, Louisiana** in 1887, 10,000 sugar workers went on strike after their bosses refused to pay them every two weeks.

The white **planation** owners responded with **violence** and 35 sugar workers were killed

As a result…

Sharecroppers were not allowed to leave the plantations until they had paid back their debts

Many African Americans lived in poverty

Violence prevented African Americans from fighting back

KPI 7 Stereotypes

During the Jim Crow period, negative stereotypes of black Americans were created and spread by films, novels, and advertisements. These stereotypes included:

'African Americans were only suited to low paid work' — *Adverts often showed African Americans working as cooks or servants*

'African Americans were stupid and lazy' — *When African Americans spoke in films or adverts they mispronounced words*

'African Americans were violent and threatened white women' — *Films like* **Birth of a Nation** (1915) *warned about aggressive black men attacking white women*

As a result…

Black Americans found it hard to get well-paid jobs

Stereotypes encouraged violence against black men: KKK membership reached over 2 million by the 1920s

KPI 8 Ida B. Wells

- Ida B. Wells was a journalist and teacher in **the South**. She was sacked from her job as a teacher for writing a newspaper article complaining that, although white teachers were paid $80 per week, she was paid just $30 a week.
- Wells campaigned against **lynching** following the murder of her friend **Thomas Moss** in 1889. Moss was killed because white shopkeepers were jealous of the success of his grocery store.
- In 1889 alone, 29 black men were lynched in Georgia
- In her newspaper, ***The Free Speech***, Wells wrote hundreds of articles that showed the world the problem of lynching.
- She also travelled abroad, visiting England in 1892 and 1894 and giving a speech in Bristol. When she returned home, her offices had been attacked.
- Wells campaigned for a law to make **lynching** illegal. The law was rejected over 200 times by Congress

KPI 9 Divided Resistance

Black Americans opposed **Jim Crow** but disagreed about how best to do it:

NACW (National Association of Colored Women)	Middle-class black women	Urged AAs to live respectable lives, e.g. 'Take a Bath First'	Campaigned for voting rights for women
Jack Johnson	Heavyweight Boxing Champion of the World	Defeated Jim Jefferies in 'The Fight of the Century'	Known for his **flamboyant** lifestyle (wealth, alcohol, women)
Booker T. Washington	Taught farming and business skills at the Tuskegee Institute	Believed AAs should accept segregation and stop complaining	Instead, focused on winning economic equality
W.E.B. DuBois	Professor of History and Philosophy	Founded the NAACP to protest for black rights	Used statistics to draw attention to injustice

As a result…

The opposition to Jim Crow was divided and weak

VOCABULARY

Abraham Lincoln	President who ended slavery
Aesthetically pleasing	Prettily
Civil War	War between North and South
Congress	American parliament
Disenfranchisement	Not being able to vote
Emancipation	Freedom from being a slave
Facilities	Schools, transport, shops, etc
Harvard	The most respected US university
Ideology	A group of ideas
Illiterate	Not able to read or write
Inferior	Worse
Intimidation	Scaring someone with violence
Jim Crow	Racial system in the South
Literacy tests	Spelling tests before you vote
Louisiana	A southern state
Lynching	Violent murder, often hanging
NAACP	Black protest group
Northern states	Part of US without slavery
Patchwork quilt	Duvet made of many squares
Plantations	Farms
Plessy vs. Ferguson	Supreme Court case stating segregation was legal
Poll tax	A tax voters have to pay
Pseudoscience	Incorrect scientific ideas
Reconstruction	When North controlled South
Second-class citizens	People who are not treated equally in their country
Self-esteem	How you feel about yourself
Segregation	Separating the races
Sharecropping	Working for a share of the crop
The South	Part of the US with slavery
Southern states	Part of the US with slavery
Stereotypes	False ideas about somebody
Stifling	Suffocating
Supreme Court	The most powerful law court in America
Transcended	Was more than
Vagrancy	Homelessness
Went on strike	Stopped working to protest
White supremacy	Ideology stating that whites were naturally superior

YR 9 Health and Social Care

KNOWLEDGE ORGANISER Component 1.

Self-esteem

Self-esteem is how much you like, accept and respect yourself. How much you value yourself

Self-esteem can change on a daily basis. Things that can affect self-esteem include:

- The attitude of parents, carers and families
- Success or lack of it at school or work
- The comments of friends

People with low self-esteem may believe they are worthless and that no one will like them.

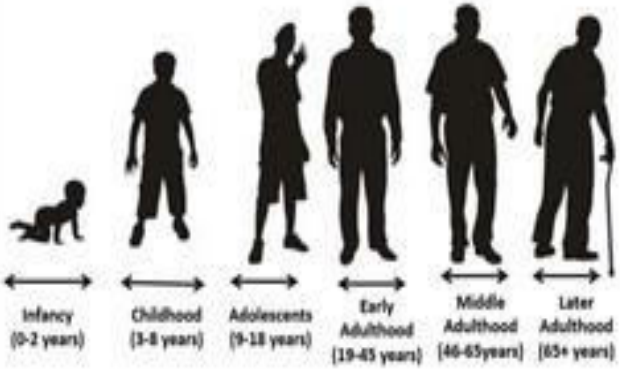
Self-image

Is the mental picture we have of ourselves.

A person's positive or negative self-image is influenced by such things as:

- Personal appearance
- The media – televisions, magazines images of what is attractive and expected
- Comparison with other people
- The comments of other people

Life stages



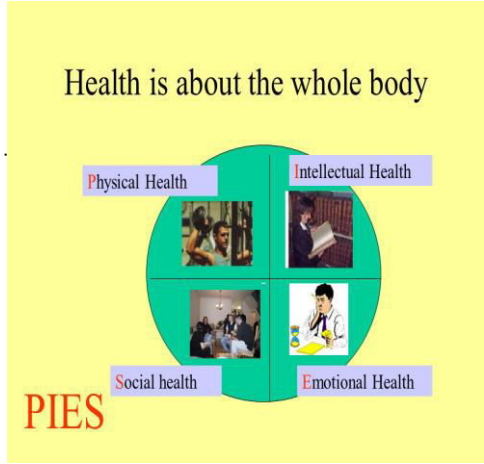
Growth and Development

Growth is a change in size and weight and is easy to measure, for example height/ weight, where as development is different because it involves acquiring new skills and capabilities for example being able to count or write.

KEY WORDS

PHYSICAL
INTELLECTUAL
EMOTIONAL
SOCIAL

PERSON CENTRED APPROACH
GROWTH
DEVELOPMENT
INFANCY
CHILDHOOD
ADOLECENCE
EARLY ADULTHOOD
MIDDLE ADULTHOOD
LATER ADULTHOOD
LIFE STAGES
SELF ESTEEM
SELF IMAGE



Year 9 Cycle 1: Careers and Finance
Subject Organiser

1) Difference between a skill and a quality:

Skill = something that has been learnt and practised e.g. riding a bike
Quality = A personality trait e.g. confident

2) Types of employment:

Volunteer – Somebody who is unpaid, giving up their time for free
Full time – Normal working hours would be Monday – Friday (or 5 days a week), 9am -5pm
Part time – Somebody who works fewer than 5 days a week
Seasonal – Somebody who is only employed in one season e.g. summer

3) CV writing

A CV is a document which when you apply for jobs, you will have to hand over to apply for the position. You will need to know how to write it and what the different sections on the document means.
Qualifications = Things you have won and earnt e.g. GCSEs, A Levels
Skills = Things you have done or learnt that will help you get the job.
Experience = If you have done any work at home or outside school that is similar to work experience or if you have had any previous experience in that sector.

Key terms

a) Basic Pay - This is what you earn before any additions or deductions
b) Over time - Sometimes you might get paid extra for working more hours. This might be at "time and a half" or "double time"
c) Annual Salary -
d) Gross Salary - Gross pay is the total of your basic pay + any overtime
e) Net Pay - Net pay is the amount of pay you actually receive. Sometimes called "take home pay" This is what you receive after deductions are taken off your Gross Pay. Deductions are things like Income Tax, National Insurance and Pension Contributions
f) Credit Card = A card people get from banks when they need to borrow money
g) APR = The interest somebody has to pay on a credit card when they borrow money
h) Loan = A set amount of money given to a person from a bank with agreed interest and time to pay back

Working out these calculations:

Basic Pay = Hours worked x hourly wage
Overtime = EXTRA hours worked x (1.5 x hourly wage)
Gross Pay = Basic pay + Overtime
Net Pay = Gross pay – any reductions
For example….
Joe works at a coffee shop. He works 12 hours a week on £8 per hour. He works 5 hours overtime.
To work out his basic pay = 12 hours x £8 = £96
To work out his overtime = 5 x (1.5 x £8 = £12) = 5 x £12 = £60
To work out his gross pay = £96 + £60 = £156

Working out interest rates on credit cards and loans

To work out how much interest somebody has to pay back = (Amount of money borrowed/100 x the APR) X the years they have to pay back the loan
To work out the total of money paid back = amount of loan + interest
For example….
Dan has borrowed £10000 from the bank with an APR of 5%. He has been given 3 year to pay it back.
To work out his interest = (£10000/100) x 3) = £300
To work out the total money he has to pay back = £10 000 + £300 = £10300

Advantages and disadvantages of credit cards:

Advantages	Disadvantages
• Good for emergencies • Good for treating yourself • Help you to manage your money better • Can assist with getting you a good credit rating.	• Irresponsible spending. • Running out of money because you are paying off debts, so having to spend more on the card. • If you miss a re-payment, you will get charged a fee/fine.

Young people at work

Definitions of young people and children by age:

- **A young person** is anyone under 18 and
- **A child** is anyone who has not yet reached the official minimum school leaving age (MSLA). Pupils will reach the MSLA in the school year in which they turn 16.

Under the Management of Health and Safety at Work Regulations 1999, an employer has a responsibility to ensure that young people employed by them are not exposed to risk due to:

- lack of experience
- being unaware of existing or potential risks and/or
- lack of maturity

An employer must consider:

- the layout of the workplace
- the physical, biological and chemical agents they will be exposed to
- how they will handle work equipment
- how the work and processes are organised
- the extent of health and safety training needed
- risks from particular agents, processes and work

Gambling

In the Gambling Act 2005 gambling is defined as betting, gaming or participating in a lottery. That definition distinguishes between activities which need to be **licensed** and other activities which do not. Gambling includes the following: arcades, betting (online, at an event or in a high street bookmakers), bingo (online or in a bingo hall), casino (online or in a casino), lotteries (raffles, tombola's, sweepstakes etc), gaming machines (fruit machines, fixed odds betting terminals etc)

Young people who become addicted to gambling may find they are:

• Lying to friends about what they are doing
• Short of money
• Feeling they cannot tell anyone and becoming secretive and isolated from friends and family
• Neglecting their school work, health and appearance
• Agitated
• Having mood swings
• Losing friends and their social life as they become obsessed with gambling

If the gambling worsens it can have a devastating effect on the young person's life. They can:

• Develop large debts
• Lose support from friends and family
• Get into trouble at school (non-attendance)
• Think only about gambling
• Gamble alone for long sessions
• Carry on gambling until they have lost all their money
• Constantly chase losses in an attempt to win back money, but end up in more debt
• Lie to friends and family about the amount they are gambling
• Commit crime to pay for gambling or pay off debts

Drama Knowledge Organiser – Year 9- 1.1 Stage Combat

Learning Aim: To learn the skills to successfully devise and perform a stage combat fight

Key Skills	Definition
Facial Expression	Using your face to communicate emotion
Body Language	Using your body and movement to communicate attitudes and feelings
Gesture	A movement of part of the body, especially a hand or the head, to express an idea or meaning.
Voice	Speaking in a way that is suitable to your character and changing your voice to communicate emotion.

Performance skills for this topic	Definition
Accuracy	The quality or state of being accurate and precise.
Co-ordination	The organisation of the different elements of a complex body or activity to enable them to work together effectively.
Posture	A position in which someone holds their body when sitting or standing.
Energy	Energy refers to the strength and vitality required for sustained physical or mental activity.
Movement Memory	The ability to memorise movements or the blocking of a performance.
Spatial awareness	Spatial awareness is the ability to be aware of oneself in space. It is an organised knowledge of objects in relation to oneself in that given space. Spatial awareness also involves understanding the relationship of these objects when there is a change of position.
Projection	Raising your voice so it is loud and clear enough for the audience to be able to hear the dialogue.

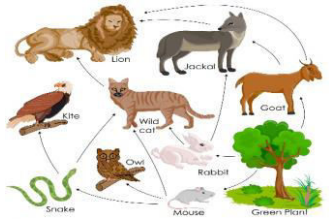
Stage Combat Skills	Definition
Knap	The sound the victim of a stage combat move makes by clapping their hands to mimic the sound of a punch or slap.
Physical Action	Physical action refers to the stage combat moves the attacker performs. These can include a punch, slap, head slam, hair pull, strangle and ground kick. It is important that the attacker use lots of energy and key performance skills to sell the fight to the audience.
Physical Reaction	Physical reaction refers to the way the victim of stage combat acts to make it look like they really have been hit. The victim needs to include facial expression as well as physically moving in the direction of the hit. Furthermore, they must add a vocal reaction.
Scene Development	Scene development is the story that you choose to include your stage combat fight in. It must start in a specific setting (hairdressers, school etc.) and slowly build into a vocal argument and eventually a physical fight.
Blocking	Blocking is when the performers decide where on the stage each piece of the piece will happen. Blocking is essential, without blocking each moment of the performance, performers may face the back, stand in front other performers, or hide at the back of the stage. Blocking can also help the audience to understand where they should be looking at any moment. In stage combat, each precise move must be planned and blocked to ensure that no one really is hit.
Tension	A feeing of stress and anxiety building. If tension is successfully created in a stage combat scene, the audience will be sat on the edge of their seats, as they know something is going to happen, but they do not know what or when.

What is an Ecosystem?

An ecosystem is a system in which organisms interact with each other and with their environment.

Ecosystem's Components

Abiotic	These are **non-living**, such as air, water, heat and rock.
Biotic	These are **living**, such as plants, insects, and animals.
Flora	**Plant life** occurring in a particular region or time.
Fauna	**Animal life** of any particular region or time.



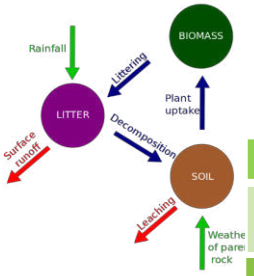
Food Web and Chains

Simple **food chains** are useful in explaining the basic principles behind ecosystems. They show only one species at a particular trophic level. **Food webs** however consists of a network of many food chains interconnected together.

Nutrient cycle

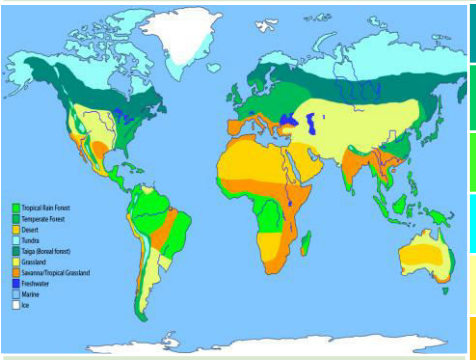
Plants take in **nutrients** to build into new organic matter. Nutrients are taken up when animals eat plants and then returned to the soil when animals die and the body is broken down by **decomposers**.

Litter	This is the **surface layer** of vegetation, which over time breaks down to become **humus**.
Biomass	The total **mass of living organisms** per unit area.



Biomes

A biome is a **large geographical area of distinctive plant and animal groups**, which are adapted to that particular environment. The climate and geography of a region determines what type of biome can exist in that region.



	Coniferous forest
	Deciduous forest
	Tropical rainforests
	Tundra
	Temperate grasslands
	Tropical grasslands
	Hot deserts.

The **most productive biomes** – which have the greatest biomass- grow in climates that are **hot and wet**.

Biome's climate and plants

Biome	Location	Temperature	Rainfall	Flora	Fauna
Tropical rainforest	Centred along the Equator.	Hot all year (25-30°C)	Very high (over 200mm/year)	Tall trees forming a canopy; wide variety of species.	Greatest range of different animal species. Most live in canopy layer
Tropical grasslands	Between latitudes 5°- 30° north & south of Equator.	Warm all year (20-30°C)	Wet + dry season (500-1500mm/year)	Grasslands with widely spaced trees.	Large hoofed herbivores and carnivores dominate.
Hot desert	Found along the tropics of Cancer and Capricorn.	Hot by day (over 30°C) Cold by night	Very low (below 300mm/year)	Lack of plants and few species; adapted to drought.	Many animals are small and nocturnal: except for the camel.
Temperate forest	Between latitudes 40°- 60° north of Equator.	Warm summers + mild winters (5-20°C)	Variable rainfall (500-1500m /year)	Mainly deciduous trees; a variety of species.	Animals adapt to colder and warmer climates. Some migrate.
Tundra	Far Latitudes of 65° north and south of Equator	Cold winter + cool summers (below 10°C)	Low rainfall (below 500mm/ year)	Small plants grow close to the ground and only in summer.	Low number of species. Most animals found along coast.
Coral Reefs	Found within 30° north – south of Equator in tropical waters.	Warm water all year round with temperatures of 18°C	Wet + dry seasons. Rainfall varies greatly due to location.	Small range of plant life which includes algae and sea grasses that shelters reef animals.	Dominated by polyps and a diverse range of fish species.

Unit 1b

The Living World

Tropical Rainforest Biome

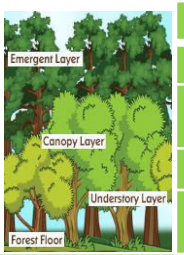
Tropical rainforest cover about **2 per cent** of the Earth's surface yet they are home to **over half of the world's plant and animals**.

Interdependence in the rainforest

A rainforest works through **interdependence**. This is where the plants and animals **depend on each other** for survival. If one component changes, there can be **serious knock-up effects** for the entire ecosystem.

Distribution of Tropical Rainforests

Tropical rainforests are **centred along the Equator** between the Tropic of Cancer and Capricorn. Rainforests can be found in South America, central Africa and South-East Asia. **The Amazon** is the world's largest rainforest and takes up the majority of northern South America, encompassing countries such as Brazil and Peru.



Layers of the Rainforest

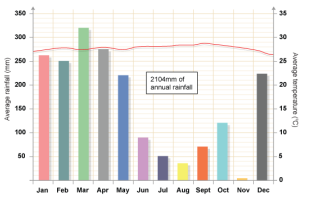
Emergent	Highest layer with trees reaching **50 metres.**
Canopy	Most life is found here as It receives **70% of the sunlight** and **80% of the life.**
U-Canopy	Consists of trees that reach **20 metres high.**
Shrub Layer	Lowest layer with **small trees** that have adapted to living in the **shade.**

Rainforest nutrient cycle

The **hot, damp conditions** on the forest floor allow for the **rapid decomposition** of dead plant material. This provides plentiful nutrients that are easily absorbed by plant roots. However, as these nutrients are in high demand from the many fast-growing plants, they do not remain in the soil for long and stay close to the surface. If vegetation is removed, the soils quickly become **infertile**.

Climate of Tropical Rainforests

- Evening temperatures rarely fall below **22°C.**
- Due to the **presence of clouds**, temperatures rarely rise above **32°C**.
- Most afternoons have heavy showers.
- At night with no clouds insulating, temperature drops.



Pond ecosystem

Can you connect these living organisms together?

What does each need to exist that **is not** on the board?

Tropical Rainforests: Case Study Malaysia

Malaysia is a LIC country is south-east Asia. 67% of Malaysia is a tropical rainforest with 18% of it not being interfered with. However, Malaysia has the fastest rate of deforestation compared to anywhere in the world

Adaptations to the rainforest

Orangutans	Large arms to swing & support in the tree canopy.
Drip Tips	Allows heavy rain to **run off leaves easily**.
Lianas & Vines	**Climbs** trees to reach sunlight at canopy.

Rainforest inhabitants

Many tribes have developed sustainable ways of survival. The rainforest provides inhabitants with…

- **Food** through hunting and gathering.
- **Natural medicines** from forest plants.
- **Homes and boats** from forest wood.

Issues related to biodiversity

Why are there high rates of biodiversity?

- **Warm and wet climate** encourages a wide range of vegetation to grow.
- There is **rapid recycling of nutrients** to speed plant growth.
- Most of the rainforest is **untouched.**

Main issues with biodiversity decline

- **Keystone species** (a species that are important of other species) are extremely important in the rainforest ecosystem. Humans are threatening these vital components.
- **Decline in species** could cause tribes being unable to survive.
- **Plants** & **animals** may become **extinct.**
- Key medical **plants** may become **extinct.**

Impacts of deforestation

Economic development

+ Mining, farming and logging creates employment and tax income for government.
+ Products such as palm oil provide valuable income for countries.
- The loss of biodiversity will reduce tourism.

Soil erosion

- Once the land is **exposed by deforestation,** the soil is more **vulnerable to rain**.
- With **no roots to bind soil together**, soil can easily **wash away.**

Climate Change

-When rainforests are cut down, the climate becomes **drier.**
-Trees are **carbon 'sinks'**. With greater deforestation comes more greenhouse emissions in the atmosphere.
-When trees are burnt, they **release more carbon in the atmosphere**. This will enhance the **greenhouse effect.**

What are the causes of deforestation?

Logging

- Most widely reported cause of destructions to biodiversity.
- Timber is harvested to create **commercial items** such as furniture and paper.
- **Violent confrontation** between indigenous tribes and logging companies.

Agriculture

- Large scale **'slash and burn'** of land for ranches and palm oil.
- Increases **carbon emission**.
- **River saltation** and **soil erosion** increasing due to the large areas of **exposed land.**
- Increase in **palm oil** is making the **soil infertile**.

Mineral Extraction

- **Precious metals** are found in the rainforest.
- Areas **mined** can experience **soil and water contamination**.
- **Indigenous people** are becoming **displaced** from their land due to roads being built to transport products.

Tourism

- **Mass tourism** is resulting in the building of hotels in extremely **vulnerable areas**.
- Lead to **negative relationship** between the government and indigenous tribes
- Tourism has **exposed animals** to human **diseases.**

Energy Development

- The **high rainfall** creates ideal conditions for **hydro-electric power (HEP).**
- The **Bakun Dam** in Malaysia is key for creating energy in this developing country, however, both people and environment have suffered.

Road Building

- **Roads** are needed to bring supplies and **provide access** to new mining areas, settlements and energy projects.
- In Malaysia, logging companies use an **extensive network of roads** for heavy machinery and to transport wood.

Sustainability for the Rainforest

Uncontrolled and unchecked exploitation can cause irreversible damage such as loss of biodiversity, soil erosion and climate change.

Possible strategies include:

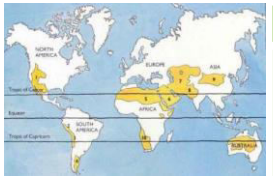
- **Agro-forestry** - Growing trees and crops at the same time. It prevents soil erosion and the crops benefit from the nutrients.
- **Selective logging** - Trees are only felled when they reach a particular height.
- **Education** - Ensuring those people understand the consequences of deforestation
- **Afforestation** - If trees are cut down, they are replaced.
- **Forest reserves** - Areas protected from exploitation.
- **Ecotourism** - tourism that promotes the environments & conservation

Hot Desert: Case Study Thar Desert – India/Pakistan

The Thar Desert is located on the border between India and Pakistan in Southern Asia. With India soon becoming the most populated country in the world in the next five years. With this, more people will plan to live in the desert.

Distribution of the world's hot deserts

Most of the world's hot deserts are found in the **subtropics** between **20 degrees and 30 degrees north & south** of the Equator. The **Tropics of Cancer and Capricorn** run through most of the worlds major deserts.



Major characteristics of hot deserts

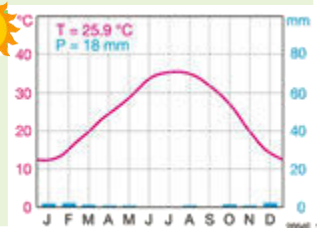
- **Aridity** – hot deserts are extremely dry, with annual rainfall below **250 mm**.
- **Heat** – hot deserts rise over **40 degrees.**
- **Landscapes** – Some places have dunes, but most are **rocky** with **thorny bushes.**

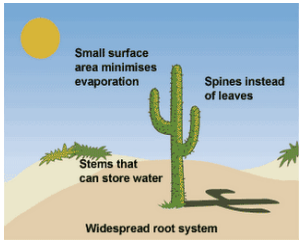
Hot Deserts inhabitants

- People often live in large **open tents** to **keep cool.**
- Food is often **cooked** slowly in the **warm sandy soil.**
- **Head scarves** are worn by men to provide **protection from the Sun.**

Climate of Hot Deserts

- **Very little rainfall** with less than **250 mm per year.**
- It might only **rain once every two to three years.**
- Temperate are **hot in the day** (45 °C) but are **cold at night** due to little cloud cover (5 °C).
- In winter, deserts can sometimes receive occasional frost and snow.





Adaptations to the desert

Cactus	• **Large roots** to absorb water soon after rainfall. • **Needles** instead of leaves to reduce surface area and therefore **transpiration**.
Camels	• Hump for storing **fat (NOT water).** • **Wide feet** for walking on sand. • **Long eyelashes** to protect from sand.

Desert Interdependence

Different parts of the hot desert ecosystem **are closely linked together and depend on each other**, especially in a such a harsh environment.

Opportunities and challenges in the Hot desert

Opportunities

- There are valuable minerals for industries and construction.
- Energy resources such as coal and oil can be found in the Thar desert.
- Great opportunities for renewable energy such as solar power at Bhaleri.
- Thar desert has attracted tourists, especially during festivals.

Challenges

- The extreme heat makes it difficult to work outside for very long.
- High evaporation rates from irrigation canals and farmland.
- Water supplies are limited, creating problems for the increasing number of people moving into area.
- Access through the desert is tricky as roads are difficult to build and maintain.

Causes of Desertification

Desertification means the turning of semi-arid areas (or drylands) into deserts.

Climate Change
Reduce rainfall and rising temperatures have meant less water for plants.

Fuel Wood
People rely on wood for fuel. This removal of trees causes the soil to be exposed.

Overgrazing
Too many animals mean plants are eaten faster than they can grow back. Causing soil erosion.

Over-Cultivation
If crops are grown in the same areas too often, nutrients in the soil will be used up causing soil erosion.

Population Growth
A growing population puts pressure on the land leading to more deforestation, overgrazing and over-cultivation.

Strategies to reduce Desertification

- **Water management** - growing crops that don't need much water.
- **Tree Planting** - trees can act as windbreakers to protect the soil from wind and soil erosion.
- **Soil Management** - leaving areas of land to rest and recover lost nutrients.
- **Technology** – using less expensive, sustainable materials for people to maintain. i.e. sand fences, terraces to stabilise soil and solar cookers to reduce deforestation.

Year 9 BTEC Creative Media Production — Term 1.1 and 1.2

Component 1: Learning Aim A

Keyword	Definition	Keyword	Definition
Sector: Audio/Moving Image	Media products that you listen to or watch. Examples include: film trailers, TV shows, music videos, animations, radio shows and podcasts.	**Sector: Print/Publishing**	Printed media products that you read or look at. Examples include: newspaper, magazines, comics, brochures, advertisements, books.
Sector: Interactive	Media products that require your input in order use them (clicking on buttons!). Examples include: websites, mobile apps, games, E-magazines, advertisements.	**Purpose of media text: information**	These are factual based media products. They may include video or picture evidence and expert knowledge and opinions. **Examples:** The news, documentaries, public information broadcasts, factsheets. Blue Planet, Newsround, The Guardian.
Purpose of media text: Entertainment	These are created to hold the attention and interest of an audience. Audiences find pleasure in consuming these types of media products. **Examples:** Reality TV, soap-operas, drama, gossip or TV magazines, comics. Love Island, Coronation Street.	**Purpose of media text: Escapism**	These media products contain events that wouldn't happen in real life. With your imagination, the aim is to take you away from what you might experience in everyday life. **Examples**: Sci-fi films and books, action / adventure/fantasy films, animations. Harry Potter books and films.
Purpose of media text: : Profit	These media products are created to make money. The producers hope to generate more income than it cost to produce the text. This is an aim for many media products. **Examples:** Block buster films, magazines, music albums. The End Game.	**Purpose of media text: Community benefit**	Media products that benefit the community and respond to community needs; they are not provided for advertising purposes. They generate a low or negative financial return. **Examples:** Local free magazines and papers. The Mead BS10.
Purpose of media text: Raising awareness	Media products that aim to raise awareness want to increase the number of people who know about a cause. **Examples:** Adverts for organisations such as Cancer Research UK.	**Purpose of media text: Critical acclaim**	Media producers that hope to receive critical acclaim want people who compile reviews to offer enthusiastic praise or applause about the product and to make that review public. **Examples:** Films (Dunkirk), plays, books.
Purpose of media text: Inspiration	Media products that hope to encourage people to do something positive, as a result of engaging with the product. **Examples:** Campaigns such as This Girl Can and Race for Life.	**Purpose of media text: Experimentation**	Media texts that have not been made before or have not been made in a certain way before are made try something new. **Examples**: Social experiment TV shows such as Big Brother.

Component 1: Learning Aim A

Audience	A group of people who encounter a media text. This could be watching, listening, using or playing a media text. Media producers use audience research to find out as much as possible about their target audience and use that research to ensure their production will appeal.	**Primary audience**	The audience that the media producer has in mind for consuming the text. This is the audience they intend to target – e.g Children are the primary audience for Disney films.
Secondary audience	Audiences that engage with the product who are NOT who the media producer intends to target – e.g parents are the secondary audience for Disney films.	**Demographics**	The study of people and particular groups within the population.
Audience categorisation	**Gender** - the range of characteristics relating to, and differentiating between, masculinity and femininity. **Age** – usually split into age groups e.g. 30-40 years old. **Ethnicity** - belonging to a social group that has certain characteristics in common such as race, religion or cultural traditions.	**Psychometric audience profile / lifestyle profiles.**	These define an audience by how they think and by considering their values, attitudes and lifestyle (VALs). People can be classed as 1 of the following: **The Aspirer-**seeks status. **The Explorer -** seeks discovery. **The Mainstreamers-**seeks security. **The Reformer -** seeks enlightenment. **The Resigned -** seeks to survive. **The Struggler -** seeks to escape. **The Succeeder -** seeks control.
Qualitative data	This data type is non-numerical. It is collected through methods of observations, one-to-one interview, conducting focus groups and other similar methods. Useful for collecting opinions. For example: Which do you prefer and why?	**Qualitative data**	This data type is non-numerical. It is collected through methods of observations, one-to-one interview, conducting focus groups and other similar methods. Useful for collecting opinions. For example: Which of these do you prefer and why?
Analyse	Examine a media product in detail, in order to explain and interpret it. Explain the way a film has been constructed and the explain the effect	**Evaluation**	Make a judgement about a media product. For example explain how well a production technique has been used to create effect in a film.

SOCIO-ECONOMIC Groups - A method of dividing the population into groups usually based on income and occupation. They may also be categorised based on gender, age and education. You CAN change socio-economic group throughout your life.

Group	Description and examples.
A	Higher managerial, administrative, professional e.g. Chief executive, senior civil servant, surgeon
B	Intermediate managerial, administrative, professional e.g. bank manager, teacher
C1	Supervisory, clerical, junior managerial e.g. shop floor supervisor, bank clerk, sales person
C2	Skilled manual workers e.g. electrician, carpenter
D	Semi-skilled and unskilled manual workers e.g. assembly line worker, refuse collector, messenger
E	Casual labourers, pensioners, unemployed e.g. pensioners without private pensions and anyone living on benefits

YR 9 CATERING KNOWLEDGE ORGANISER ENVIROMENTAL ISSUES

Terms 1.1 and 1.2 - In Catering you are assessed on everything you do in class. There are 2 assessment objectives.

Assessment one (L02) Explain the factors that must be considered when proposing dishes for menus.

You will be looking at environmental issues that are associated with how food is produced, processed, sold, cooked and consumed and why there is concern about the effects on the health of planet earth.. You will compare the nutritional needs of specific groups. You will demonstrate the ability to modify recipes to make healthier dishes, centred on the Eatwell guide message of a balanced diet.

Assessment two (L03) Be able to cook dishes safely and hygienically

You will apply your knowledge of environmental and ethical issues to reduce the environmental effects of the dishes you make. Suitable methods of cooking will be chosen to ensure the protection of the nutritional value of ingredients. Skills covered will include Pané, Stir fry, simmering, piping etc.'. You will demonstrate high expectations of safety and hygienic practices at all times. You will be able to explain the differences between Personal, Food and Kitchen hygiene.

KEYWORDS AND KEY TERMS

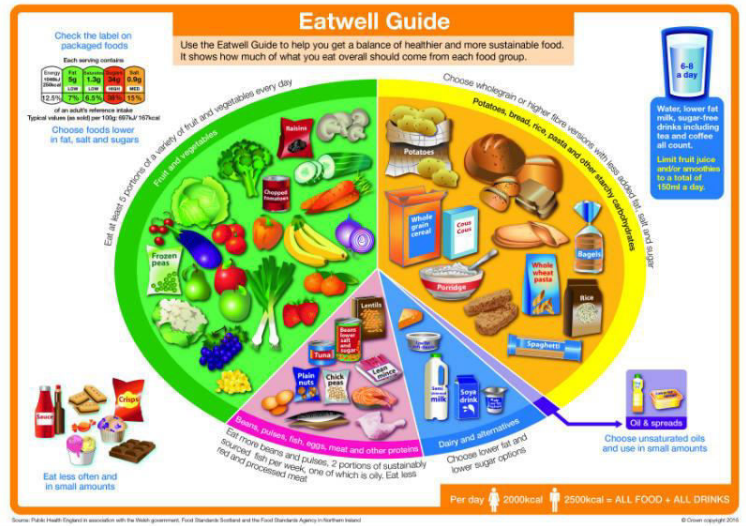
- ❑ Environmental
- ❑ Food provenance
- ❑ Sustainable
- ❑ Carbon Footprint
- ❑ Food miles
- ❑ Reduce
- ❑ Reuse
- ❑ Recycle
- ❑ Refuse
- ❑ Repair
- ❑ Rethink
- ❑ Organic
- ❑ Pesticides
- ❑ Animal welfare
- ❑ Free range
- ❑ Intensive farming
- ❑ Balanced diet
- ❑ Healthy living
- ❑ Eatwell Guide
- ❑ Dietary needs
- ❑ Macro Nutrients
- ❑ Micro Nutrients
- ❑ Fibre
- ❑ 5 a day
- ❑ Pané
- ❑ Rubbing in method
- ❑ Lining a tin
- ❑ Melting method
- ❑ Puree
- ❑ Baking
- ❑ Personal Hygiene
- ❑ Food Hygiene
- ❑ Kitchen hygiene

Recipes:

Scotch eggs
Fair trade Brownies
Chicken Curry
Fish Cakes
Fruit crumble
Frittata
Cheesecake

Useful websites to embed learning

https://www.sustainweb.org/blogs/dec18_farming_the_year_ahead/
https://www.bbc.com/bitesize/guides/zf6fr82/revision/1
https://friendsoftheearth.uk/food
https://startups.co.uk/3-of-the-biggest-environmental-problems-you-can-tackle-with-technology/



Yr 9 FRENCH TERMS 1 & 2
Me, my family and friends

Physical descriptions

attirant attractive
barbe (la) beard
beau/belle/bel beautiful bouclé curly
les cheveux (m) hair
court short
frisé curly
gros/grosse fat
jeune young
joli pretty
laid ugly
long/longue long
mi-long medium length
ondulé wavy
raide straight
de taille moyenne medium height
vieux/vieil/vieille old
yeux les (m) eyes

Key nouns

la bague ring
le bouton spot, pimple
la carrière career
l'église
l'espirit mind
la famille nombreuse large family
le goût taste, interest
la liberté freedom
les lunettes (f) glasses
le mode de vie way of life
le nom name
le prénom first name
le rêve dream
la robe blanche white dress
la vie life

Character descriptions

aimable kind
amusant fun
bavard chatty/talkative
bête stupid, silly
charmant charming
compréhensif/compréhensive understanding
de mauvaise humeur bad tempered
désagréable unpleasant
drôle funny
égoïste selfish
étonnant amazing
étrange strange
fâché angry fier/fière proud
fidèle faithful
fou/folle mad, crazy
généreux/généreuse generous
gentil/gentille kind, nice
heureux/heureuse happy
jaloux/jalouse jealous
méchant naughty
mignon cute
paresseux/paresseuse lazy
pénible annoying
plein(e) de vie lively
sévère strict
sportif/sportive sporty
sympa kind, nice
timide shy
tranquille quiet, calm
travailleur/travailleuse hard-working
triste sad
vif/vive lively

Family and relationships

aîné(e) elder
l'amitié friendship
l'amour (m) love
le beau-père step-father
la belle-mère step-mother
cadet(te) younger
célibataire single
confiance la trust
le copain / la copine la friend, mate
le demi-frère half-brother
la demi-sœur half-sister
ensemble together
la femme wife/woman
les fiançailles (f) engagement
la fille (unique) daughter/girl (only child)
le fils (unique) son (only child)
la grand-mère grandmother
le grand-père grandfather
les grands-parents (m) grandparents
l'homme man
injuste unfair
jeunesse la youth
le jumeau /la jumelle twin
le mari husband
mort dead
la naissance birth
Le neveu nephew
les noces (f) wedding
le/la partenaire partner
le petit ami boyfriend
la petite amie girlfriend
la petite-fille granddaughter
le petit-fils grandson
les rapports (m) relationships
le sens de l'humour sense of humour
séparé separated
la tante aunt

Key verbs

s'appeler to be called
avoir to have
avoir...ans to be...years old
avoir l'habitude de to be used to
connaître to know (a person)
critiquer to criticise
être to be
faire confiance à to trust
dire to say, tell
discuter to discuss
épouser to marry
gâter to spoil
gêner to annoy
laisser to let
marre (en avoir) (to be) fed up
mépriser to despise
mourir to die
naître to be born
né(e) le... born on the...
partager to share
rendre to make (+adjective)
rigoler to have a laugh
se disputer to argue
s'entendre (avec) to get on (with)
se faire des amis to make friends
s'inquiéter to worry
s'intéresser a to be interested in
se marier to get married, marry
se mettre en colère to get angry
s'occuper de to look after
se parler to talk to each other
se rendre compte to realise
(se) séparer to separate
se traiter to treat each other
sortir to go out
vivre (en concubinage) to live (together)
Ii /elle m'énerve he/she gets on my nerves

Yr 9 FRENCH TERMS 1 & 2

Possessive adjectives			
	Masc.	**Fem.**	**Plural**
my	mon	ma	mes
your	ton	ta	tes
his/her	son	sa	ses
our	notre	notre	nos
your	votre	votre	vos
their	leur	leur	leurs

ma mère — my mum
ton frere — your brother
ses parents — his parents

avoir ***to have***	**être** ***to be***
Present tense	
J'ai *I have*	Je suis *I am*
Tu as *You have*	Tu es *You are*
Il a *He has*	Il est *He is*
Elle a *She has*	Elle est *She is*
On a *One/ we have*	On est *One/we are*
Nous avons *We have*	Nous sommes *We are*
Vous avez *You have*	Vous êtes *You are*
Ils ont *They have*	Ils sont *They are*
Elles ont *They have*	Elles sont *They are*

Imperfect tense	
J'avais *I had*	J'étais *I was*
Tu avais *You had*	Tu étais *You were*
Il avait *He had*	Il était *He was*
Elle avait *She had*	Elle était *She was*
On avait *One/ we had*	On était *One/we are*

Adjective endings

Adjectives usually come <u>after</u> the noun and agree with it in gender and number.

un garcon bavard — une fille bavard**e**
des garçons bavard**s** — des filles bavard**es**

Some endings change in a different way

f – ve e.g. actif - active
x – se e.g. paresseux - paresseuse
r – se e.g. travailleur - travailleuse

Intensifiers and conjunctions

assez *quite*
un peu *a bit*
si *so*

très *very*
trop *too*
vraiment *really*
toujours *always*

car *because*
donc *so, therefore*
en revanche *on the other hand*
parce que *because*
par contre *however*
pourtant however
puisque *as,since*
quand *when*
qui *who*

Depuis

Use the present tense with <u>depuis</u> to say how long something has been happening.

e.g. J'habite a Bristol **<u>depuis</u>** deux ans
I've been living in Bristol **<u>for</u>** two years.

Infinitive phrases	
Je vais…I am going…	all**er** to buy
Je voudrais…I would like..	avo**ir** to visit
J'aimerais…I would like…	êt**re** to be
J'aime/ J'adore	fai**re** to do
Je n'aime pas/ Je déteste	me mari**er** to get married
Je peux I can /On peut you can	sort**ir** to go out
Je veux I want	

Je vais avoir des enfants *I'm going to have children*
Je voudrais me marier *I'd like to get married*
Je peux être timide *I can be shy*

Disjunctive/ Emphatic Pronouns

These pronouns are used: after a preposition; for emphasis; on their own without a verb; after **c'est** and **ce sont;** in comparisons

moi- me
toi – you
lui – him
elle – her
soi – one/you/us

nous – us
vous - you
eux – them
elles - them

Je m'entends bien avec elle. I get along with her.
Je me dispute avec lui. I argue with him.
C'est moi! It's me!

Articles

Remember!
un/ une = a
le/ la/ l' = the
des = some
les = the

Reflexive verbs

This type of verb needs another type of pronoun in front of it.

je <u>me</u> dispute	I argue
tu <u>te</u> disputes	you argue
il/elle/on <u>se</u> dispute	he/she/we argue
nous <u>nous</u> disputons	we argue
vous <u>vous</u> disputez	you argue
ils/elles <u>se</u> disputent	They argue

Je **m**'amuse *I enjoy myself*
Nous **nous** amusons *We enjoy ourselves*
(it is <u>not</u> a mistake that there are 2x nous in this sentence!

Direct Object Pronouns

The words **le, la** and **les** mean 'the' when they are in front of a noun, but when they come **<u>before</u>** a verb they change meaning

le = it, him	le - l'	Before verbs beginning with a vowel
la = it, her	la – l'	
les = them		

Je **le** trouve embêtant – I find **him** annoying.
Je **les** adore – I love **them**.
Je **l'**ai regardé – I watched **it**

Year 9 GCSE Computer Science **Term 1.1 and 1.2**

Paper 1.1: Systems Architecture

Keyword	Definition	Keyword	Definition
The Purpose of the CPU and function of the CPU			
CPU	To process, calculate, sort and search data.	**Function of the CPU**	**FDE cycle:** To fetch instructions from memory, decode and execute instructions.
Von Neumann Architecture			
Von Neumann Architecture	In the 1940s, John Von Neumann developed the concept of storing a program which can be run on a computer.	**Registers**	Registers are fast, short-term memory locations. They temporarily hold tiny bits of data needed by the CPU. They include: • **Program Counter:** Holds the memory address of the next instruction to be fetched. • **MAR (Memory Address Register):** Stores the address of the next instruction to be fetched from main memory. • **MDR (Memory Data Register):** Stores data that has just been fetched from main memory. • **Accumulator:** stores the results from the ALU.
CPU components	• **ALU (Arithmetic Logic Unit**): Does the calculations and logic operations (AND, OR, NOT) • **Control Unit**: coordinates activities carried out by CPU • **Cache** : fast short term memory that stores frequently used data, removing the need to go to the main memory.	**Characteristics affecting the performance of CPU**	• **Clock speed**: The number of FDE cycles per second. • **Cache**: stores frequently used data, reducing need to fetch data from CPU, so quicker. **Number of cores**: multiple cores means multi-tasking more tasks at once.
Embedded Systems			
Embedded systems	• A computer as part of a larger system. E.g. car, microwave, TV.		

Paper 1.1: 1.2 Memory

RAM compared to ROM	**RAM: Random Access Memory.** Volatile memory, which stores data temporarily when in use. When turned off, it loses the data. **ROM: Read Only Memory** Non-volatile memory. When turned off, the computer stores the data still. It is stored on the computer chip. It cannot be changed by the user. It stores the BIOS and Boot process to start the computer.	**The need for virtual memory**	To increase the speed and efficiency of RAM, most machines allocate a small portion of the Hard Disk to VIRTUAL MEMORY. The contents of the RAM are moved between the slower Virtual Memory and RAM as and when they are needed.
Flash memory	Stores data when turned off, so it is non-volatile. It is solid state, which means there are no moving parts. It is expensive, however small and compact.	**Primary Memory**	Memory is where a computer remembers data. It is accessed directly by the CPU: • **Registers** • **Cache** • **RAM** • **Virtual memory**

Year 9 GCSE Computer Science **Term 1.1 and 1.2**

Paper 2 and 3: Programming with Python

Keyword	Definition	Keyword	Definition
Python	A high level programming language that is easy to understand for humans as it contains words.	**Programming Constructs**	Three ways to write and build a program: **Sequence, Selection, Iteration**

Selection (Uses IF, ELIF, ELSE)	Used to make decision in programs.
	
	`Age=input("your age")`
	`If myage> 17:`
	`  print("old enough to drive")`
	`Elif myage == 17:`
	`  print("one year!...")`
	`else:`
	`  print("too young")`
		Iteration (Uses FOR or WHILE)	Repeating a program more than once.
			
			For loop (repeat a set number of times)
			Repeat code a set number of times
			`for num in range (5):`
			`  print(num)`
			
			While loop (repeat until the condition is met)
			`while answer != "quit":`
			`  print(answer)`

Data types	Data is stored as a type.
	• **Integer** (whole number)
	• **Real/float** (decimal)
	• **Character** (one letter)
	• **String** (text)
	• **Boolean** (True or False)
	• **Casting** (convert data type)
		Comments	Used by programmers to leave notes about the purpose of each section of code.
			
			`# Ask user a question`
			`Question=input("How are you?")`

Arithmetic Operators	• **+ / - *** • **%** Modulus (finds the remainder when two numbers are divided) • ****** Exponent (finds a number to the power of another)	**Comparison operators**	• **==** equal to • **!=** not equal to • **>** greater than • **>=** greater than or equal to • **<** less than • **<=** less than or equal to

Variable	A value stored in memory that can be changed while the program is running. It is stored as a data type.	**Input and Output**	`print("Hello World")`
			
			`Myage=input("Enter age")`
			`print("Your age:,", Myage)`

Validation	Check if the data input is sensible **Check digit**: The last digit is checked to see if all others are correct. **Format check**: checking format e.g. a date is dd/m/yyyy **Length check**: amount of characters. **Presence check**: data is entered. **Range check**: numbers fit into a specified range.	**Errors**	• **Syntax error** (error in the rules of the language e.g. missing comma) • **Logic error** (Program runs but doesn't work as planned e.g. wrong operator)

Year 9 – BTEC Music Component 1
Music Knowledge Organiser

The Elements of Music	Definitions
Pitch	The pitch is how high or low the sounds/notes are. For example: A scale of notes rises in pitch by step.
Tempo	The tempo is the speed of the music. For example: how fast or slow the music is being played.
Dynamics	The volume of the music. For example: how loudly or quietly the music is being played.
Duration	The length of notes. For example: a minim lasts for two beats.
Texture	The layers within a piece of music. For example: how thick or thin the music is and how the parts within the music relate to each other.
Timbre	The quality and type of sound produced by an instrument. For example: string, brass, percussion, woodwind, voice.
Silence	The absence of music sounds. For example: in music, rests are written to show where the player should be silent.

Stylistic music features (music theory)	
Instrumentation	Instrument specific techniques, playing in an ensemble, manipulating electronic sounds
Scales and Modes	Major scales, minor scales, blues scale, pentatonic scale, modes, ragas, exotic scales
Harmony skills	Major triads, minor triads, power chords, 7^{th} chords, extended chords, suspensions, chord inversions, arpeggios/broken chords
Rhythmic skills	Metre, tempo/bpm, syncopation, swing, skanking, polyrhythms, hemiola
Melodic skills	Conjunct, disjunct, chromatic, diatonic, phrasing, pattern/sequence, ornamentation, canon (round), riffs/hooks, improvisation
Production Skills	Sampling, FX, looping, quantisation, automation, microphone selection/placement, MIDI, audio editing
Performance	Instrumentation, vocal ranges, timbre, FX, transposing, arrangements, ensemble skills, timing, sensitivity
Composition	Stimuli (starting points), repetition, developing and extending musical ideas

Key Performance & Rehearsal Skills	
Rhythm and timing	Being able to play rhythms accurately and stay in time with other musicians, keeping the music together.
Accuracy of pitch	Being able to sing or play the correct notes, ideally from sheet music.
Intonation/tuning	Being able to stay in tune and not go sharp or flat when playing or singing.
Phrasing & breath control	Controlling your breathing so that you can sing or play through a phrase showing musical shape.
Learning songs & following an accompaniment	Being able to tackle a new song/piece of music and the ability to follow a live or pre-recorded accompaniment part.

Key Composition Skills	
Creating chord sequences	Using major and minor triads from within a key to create patterns of chords.
Using musical starting points	Using a musical/visual stimuli to inspire continuation of an initial idea.
Exploring musical structures	Taking inspiration from other pieces of music or songs to create a structure that suits your idea. E.g. ABABA, popular song, variations on a theme.
Using rhythmic and melodic rhythms	Exploring and creating patterns of notes in certain orders to create playable rhythms for both accompaniment and for melodies (tunes)

Key Production Skills	
Recording and editing audio (voice and instruments)	Exploring how to record using music technology musical instruments and voices. Also how to edit out errors and record multiple layers.
Exploring digital recording software and tools	Exploring how to use music technology equipment and computer software to create a music recording.
Using effects	Exploring the use of reverb, echo, delay, distortion and other vocal and instrumental effects.

Genres of music to research	Development of music technology to research
Popular Music: • **60s – 70s** – Psychedelic, heavy metal, soul, Motown, punk, reggae • **80s– 90s –** synth pop, Britpop, hip-hop, disco, rave, techno • **00s – present day –** nu metal, pop punk, dubstep, K-pop, grime, acoustic	The Impact of technology on musical styles and genres: • Phasing, Scratch techniques, fusion • Looping & multitracking • Instrumental techniques • Audio recording • Sampling • Distribution

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Using effects	Exploring the use of reverb, echo, delay, distortion and other vocal and instrumental effects.

Genres of music to research	Development of music technology to research
Popular Music: • **60s – 70s** – Psychedelic, heavy metal, soul, Motown, punk, reggae • **80s– 90s** – synth pop, Britpop, hip-hop, disco, rave, techno • **00s – present day** – nu metal, pop punk, dubstep, K-pop, grime, acoustic	The Impact of technology on musical styles and genres: • Phasing, Scratch techniques, fusion • Looping & multitracking • Instrumental techniques • Audio recording • Sampling • Distribution

AQA Religious Studies A – Theme B: Religion and Life

Key Words			
Abortion	The ending of a pregnancy	Liberal	A type of Christian who reads the Bible as stories, myths and metaphors
Big Bang Theory	Scientific theory of the creation of the universe through a large explosion	Literalist	A type of Christian who believes the Bible is literally true + the word of God
Dominion	The power humans have over God's creation	Natural Resources	Materials found in nature (e.g. coal, oil) which are exploited by humans
Euthanasia	The painless killing of a terminally ill patient	Purgatory	Where Catholics believe souls are purified after death + before heaven
Evolution	Scientific theory of the development of humans from apes	Quality of Life	How easy or difficult someone's life is – e.g. cancer causes a low quality of life
Heaven	Paradise where those judged good go after death to be forever with God	Sanctity of Life	The belief that all life is sacred as man is made in God's image
Hell	Damnation where those judged bad go after death to be forever without God	Stewardship	The responsibility God gave humans to look after the world
Judgement	After death Christians believe you are judged by God	Vegetarian	The choice not to eat animals

<table>
<tr><th colspan="3">Key Ideas</th></tr>
<tr><td>Ideas about Creation
  </td><td><u>Christian Ideas</u>
- Christians believe the universe was designed and made by God
- The creation story in Genesis 1 says that God made the world in six days
- Literalist Christians believe this is true and that God created Adam + Eve from whom all humans come
- Liberal Christians say the creation story in the Bible is just a story and may agree with scientific ideas about creation
"In the beginning God created the heavens and the earth" – Genesis 1:1</td><td><u>Scientific Ideas</u>
- The Big Bang Theory argues that the universe started as a dense collection of mass which massively expanded creating stars, galaxies and planets
- The Theory of Evolution comes from Charles Darwin who observed that animals change over time and argued that humans were not designed by God but evolved from apes
- These theories do not fit with a literalist Christian's view but could fit with a liberal view</td></tr>
<tr><td>Stewardship + Dominion
  </td><td><u>Stewardship</u>
- Stewardship means Christians have a duty to look after the environment on behalf of God and for future generations
- This can be seen where Christians campaign for environmental charities or choose to reduce waste and recycle
"Rule over [..] every living creature" - Genesis 1:28</td><td><u>Dominion</u>
- Dominion is the idea that God gave humans power and authority over the world
- Some Christians believes this allows them to use natural resources (e.g. oil and coal) and animals to make their lives better
- In Genesis God gives Adam and Eve the power to name the animals and rule over them</td></tr>
<tr><td>Abortion
  </td><td colspan="2">- Abortion is the removal of a foetus from the womb in order to end a pregnancy.
- In the UK (except Northern Ireland) it is legal during the first 24 weeks of pregnancy unless the mother's life is in danger or the foetus is severely deformed.

☒ The Catholic Church is strongly against abortion. They believe in sanctity of life, the idea that life is a sacred gift from God which only God can take away. They see the foetus as a living thing.
☑ The Church of England think abortion is sometimes acceptable as a pregnancy as a result of rape or where the child would be very ill would lead to a very poor quality of life</td></tr>
<tr><td>Euthanasia
  </td><td colspan="2">- Euthanasia is the painless killing of a patient with a terminal illness.
- Voluntary euthanasia is where the patient asks for their life to be ended.
- Non-voluntary euthanasia is where the patient is not capable of asking to die, perhaps in a coma.
- All forms of euthanasia are currently illegal in the UK.

☒ The Catholic Church is strongly against euthanasia. They believe that only God can give and take life and that life is sacred (sanctity of life)
☑ Some liberal Christians think euthanasia can be an act of mercy which Jesus tells them is a good thing to do, this is especially the case when someone's quality of life is very poor.</td></tr>
<tr><td rowspan="2">The Afterlife
  </td><td colspan="2">- Christians believe that when you die you will be judged and that those who are found to be good will go to heaven but those who have sinned and gone against God's wishes will go to hell.</td></tr>
<tr><td>Roman Catholics believe that there is a middle stage called purgatory where souls go to be purified of sin before they go to heaven</td><td>Some Christians believe that Jesus will return on a future Day of Judgement when all souls will be judged</td></tr>
</table>

Yr 9 SPANISH TERMS 1 & 2
Me, my family and friends
Vocabulary

Key nouns

el adolescente teenager
el amor love
el anciano old person
el anillo ring
el apellido last name
el apodo nickname
el beso kiss
la boda wedding
el casmiento wedding
la comprensión understanding
el consejo advice
los demás other people
la disputa argument
la edad
el estado civil marital status
la felicidad happiness
el género gender
la gente people
el hogar home
el invitado guest
el jubilado OAP, pensioner
el nacimiento birth
el nombre name
el recuerdo memory
la reunión get-together
el sentimento feeling

Physical descriptions

el aspecto appearance, looks
la barba beard
el bigote moustache
calvo bald
la cara face
castaño chestnut, brown
corto short
las gafas glasses
guapo good-looking
los ojos eyes
la oreia ear
largo long
liso straight (hair)
moreno dark (haired, skinned)
las pecas freckles
pelirrojo red-haired
el pelo hair
rizado curly
rubio blonde

Character descriptions

alegre happy
amable kind
amistoso friendly
animado lively
antipático unpleasant
atrevido cheeky, bold, daring
avaro mean, miserly

Character descriptions

callado quiet, reserved
cariñoso affectionate, tender
celoso jealous
cobarde coward
comprensivo understanding
cortés polite
cuidadoso careful
débil weak
deportivo sporty
educado polite
egoiísta selfish
feliz happy
formal polite
fuerte strong
glotón greedy
gracioso funny
hablador talkative
honrado honest
loco mad
maduro mature
maleducado rude
orgulloso proud
perezoso lazy
rico wealthy
seguro de sí mismo self-assured
sensible sensitive
el sentido del humor sense of humour
serio serious, responsible
simpático nice, kind, pleasant
torpe clumsy
travieso naughty, mischievous
triste sad
valiente brave, bold

Family and relationships

el abuelo grandfather
el bebé baby
casado married
el compañero friend, mate
el compromiso engagement
la confianza trust
enamorado in love
el esposo husband, spouse
el gemelo twin
el hermanastro stepbrother
el hombre man
el hijo (único) (only) child
el huérfano orphan
junto together
la juventud youth, young people
la madrastra stepmother
el marido husband
el matrimonio marriage, married couple
el muchacho lad
la mujer wife, woman
el nieto grandchild
el niño child
el novio boyfriend
el padrastro stepfather
la pareja couple, partner
los parientes relatives
el primo cousin
el sobrino nephew
soltero single (not married)
solo alone
el tío uncle
el vecino neighbour
el viudo widower

Key verbs

aconsejar to advise
acordar to agree on
agradecer to thank
aguantar to bear, put up with
besar to kiss
casarse to get married
comprender to understand
comprometerse to get engaged
confiar to trust
conocer to know, get to know
cuidar to look after
cumplir años to have a birthday
disculpar(se) to apologise
enamorase to fall in love
encontrar(se) to meet with someone
fastidiar to annoy, bother
jubilarse to retire
llamarse to be called
llevarse bien/mal con to get on (well, badly) with someone
llorar to cry
maltratar to mistreat, abuse
molestar to bother
nacer to be born
ocuparse de to look after
pelear(se) to fight
pasear to go for a walk
parecerse to look like
perdonar to forgive
relacionarse con to get on with (people)
reírse to laugh
salir to go out
sonreírse to smile
tener ganas to feel like

tener *to have*	ser *to be*
Present tense	
Tengo *I have*	Yo soy *I am*
Tú tienes *You have*	Tú eres *You are*
El tiene *He has*	El es *He is*
Ella tiene *She has*	Ella es *She is*
Usted tiene (formal)	Usted es (formal)
Nosotros tenemos *We have*	Nosotros somos *We are*
Vosotros tenéis *You have*	Vosotros sois *You are*
Ellos tienen *They have*	Ellos son *They are*
Ellas tienen *They have*	Ellas son *They are*

Adjective endings

Adjectives usually come <u>after</u> the noun and agree with it in gender and number.

un chico tonto	unos chicos tontos
Una chica tonta	unas chicas tontas

Desde (hace)

Use the present tense with <u>desde hace</u> to say how long something has been happening.

e.g. Vivo en Bristol **<u>desde hace</u>** dos años
I've been living in Bristol **<u>for</u>** two years.

Disjunctive/ Emphatic Pronouns

These pronouns are used: after a preposition; for emphasis or on their own without a verb.

mí- me	nosotros – us
tí – you	vosotros - you
él – him	ellos – them
ella – her	ellas – them

Usted – you (formal singular)
Ustedes you (formal plural)

Me llevo bien con ella. I get on with her.

Possessive adjectives			
	Masc.	**Fem.**	**Plural**
my	mi	mi	mis
your	tu	tu	tus
his/her	su	su	sus
our	nuestro	nuestra	nuestros
your	vuestro	vuestra	vuestros
their	su	su	sus

mi madre	my mum
tu hermano	your brother
sus padres	his parents

Reflexive verbs

This type of verb needs another type of pronoun in front of it.

yo <u>me</u> llevo	I get on
tu <u>te</u> llevas	you get on
El/ella <u>se</u> lleva	he/she/we get on
nosotros <u>nos</u> llevamos	We get on
vosotos <u>os</u> lleváis	You get on
Ellos/ellas <u>se</u> llevan	They get on

e.g. yo **<u>me</u>** llevo bien con mi hermano.
I get along well with my brother.

Direct Object Pronouns

The words **lo, la** mean 'the' when they are in front of a noun, but when they come **<u>before</u>** a verb they change meaning

lo = it, him
la = it, her
los/las= them

Lo encuentro molesto– I find him annoying.
Los odio – I hate them.

Yr 9 SPANISH TERMS 1 & 2
Me, my family and friends
Grammar and structures

Intensifiers and conjunctions

bastante quite	porque because
un poco a bit	ya que so, therefore
así que so	En otro lado on
themuy very	other hand
demasiado too	sin embargo however
siempre always	realmente really
tan so	cuándo when

Imperfect tense	
Tenía I had	era *I was*
Tenías You had	eras *You were*
Tenía he had	era *He was*
Teníamos we had	éramos We were
Teníais you had	erais you were
Tenían they had	eran they were

e.g. Yo tenia el pelo largo. I had/ used to have long hair.
Era muy tímida. She was/used to be very shy.

YR 9 ART AND DESIGN *KNOWLEDGE ORGANISER* Pop Art

In Art and Design you are assessed on everything you do in class. There are 4 assessment objectives.

A01 LOOKING AT THE WORK OF ARTISTS - RESEARCH

In this project you will look at and analyse the work of an artist or art movement. In project one you will look at Roy Lichtenstein and Andy Warhol. This research will help you produce your own work.

A02 EXPERIMENTING WITH MATERIALS

You will be given the opportunity to experiment with materials and techniques. You will be expected to select appropriate resources, materials, techniques and processes.

A03 DRAWING AND RECORDING

You will learn a range of compositional techniques such as overlapping, cropping, repetition and layering. You will be shown how to manipulate positive and negative space to make images contrast.

A04 PRODUCING A FINAL PIECE

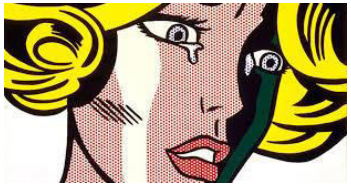
At the end of the project you will present a final piece of work. This may be a collage piece or a painting.

KEYWORDS AND KEY TERMS FOR THIS PROJECT

KEY ARTISTS

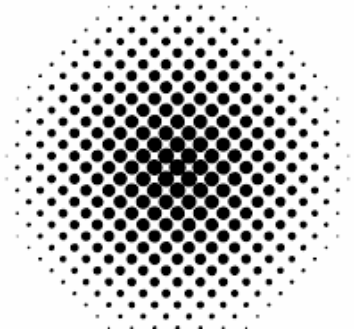
ROY LICHTENSTEIN

Used comic books as his source.

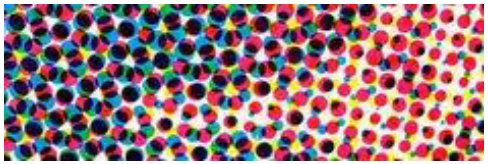


ANDY WARHOL

Used celebrities and everyday objects as his source.



BEN DAY DOTS – named after their creator Benjamin Day, small coloured dots create different illusions depending on how they overlap or are spaced together.



COMPOSITIONAL TECHNIQUES
These techniques help your designs by adding depth and contrast.

COMPOSITION – the arrangement of layout of a piece of work.

OVERLAPPING – partly covering features of an image to create a sense of depth.

CROPPING – removing or concealing the edges of a feature.

POSITIVE SPACE refers to the main focus of a picture, while **NEGATIVE SPACE** refers to the background. When used creatively positive and negative space together can tell a story using visual composition alone.

YR 9 Engineering *KNOWLEDGE ORGANISER - Box*

In Design & Technology you are assessed on both the Practical and Theory work.

Health and Safety

Safe and proper use of tools and machinery in the workshop.
Understand the hazards and reduce the risks of incidents occurring

Materials

You will be given the opportunity to use Medium Density Fibreboard (MDF) to produce your product. You will learn how to modify (cut and file) and finish (smooth and decorate)

Tools and Equipment

You will learn to select and use a range of hand and fixed machines for appropriate tasks. These will include Coping and Tenon saw, Files and Belt sander. You will learn how to use a try square to mark out a rebate joint

Final Piece

At the end of the project you will present a final product. This will be a finished box made incorporating a rebate joint

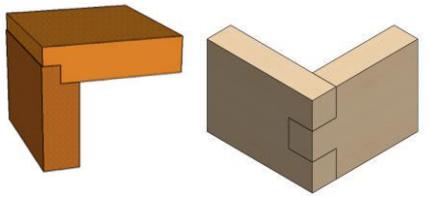
KEYWORDS AND KEY TERMS FOR THIS PROJECT

Woods.

Softwood – from Coniferous trees
Hardwood – from Deciduous trees
Manufactured boards – made rather than grown

Joints

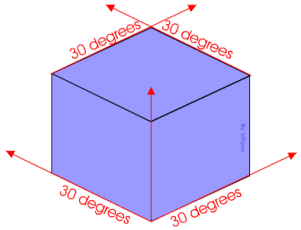
Mark out, cut and finish accurately a Rebate and Finger joint

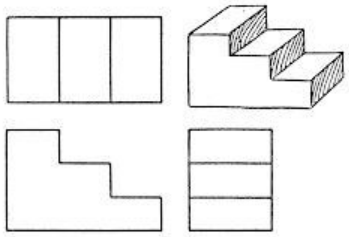


Try square

Tenon saw

File





Isometric

A 3D drawing technique, also referred to as pictorial.
Isometric is used within engineering to produce drawings of how a product will look

Orthographic

A 2D drawing technique used in engineering to produce working drawing of a product usually preproduction. It shows elevations (viewpoints) that cannot always be viewed in isometric.
Sizes and scale are also added to this type of drawing

GREENSHAW LEARNING TRUST

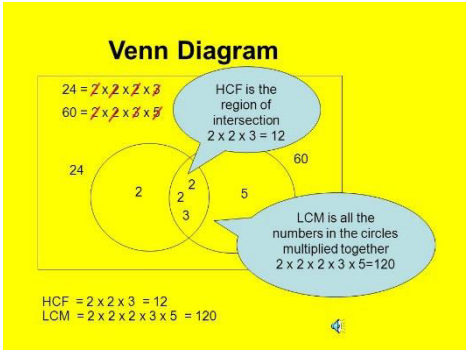
YEAR 9 – AUTUMN TERM

Topic 1 – Number (Hegarty 29 – 35, 56, 99 – 108, 111, 115, 118, 119, 121, 130, 131, 135, 173)

Key Words:

Key word	Definition	Example
Integer	A whole number	-5, -2, 0, 1 , 2 etc
Factors	The divisors of an integer	Factors of 12 are 1,2,3,4,6,12
Multiples	A "times table" for an integer	Multiples of 12 are 12, 24, 36…
Prime Factor	Factors of a number that are also prime (found using a factor tree)	Prime factor of 24 = 2 x 2 x 2 x 3 (2^3 x 3)

HCF/ LCM:



Prime Numbers	2, 3, 5, 7, 9, 11, 13, 17, 19
Square Numbers	1, 4, 9, 16, 25, 36, 49, 64,81,100,121,144
Cube Numbers	1, 8, 27, 64, 125

Topic 1 – Continued

Standard Form

Standard form numbers are of the form $a \times 10^n$, where $1 \leq a < 10$ and n is an integer.

Index Laws

Multiplying	$y^a \, x \, y^b = y^{a+b}$
Dividing	$y^a \div y^b = y^{a-b}$
Raising the power	$(y^a)^b = y^{ab}$
Power of zero	$y^0 = 1$
Negative indices	$y^{-a} = \frac{1}{y^a}$
Fractional indices	$y^{\frac{a}{b}} = \sqrt[b]{y^a}$
Square root is the same as power of $\frac{1}{2}$	$\sqrt{y} = y^{\frac{1}{2}}$

The Rules of Surds *(Higher Only)*

- $\sqrt{a} \times \sqrt{b} = \sqrt{ab}$
- $\frac{\sqrt{a}}{\sqrt{b}} = \sqrt{\frac{a}{b}}$
- $\sqrt{a} \, x \sqrt{a} = a$
- $4\sqrt{a} + 5\sqrt{a} = 9\sqrt{a}$
- $\sqrt{a} + \sqrt{b}$ = does not simplify

Topic 2 – Fractions and Percentages (Hegarty 48, 52, 60, 65-70, 73, 77, 78, 80 – 87, 90, 93, 98)

Fraction is numerator ÷ denominator

➔ $\frac{5}{8} = 5 \div 8 = 0.625$

Use place values to change decimals to fractions. Simplify where possible.

➔ $0.45 = \frac{45}{100} = \frac{9}{20}$

Learn the most frequently used ones:

$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{3}{4}$
0.5	0.25	0.1	0.2	0.75
50%	25%	10%	20%	75%

Adding or subtracting fractions; use a common denominator…

➔ $\frac{4}{5} - \frac{1}{3} = \frac{12}{15} - \frac{5}{15} = \frac{7}{15}$

Multiplying fractions; multiply numerators and denominators…

➔ $\frac{4}{7} \times \frac{2}{3} = \frac{8}{21}$

Dividing fractions; "flip" the second fraction, then multiply…

➔ $\frac{2}{7} \div \frac{5}{6} = \frac{2}{7} \times \frac{6}{5} = \frac{12}{35}$

Percentages

Percentage change = $\frac{Amount\ of\ change}{Original\ Amount} \ x \ 100$

Compound Interest *(Higher only)*

$$New\ Value = P\ (1 + \frac{R}{100})^n$$

P is the initial principal sum of money
R is the interest rate in percentage
n is the time period in years

Your knowledge organiser contains all the key facts you need to learn for the Autumn Term. Refer to the Hegarty Clips to practice the skills and processes taught this term.

GREENSHAW LEARNING TRUST

YEAR 9 – AUTUMN TERM

Topic 3 – Ratio and Proportion (Hegarty 325, 328, 331 – 341)

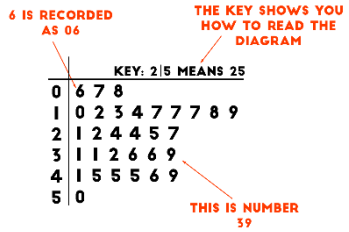
Notation and relationship with fractions (denominator is found by adding all parts of the ratio together)

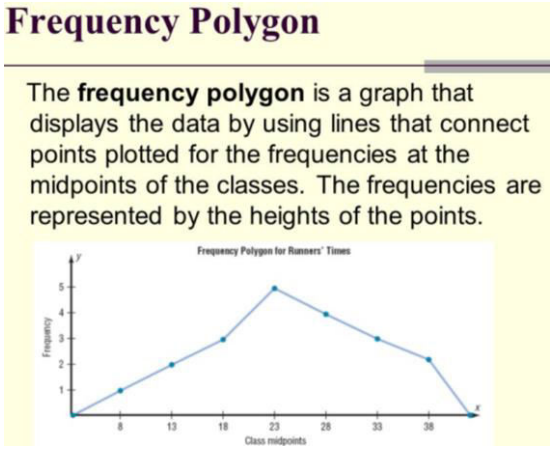
$$5 : 3 : 11 \quad \text{Ratio}$$

$$\frac{5}{19} \quad \frac{3}{19} \quad \frac{11}{19} \quad \text{Fraction}$$

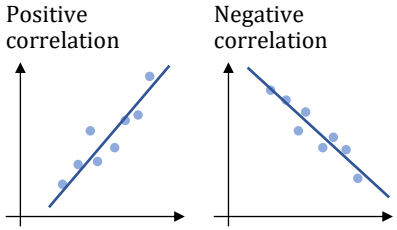
Topic 4 – Interpreting Data (Hegarty 395-6, 403, 418, 422, 430 – 438, 450 – 454)

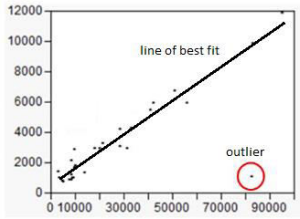
Stem and Leaf diagrams





Scatter Graphs





Pie Charts

Angle of a sector = $\frac{Frequency\ of\ Data}{Total\ Frequency}\ x\ 360$

Averages

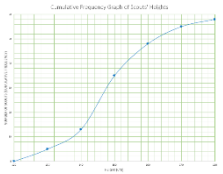
Range	Difference between the largest and smallest values
Mode	Most frequently occurring
Median	Put the data in numerical order and then choose the middle one
Mean	$\frac{Total\ of\ all\ items\ of\ data}{Number\ of\ items\ of\ data}$
Modal Class	The class (group) with the highest frequency

Mean of Grouped Data:

$$\bar{x} = \frac{\sum fx}{n}$$

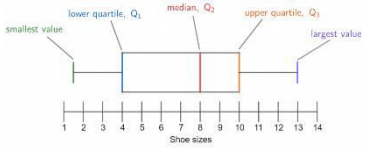
where: $\bar{x}$ = *mean*
f = *frequency of each class*
x = *mid-interval value of each class*
n = *total frequency*
$\sum fx$ = *sum of the producst of mid – interval values and their corresponding frequency*

Cumulative Frequency (Higher Only)



Cumulative frequency – a running total of frequencies, plotted as points at the upper bound of the group and drawn as a curve.

Box Plots (Higher only)



Median – half way through the data
LQ - a quarter of the way through the data
UQ – three quarters of the way through the data
Interquartile range = UQ – LQ

Your knowledge organiser contains all the key facts you need to learn for the Autumn Term. Refer to the Hegarty Clips to practice the skills and processes taught this term.