

Year 11



Knowledge Organiser

Term 1: 2021/2022

Name: _____



MACBETH knowledge organiser

English

PLOT SUMMARY BY ACT

Act 1	The play opens with three witches chanting on a bleak moorland. In the next scene we hear a battle report in which a soldier Macbeth bravely fought in a battle to defend Scotland. On a bleak Scottish moorland, Macbeth and Banquo, two of King Duncan's generals, discover three strange women (witches). The witches prophesy that Macbeth will be promoted twice: to Thane of Cawdor and King of Scotland. Banquo's descendants will be kings, but Banquo isn't promised any kingdom himself. Macbeth and Banquo want to know more, but the "weird sisters" disappear. Soon afterwards, King Duncan names Macbeth Thane of Cawdor as a reward for his success in the recent battles. The promotion seems to support the prophecy. The King then proposes to make a brief visit that night to Macbeth's castle. Lady Macbeth receives news from her husband about the prophecy and his new title. She vows to help him become king by whatever means are necessary...
Act 2	Macbeth returns to his castle, followed almost immediately by King Duncan. The Macbeths plot together to kill Duncan and wait until everyone is asleep. At the agreed time, Lady Macbeth gives the guards drugged wine so Macbeth can enter and kill the King. He regrets this almost immediately, but his wife reassures him. She leaves the bloody daggers by the dead king just before Macduff arrives. When Macduff discovers the murder, Macbeth kills the drunken guards in a show of rage and retribution. Duncan's sons, Malcolm and Donalbain, flee, fearing for their own lives; but they are, nevertheless, blamed for the murder.
Act 3	Macbeth becomes King of Scotland but is plagued by feelings of insecurity. He remembers the prophecy that Banquo's descendants will inherit the throne and arranges for Banquo and his son Fleance to be killed. In the darkness, Banquo is murdered, but his son escapes the assassins. At his state banquet that night, Macbeth sees the ghost of Banquo and worries the courtiers with his mad response. Lady Macbeth dismisses the court and unsuccessfully tries to calm her husband.
Act 4	Macbeth seeks out the witches who say that he will be safe until a local wood, Birnam Wood, marches into battle against him. He also need not fear anyone born of woman. They also prophesy that the Scottish succession will still come from Banquo's son. Macbeth embarks on a reign of terror, slaughtering many, including Macduff's family. Macduff had gone to seek Malcolm (one of Duncan's sons who fled) at the court of the English king. Malcolm is young and unsure of himself, but Macduff, pained with grief, persuades him to lead an army against Macbeth.
Act 5	Macbeth feels safe in his remote castle at Dunsinane until he is told that Birnam Wood is moving towards him. Malcolm's army is carrying branches from the forest as camouflage for their assault on Macbeth's stronghold. Meanwhile, an overwrought and guilty Lady Macbeth walks in her sleep and tells her secrets to her doctor. She commits suicide. As the final battle commences, Macbeth hears of Lady Macbeth's suicide. In the midst of a losing battle, Macduff challenges Macbeth. Macbeth learns Macduff is the child of a caesarean birth (loophole!), realises he is doomed, and submits to his enemy. Macduff triumphs and brings the head of the traitor Macbeth to Malcolm. Malcolm declares peace and goes to Scone to be crowned king.

KEY VOCABULARY

dramatic irony
Hamartia (fatal flaw)
Hubris (excessive pride/ego)
tragic hero
remorse / remorseful
paranoia / paranoid
deception / deceive
role reversal
betrayal / betray
manipulation / manipulate
courage / courageous
nihilism / nihilistic
inevitability / inevitable
equivocal/equivocator
Machiavellian
tyrant/ tyrannical/ tyranny
supernatural
treason/treachery
valiant
malevolent
macabre
Natural order
regicide
duplicity
soliloquy
catharsis

KEY THEMES

Ambition —Despite being a loyal and brave soldier at the beginning of the play, Macbeth can not resist the power of his ambition (his fatal flaw). Lady Macbeth's ambition also knows no bounds. Both characters are willing to disobey God to fulfil their ambitions. But consider where ambition leads these characters...
Appearance and Reality - Shakespeare introduces this theme immediately when the Witches chant 'Fair is foul and foul is fair' in the very first scene. This is a play where people's outward appearances cannot be trusted. What might initially appear good, often turns out to be evil...
Guilt — Both Macbeth and Lady Macbeth are plagued by guilt after the regicide. As a result of this, the mental stability of both characters suffers a dramatic decline. Lady Macbeth grossly underestimates the power of guilt and is made to pay for this with her life. In the play the motif of blood represents guilt.
Power —The battle for power can be seen throughout the play. Arguably, some of the most powerful characters are female: Lady Macbeth and the Witches. Both forces are able to manipulate the play's protagonist: Macbeth. However, the power of God cannot be ignored. Are Macbeth and Lady Macbeth punished for committing regicide (a sin against God)?
Chaos and Disorder — At the beginning of the play, everything is in order. However, when Divine Right is challenged, with the murder of King James, the balance of The Great Chain of Being is offset. The play's events that succeed the regicide are marked by chaos and disorder, be it the mental state of the play's protagonists: Macbeth and Lady Macbeth; the state of Scotland or the weather / nature. Order is only restored at the very end of the play when the King is returned to its rightful owner: Malcolm (the eldest son of Duncan).

KEY QUOTATIONS

'Look like the innocent flower but be the serpent underneath it'	'A little water clears us of this deed'	'Out, damn spot!'
'O full of scorpions is my mind, dear wife'	'Tis the eye of childhood that fears a painted devil'	'The Thane of Fife had a wife' 'Hell is murky'
'Fair is foul and foul is fair;'	'Be innocent of the knowledge, dearest chuck, until thou applaud the deed'	'Amen stuck in my throat'
'So foul and fair a day I have not seen'	'Pour my spirits in thine ear'	'Tomorrow and tomorrow and tomorrow'
'I will try the last'	'come you sprits...unsex me here'	
'Life is a tale told by an idiot signifying nothing'		'This dead butcher and his fiend-like queen'
'I have no spur to prick the sides of my intent., only vaulting ambition'		
'To be thus is nothing but to be safely thus'	'Unseam'd him from the nave to the chaps'	'Stars hide your fires, let not light see my black and deep desires'
	'smoked with bloody execution'	
'Some say the Earth was feverous and did shake'	'Would all great Neptune's ocean wash this blood from my hands?'	'I am in blood, stepped in so far...'
'My way of life is fall'n into the sear—the yellow leaf'	'All the perfumes of Arabia will not sweeten this little hand'	'Macbeth has murdered sleep' 'Look on it again, I dare not'

EXAMPLE EXAM QUESTIONS

- Starting with this speech, explore how Shakespeare presents ambition in Macbeth.
- Starting with this moment in the play, explore how Shakespeare presents the attitudes of Macbeth and Banquo towards the supernatural.
- Starting with this speech, explore how far Shakespeare presents Macbeth as a violent character.
- Starting with this speech, explore how far Shakespeare presents Lady Macbeth as a powerful character.
- Starting with this speech, explore how Shakespeare presents the differences between appearance and reality in Macbeth.

USEFUL EXAM PHRASES

Shakespeare presents... / shows... / hints... / creates... / uses ...
 Through the character of... Shakespeare shows / explores / questions...
 Shakespeare challenges the belief that...
 Shakespeare asks his reader to question / consider...
 Shakespeare reinforces this idea earlier / later in the play when...
 Shakespeare sends a clear message to his audience...

Key characters—function and analysis	
Macbeth	A captain in Duncan's army, later the Thane (Lord) of Glamis and Cawdor. When Three Witches predict that he will one day be king of Scotland, he takes his fate into his own hands, allowing his ambition and that of his wife's to overcome his better judgement. His bloody reign culminates in a battle against Malcolm and the English forces. Macbeth is the epitome of a tragic hero . He represents the dangers of overstepping your position in life—Great
Lady Macbeth	Macbeth's wife whose ambition helps to drive her husband toward the desperate act of regicide. Subsequently, her husband's tyranny and her own guilt recoil upon her, sending her into a madness from which she never recovers and leads to her suicide. Shakespeare demonstrates how a powerful, ambitious and ruthless character cannot escape the consequences of their own actions. Defies gender expectations of women at the time. Linked with the
Banquo	Macbeth's close friend and ally who also receives predictions from the witches. His response however, is more cautious than Macbeth's. The prediction, that Banquo's child will become king, is sufficient to spell Banquo's death, ordered by an increasingly resentful and paranoid Macbeth. The vision of Banquo's ghost later haunts Macbeth. He represents rationality and reason in contrast to Macbeth.
King Duncan	King of Scotland. His victories against rebellious kinsmen and the Norwegians have made him a popular king. When Macbeth initially decides not to kill the king, he gives Duncan's many qualities as his reasons. He names his eldest son—Malcolm—as his heir. He dies at the hands of Macbeth and therefore the Chain of Being or Natural Order is disrupted. Too trusting—his trust in the original Thane of Cawdor was betrayed—as was his trust in Mac-
Macduff	The Thane of Fife. He is loyal to Duncan and becomes suspicious of Macbeth early on in the play. He leaves Scotland to join Malcolm in England. The witches warn Macbeth to “Beware Macduff” prompting Macbeth to have Macduff's family killed. Macduff's role is vital as his killing of Macbeth allows the Natural Order to be restored. He remains the noble hero throughout and serves as a contrast to Macbeth.
Malcolm	Duncan's rightful heir. He leaves for England after his father's murder and enlists the support of the English king and English lords. He is shown as being noble and deserving of the throne. Malcolm is the embodiment of all that is good in kingship, and this is seen particularly in Act 4, Scene 3, in which he tests the allegiance of Macduff. His restoration to the Scottish throne is essential for the Chain of Being/Natural Order to be restored.
The Witches	The witches directly influence the actions of Macbeth . He did not have to act on their prophecies, but when he did, his death was sealed. This conflict between man and the supernatural runs throughout the play. The witches represent the dangers of the supernatural.

Context and writer's intentions
Divine Right —The belief that the King was chosen by God. Thus, to commit regicide meant disobeying the will of God. A Jacobean audience believed people who committed regicide would be punished by God. The mental decline of both Macbeth and Lady Macbeth, having been plagued with guilt, is Shakespeare's way of showing that regicide does not go without punishment.
Natural Order / The Great Chain of Being — A religious hierarchy where everything on earth was awarded a 'rank' / status. God was at the top, followed by angels, humans, animals and plants etc A Jacobean audience believed that if this hierarchy was interfered with (i.e. a human tried to 'jump up' the ranks to the status of angels or God) then the natural order would be thrown into chaos. Shakespeare shows this on the night of the regicide when there is a violent storm. Macbeth's attempt to climb the 'Chain of Being' disturbs the natural world.
Religion —A Jacobean audience were extremely religious, believing life to be sacred and God to be the creator of everything. Thus, when Macbeth claims life is 'a tale told by an idiot...signifying nothing' a Jacobean audience would have been greatly shocked. This nihilistic language (rejecting all religious and moral principles in the belief that life is meaningless) solidifies Macbeth's 'tyrant' and 'hellhound' status towards the end of the play.
Patriarchal Society / Gender Identity —The play is set in a Patriarchal society; a society where women were expected to be subservient to men. A woman was expected to obey her father / husband and was presumed to be physically and mentally weaker than a man. However, Shakespeare subverts these traditional gender roles in the relationship between Macbeth and Lady Macbeth; a relationship where we observe a strong female character command, instruct and manipulate her husband. Many women who subverted expected gender roles or conventions at the time were accused of being witches.
Witchcraft —King James I was obsessed with magic and witchcraft and ordered several witch-hunts during his reign as King, even producing a treatise on witchcraft called Daemonologie ('the Science of Demons'). In 1542, fifty years before Shakespeare wrote <i>Macbeth</i> , King Henry VIII passed the first English Witchcraft Act, which officially made the practice of witchcraft punishable by death. The inclusion of the three Witches in Shakespeare's 'Macbeth' would have greatly interested King James. Shakespeare's portrayal of the Witches shows them to cast spells and use familiars. The Witches' conspiracy against the state (monarchy) was something that would have instilled great fear amongst the audience. Moreover, the 'spot' on Lady Macbeth's hand is also an reference to what was known as 'the devil's mark' (something that would condemn any suspected Witch to death).
The Gunpowder Plot — King James I was the intended victim of Guy Fawkes' Gunpowder plot. This made him nervous of future regicide attempts. Shakespeare's 'Macbeth' would have been popular with King James because it shows that those who commit regicide are greatly punished / mentally tortured. The message of Shakespeare's play acts as a deterrent to anyone thinking of committing regicide.

WRITER'S METHODS
Use of soliloquy/aside —notice when Macbeth starts using asides and what this might suggest about his changing character (e.g when he starts having dangerous thoughts!) Soliloquies are often used when characters have a decision to make. It shows characters in turmoil. Usually by the end they have made a decision.
Pathetic Fallacy —consider how the weather is highlighted by Shakespeare at key points in the play and how the weather reflects the mood. E.g the play opens with 'thunder and lightning' -Shakespeare immediately sets an ominous mood. Think about the night of the murder and the weather/reaction of the earth to the murder.
Symbolism/motif: when an object is used to represent a deeper more significant meaning. E.g. blood as a symbol of guilt in the play. Another important symbol is sleep (or lack of) - references to sleep and sleeplessness reveal the deterioration of Lady Macbeth and Macbeth's turmoil too.
Dramatic irony —when the audience knows something that one or more characters do not eg. We know Duncan shouldn't trust Macbeth. We also witness Macbeth lie to Banquo about the witches when he says “consider it not so deeply” and we've just seen him “consider it deeply!”
Contrasting imagery eg. Heaven/hell light/dark good/evil occurs throughout the play. Notice what these images suggest eg. Evil is sometimes shown through dark imagery.

EXAM TIPS
1. Read the information AQA provides you (about the extract) at the top. It gives you clues about where in the play the extract appears.
2. Also, double check which characters are speaking in the extract as students sometimes make mistakes with this.
3. Read the question at the bottom of the extract before you read the extract so you can look for the most relevant quotations.
4. Start your answer with a confident thesis—your response to the question.
5. Aim to zoom in on individual words / short phrases within the extract, explaining their significance in detail as well as Shakespeare's intentions.
6. Now start to consider other parts of the play where the question focus is relevant.
7. Fewer points that are wholly relevant to the question (and explore it in detail) are better than responses that do not address the question and are more general in approach.

FORM
The play is a Shakespearean tragedy . Tragedies usually adhere to a set of conventions :
The play centres around a tragic hero. Usually he is male, usually with high status at the start of the play and some moral virtues. Through a combination of the character's fatal flaw (their <i>hamartia</i>) and the intervention of fate, the character is set off on a path of self-destruction from which they cannot escape. They may have a moment of realisation in which they realise their mistake, but it is too late to turn back. The play ends with their death, and then the natural order is restored.
Audiences were meant to feel a sense of catharsis —that is, they could experience the intense emotions of the plot without making the same mistakes as the protagonist.
It might be useful to think about where in the plot of Macbeth these stages above occur and how Shakespeare portrays the various stages of Macbeth's downfall.

The iris can dilate the pupil (aperture) to let in more light in dim conditions

Sense organ containing receptors sensitive to light intensity and colour

Human control systems include

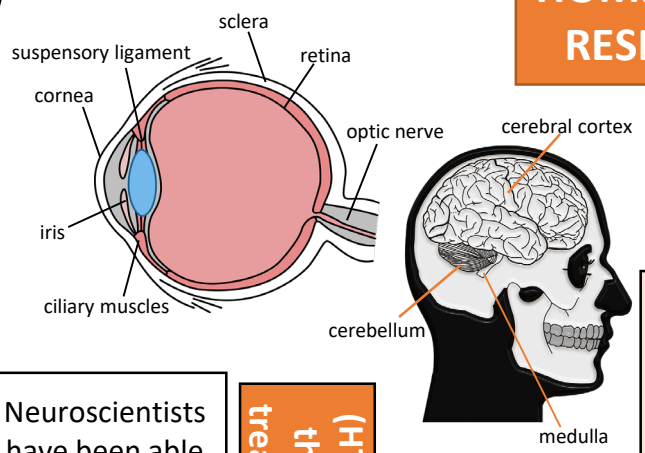
Cells called receptors	Detect stimuli (changes in environment).
Coordination centres	e.g. brain, spinal cord and pancreas that receive information from receptors.
Effectors	Muscles or glands, which bring about responses to restore optimum levels.

Enables humans to react to their surroundings and to co-ordinate their behaviour

Structures of the eye

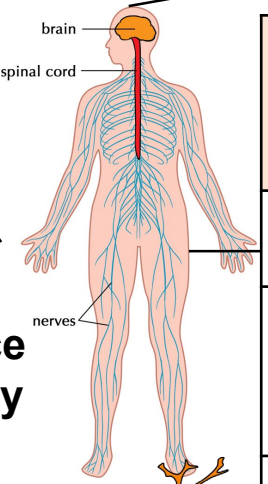
Retina	Light sensitive cell layer.
Optic nerve	Carries impulse to brain.
Sclera	Protects the eye.
Cornea	Transparent layer that covers the pupil and iris.
Iris	Pigmented layer, controls size of pupil.
Ciliary muscles	Controls thickness of lens.
Suspensory ligaments	Connects lens to ciliary muscles.

The Eye (Bio only)



AQA GCSE HOMEOSTASIS AND RESPONSE part 1

The human nervous system



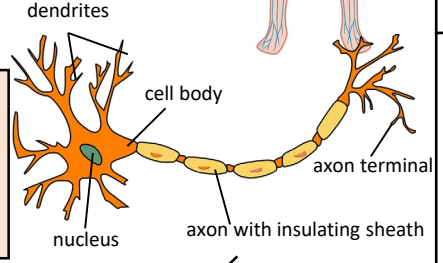
Information from receptors passes along cells (neurones) as electrical impulses to the central nervous system (CNS)
The CNS is the brain and the spinal cord.

Coordinates the response of effectors; muscles contracting or glands secreting hormones

The Brain (Bio only)

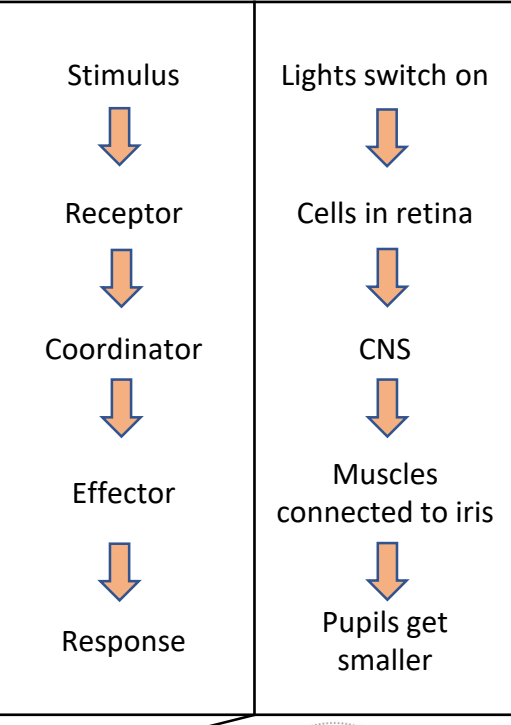
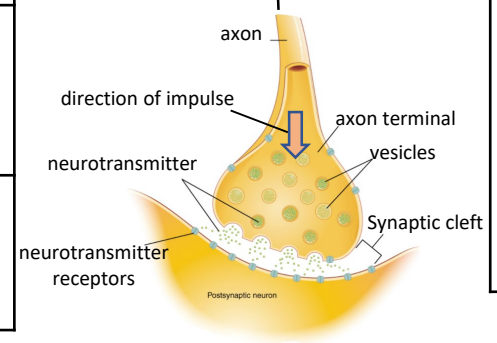
The brain controls complex behaviour. It is made of billions of interconnected neurones.

Science Biology



Typical motor neurone

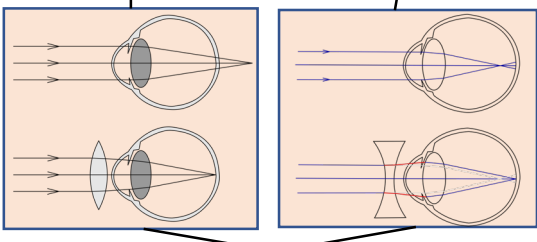
Synapse (gap where two neurones meet).



Accommodation is the process of changing the shape of the lens to focus

Near object	Far object
Ciliary muscles contract, suspensory ligaments loosed, lens get thicker, light is more refracted.	Ciliary muscles relax, suspensory ligaments pulled tight, lens pulled thin, light is only slightly refracted.

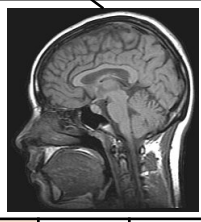
Hyperopia (long sightedness)	Myopia (short sightedness)
Treated using a convex lens so the light is focused on the retina.	Treated using a concave lens so light is focused on the retina.



New technologies now include hard/soft contact lens, laser surgery to change the shape of the cornea and a replacement lens in the eye.

Neuroscientists have been able to map regions of the brain by studying patients with brain damage, electrical stimulation and MRI.

(HT) The complexity and delicacy of the brain makes investigating and treating brain disorders very difficult



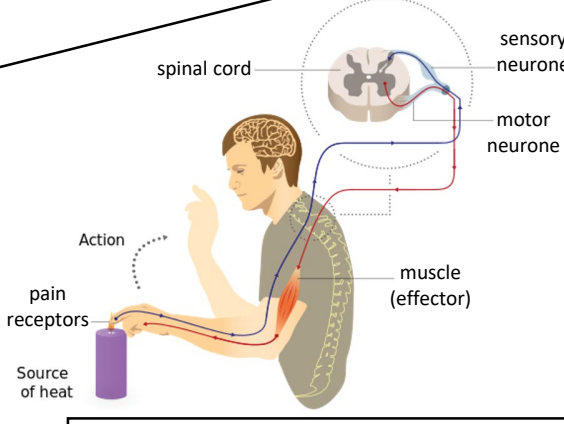
The brain has different regions that carry out different functions.

Cerebral cortex	Largest part of the human brain. Higher thinking skills e.g. speech, decision making.
Cerebellum	Balance and voluntary muscle function e.g. walking, lifting.
Medulla	Involuntary (automatic) body functions e.g. breathing, heart rate.

Treating brain damage and disease
e.g. Lobotomy – cutting part of the cerebral cortex
Benefit: thought to alleviate the symptoms of some mental illnesses.
Risks: bleeding in the brain, seizures, loss of brain function. Procedure was abandoned in the 1950s due to risk.

Reflex arc

Receptor	Detect stimuli.
Sensory neurone	Long axon carries impulse from receptor to spinal cord.
Synapse	Gap where neurones meet. Chemical message using neurotransmitter.
Relay neurone	Allows impulses to travel between sensory and motor neurones in the spinal cord.
Motor neurone	Long axon carries impulse from receptor to effector.
Effector	Muscle or gland that carries out response.



Reflex actions are automatic and rapid; they do not involve the conscious part of the brain and can protect humans from harm.

AQA GCSE HOMEOSTASIS AND RESPONSE PART 2

Response to internal and external change

Controls in the human body	<i>Blood glucose concentration</i>	These automatic control systems may involve nervous responses or chemical responses.
	<i>Body temperature</i>	
	<i>Water levels</i>	

The regulation of internal conditions of a cell or organism to maintain optimum conditions for function.

Homeostasis maintains optimal conditions for enzyme action and all cell functions.

Homeostasis

Water and nitrogen balance (Biology only)

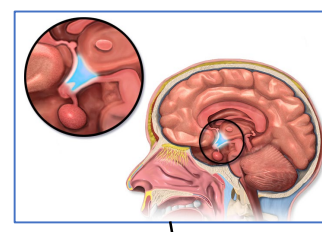
If body cells lose or gain too much water by osmosis they do no function efficiently.	<i>Uncontrolled water/ion/urea loss</i>	Water exhaled in lungs, water, ions and urea in sweat.
	<i>Controlled water/ion/urea loss</i>	Via the kidneys in urine.

Kidney failure is treated by organ transplant or dialysis.

Kidney function	<i>Maintain water balance of the body.</i>	Produce urine by filtration of the blood and selective reabsorption of glucose, ions and water.
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A dialysis machine removes urea from the blood by diffusion while maintaining ion and glucose levels.

(HT only) ADH	<i>Acts on kidney tubules to control water levels.</i>	Released by pituitary gland when blood is too concentrated. Water is reabsorbed back into the blood from the kidney tubules (NEGATIVE FEEDBACK).
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Thermoregulatory centre (hypothalamus)

Control of body temperature (Biology only)

Monitoring body temperature	<i>Thermoregulatory centre</i>	Contains receptors sensitive to the temperature of the blood.
	<i>Skin</i>	Contains temperature receptors, sends nervous impulses to the thermoregulatory centre.

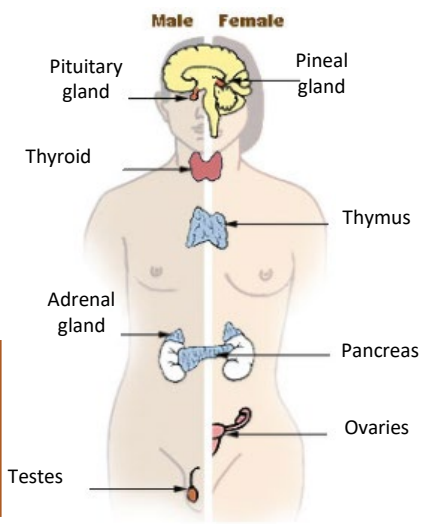
Body temperature	<i>Too high</i>	Blood vessels dilate (vasodilation), sweat produced from sweat glands.
	<i>Too low</i>	Blood vessels constrict (vasoconstriction), sweating stops, muscles contract (shivering).

(HT) Thermal energy is lost from blood near the surface of the skin, sweat evaporates transferring thermal energy.

(HT) Thermal energy loss at the surface of the skin is reduced, respiring muscles cells transfer chemical to thermal energy.



Human endocrine system



Endocrine system	<i>Composed of glands which secrete chemicals called hormones directly into the bloodstream.</i>	The blood carries the hormone to a target organ where it produces an effect. Compared to the nervous system effects are slower but act for longer.
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Pituitary gland	<i>'Master gland'; secretes several hormones into the blood</i>	Stimulates other glands to produce hormones to bring about effects.
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Control of blood glucose concentration

Negative feedback (HT only)	<i>Adrenaline</i>	Produced in adrenal glands, increases breathing/heart rate, blood flow to muscles, conversion glycogen to glucose. Prepares body for 'fight or flight'.
	<i>Thyroxine</i>	Produced in the thyroid gland, stimulates the basal metabolic rate. Important in growth and development.

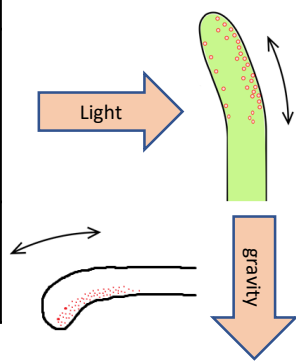
Increasing thyroxine levels prevent the release of thyroid stimulating hormone which stops the release of thyroxine.

Blood glucose concentration	
<i>Monitored and controlled by the pancreas</i>	
Too high	(HT only) Too low
Pancreas produces the hormone insulin, glucose moves from the blood into the cells. In liver and muscle cells excess glucose is converted to glycogen for storage.	Pancreas produces the hormone glucagon that causes glycogen to be converted into glucose and released into the blood.

(HT) Rising glucose levels inhibit the release of glucagon in a negative feedback system. Insulin is released to reduce glucose levels and which cause the pancreas to release glucagon

Diabetes	
<i>Type 1</i>	<i>Type 2</i>
Pancreas fails to produce sufficient insulin leading to uncontrolled blood glucose levels. Normally treated by insulin injection.	Obesity is a risk factor. Body cells no longer respond to insulin. Common treatments include changing by diet and increasing exercise.

(HT only) digestion of proteins results in excess amino acids. In the liver they are de-aminated to form toxic ammonia which is converted to urea



FSH and LH are used as 'fertility drugs' to help someone become pregnant in the normal way

In Vitro Fertilisation (IVF) treatment.

Involves giving a mother FSH and LH to stimulate the maturation of several eggs

The eggs are collected from the mother and fertilised by sperm from the father in a laboratory.

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The fertilised eggs develop into embryos.

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At the stage when they are tiny balls of cells, one or two embryos are inserted into the mother's uterus (womb).

Hormones are used in modern reproductive technologies to treat infertility

Plants produce hormones to coordinate and control growth

Plant responses using hormones (auxins)

Light (phototropism)	Light breaks down auxins and they become unequally distributed in the shoot. The side with the highest concentration of auxins has the highest growth rate and the shoot grows toward the light.
Gravity (geotropism or gravitropism)	Gravity causes an unequal distribution of auxins. In roots the side with the lowest concentration has the highest growth rate and the root grows in the direction of gravity.
	In new shoots from a seedling the unequal distribution of auxins causes the shoot to grow away from gravity.

(HT only) Gibberellins are important in initiating seed germination.

(HT only) Ethene controls cell division and ripening of fruits.

The use of hormone to treat infertility (HT only)

Plant hormones

Use of plant hormones (HT only)

Plant growth hormones are used in agriculture and horticulture

Auxins	Weed killers, rooting powders, promoting growth in tissue culture.
Ethene	Control ripening of fruit during storage and transport.
Gibberellins	End seed dormancy, promote flowering, increase fruit size.

AQA GCSE HOMEOSTASIS AND RESPONSE PART 3

Potential disadvantages of IVF

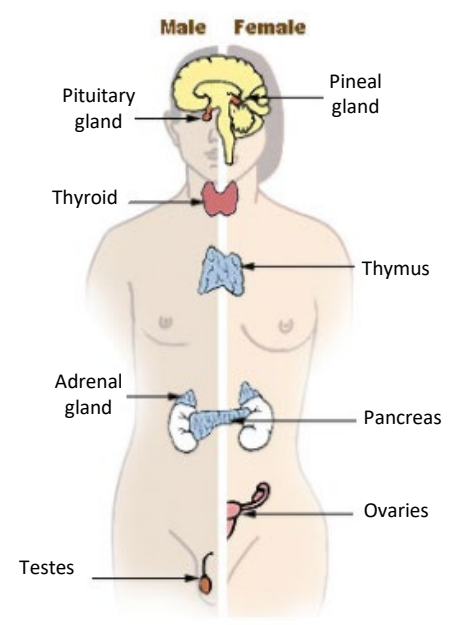
Emotional and physical stress.
Success rates are not high.
Multiple births risk to mother and babies.

Contraception

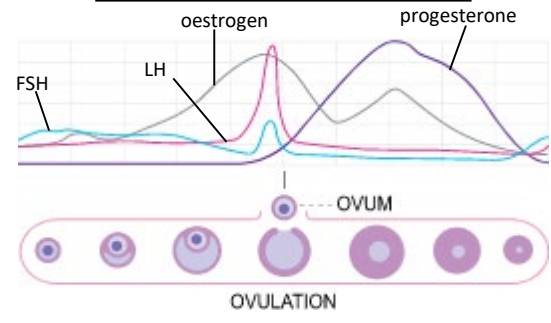
Hormones in human reproduction

During puberty reproductive hormones cause secondary sexual characteristics to develop

Oestrogen (main female reproductive hormone)	Testosterone (main male reproductive hormone)
Produced in the ovaries. At puberty eggs begin to mature releasing one every 28 days – ovulation .	Produced in the testes stimulating sperm production.



(HT only) a graph of hormone levels over time



Menstrual cycle	Follicle stimulating hormone (FSH)	Causes maturation of an egg in the ovary.	(HT) FSH stimulates ovaries to produce oestrogen.
	Luteinising hormone (LH)	Stimulates release of an egg.	(HT) Oestrogen stops FSH production and stimulates LH production in pituitary gland.
	Oestrogen and progesterone	Maintain uterus lining.	

Fertility can be controlled by hormonal and non hormonal methods

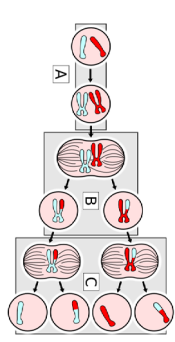
Oral contraceptives	Contain hormones to inhibit FSH production so that no eggs mature.
Injection, implant, skin patch	For slow release of progesterone to inhibit the maturation and release of eggs for months or years.
Barrier methods	Condoms or diaphragms which prevent sperm reaching the egg.
Intrauterine devices	Prevent implantation of an embryo or release a hormone.
Spermicidal agents	Kill or disable sperm.
Abstaining	Avoiding intercourse when an egg may be in the oviduct.
Surgery	Male or female sterilisation.

Meiosis halves the number of chromosomes

Gametes are made in reproductive organs (in animals ovaries and testes)

Cells divide by meiosis to form gametes

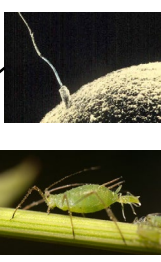
Copies of the genetic information are made.
The cell divides twice to form four gametes each with single set of chromosomes.
All gametes are genetically different from each other.



Sexual reproduction involves the fusion of male and female gametes.
Asexual reproduction involves only one parent and no fusion of gametes.

Sperm and egg in animals.
Pollen and egg cells in flowering plants.
e.g. cloning of females only in an aphid population.

Produced by meiosis. There is mixing of genetic information which leads to a variety in the offspring.
Only mitosis is involved. There is no mixing of genetic information. This leads to genetically identical clones.



Advantages and disadvantages of sexual and asexual reproduction (Biology only)

Gametes join at fertilisation to restore the number of chromosomes

The new cell divides by mitosis. The number of cells increase. As the embryo develops cells differentiate.

When the protein chain is complete it folds to form a unique shape. This allows proteins to do their job as enzymes, hormones or new structures such as collagen.

Meiosis

Meiosis leads to non-identical cells being formed while mitosis leads to identical cells being formed

Some change the shape and affect the function of proteins e.g. and enzyme active site will change or a structural protein loses its strength

Most do not alter the protein so that its appearance or function is not changed.

(HT) Making new proteins (protein synthesis)

Composed of chains of amino acids. A sequence of 3 bases codes for a particular amino acid.

Reproduction advantages/disadvantages	
Sexual	Asexual
Needs two parents.	Only one parent needed (quicker).
Produces variation in the offspring.	Identical offspring (no variation).
If the environment changes variation gives a survival advantage by natural selection.	Vulnerable to rapidly changing conditions due to lack of variation.
Negative mutations are not always inherited.	Negative mutation can affect all offspring.
Natural selection can be speeded up using selective breeding to increase food production.	Food/medicine production can be extremely quick.

DNA and the genome

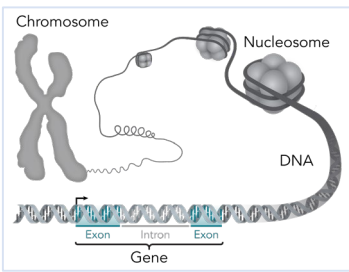
Sexual and asexual reproduction

AQA GCSE INHERITANCE, VARIATION AND EVOLUTION Part 1

Genetic material in the nucleus is composed of a chemical called DNA.

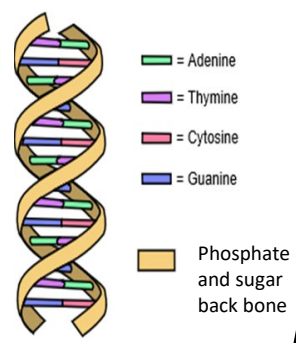


DNA structure
Polymer made up of two strands forming a double helix.
Contained in structures called chromosomes. A gene is a small section of DNA on a chromosome. Each gene codes for a sequence of amino acids to make a specific protein.



The genome is the entire genetic material of an organism.

DNA structure (Biology only)



(HT only) Not all parts code for proteins. Non-coding parts can switch genes on and off. Mutations may affect how genes are expressed.

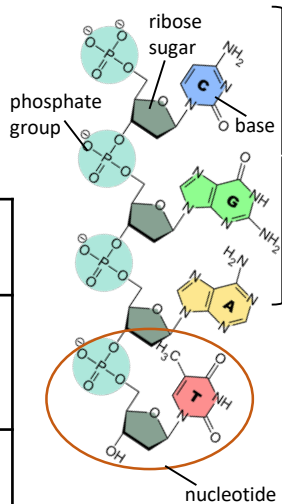
Mutations occur continuously (HT only)

Protein synthesis (HT only)

In DNA the complementary strands C, A, T, G always link in the same way. C always linked to G on the opposite strand and A to T.

DNA is polymer made from four different nucleotides. Each nucleotide consists of a common sugar, phosphate group and one of 4 different bases A, C, G & T

Repeating nucleotide units.



DNA in the nucleus unravels.
↓
Enzymes make a copy of the DNA strand called mRNA.
↓
mRNA moves from the nucleus to ribosome in the cytoplasm.
↓
Ribosomes translate each 3 bases into amino acids according to mRNA template
↓
Ribosomes link amino acids brought by carrier proteins.
↓
A long chain of amino acids form. Their specific order forms a specific protein.

A sequence of 3 bases is the code for a particular amino acid. The order of bases controls the order in which each amino acid is assembled to produce a specific protein.

Science Biology

Some organisms use both methods depending on the circumstances	Malarial parasites	
	Fungi	
	Plants	

Asexually in the human host but sexually in a mosquito.
Asexually by spores, sexually to give variation.
Produce seeds sexually, asexually by runners in strawberry plants, bulbs division in daffodils.

The whole human genome has now been studied.
It is of great importance for future medical developments
Searching for genes linked to different types of disease.
Understanding and treatment of inherited disorders.
Tracing migration patterns from the past.

Embryo screening: small piece of developing placenta removed to check for presence of faulty genes

Gene therapy: replacing the faulty allele in somatic cells with a normal allele

Embryo screening and gene therapy may alleviate suffering

Very rarely a mutation will lead to a new phenotype which if is suited to environmental change can lead to rapid change in the species.

Embryo screening /gene therapy issues	Economic	Costly and not 100% reliable.
	Social	Not available to everyone (due to cost).
	Ethical	Should only 'healthy' embryos be implanted following screening.

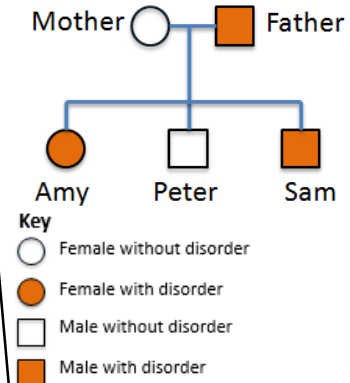
Mutations occur continuously

Variation: difference in the characteristics of individuals in a population may be due to

- Genetic causes (inheritance)**
- Environmental causes (condition they have developed in)**
- A combination of genes and environment**

There is usually extensive genetic variation within the population of a species e.g. hair colour, skin colour, height that can also be affected by environment e.g. nutrition, sunlight.

Using a family tree: If the father was homozygous dominant then all of the offspring would have the disorder. He must be heterozygous



Inherited disorders

Some disorders are inherited. They are caused by the inheritance of certain alleles

Polydactyly	Cystic fibrosis
Caused by inheriting a dominant allele.	Caused by inheriting a recessive allele (both parents have to at least carry it).
Causes a person/animal to have extra toes or fingers.	A disorder of the cell membrane. Patients cannot control the viscosity of their mucus.

Ordinary human body cells contain 23 pairs of chromosomes

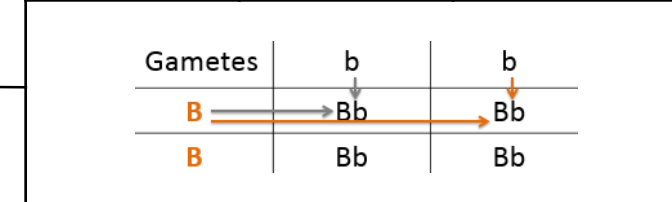
One pair of chromosomes carry the genes that determine sex

Female	Male
XX	XY
Gametes	X Y
X	XX XY
X	XX XY

The probability of a male of female child is 50%. The ratio is 1:1

Using a punnet square (using mouse fur colour as an example)

Parent phenotype	Black fur	White fur
Parent genotype	BB	bb
What gametes are present	In each egg B B	In each sperm b b



The probability of black fur offspring phenotype is 100%. All offspring genotypes are heterozygous (Bb).

Crossing two heterozygous mice (Bb)

Gametes	B	b
B	BB	Bb
b	Bb	bb

The probability of black fur is 75% and white fur 25%. The ratio of black to white mice is 3:1

Variation

All genetic variation arises in mutation, most have no effect on phenotype, some influence but very few determine phenotype.

The genome and its interaction with the environment influence the development of phenotypes

AQA GCSE INHERITANCE, VARIATION AND EVOLUTION PART 2

Define terms linked to genetics

Gamete	Sex cells produced in meiosis.
Chromosome	A long chain of DNA found in the nucleus.
Gene	Small section of DNA that codes for a particular protein.
Allele	Alternate forms of the same gene.
Dominant	A type of allele – always expressed if only one copy present and when paired with a recessive allele.
Recessive	A type of allele – only expressed when paired with another recessive allele.
Homozygous	Pair of the same alleles, dominant or recessive.
Heterozygous	Two different alleles are present 1 dominant and 1 recessive.
Genotype	Alleles that are present for a particular feature e.g. Bb or bb
Phenotype	Physical expression of an allele combination e.g. black fur, blonde hair, blue eyes.

Some characteristics are controlled by a single gene e.g. fur colour, colour blindness.

The alleles present, or genotype operate at a molecular level to develop characteristics that can be expressed as a phenotype.

Most characteristics are as a result of multiple genes interacting.

Genetic inheritance

The concept of probability in predicting results of a single gene cross.

Dominant and recessive allele combinations

Dominant	Recessive
Represented by a capital letter e.g. B.	Represented by a lower case letter e.g. b.

3 possible combinations:
Homozygous dominant BB
Heterozygous dominant Bb
Homozygous recessive bb

Over time this results in the formation of new species.

The theory of evolution by natural selection.

Species of all living things have evolved from simple life forms that first developed 3 billion years ago.

Through natural selection of variants (genotypes) that give rise to phenotypes best suited to their environment or environmental change e.g. stronger, faster. This allows for variants to pass on their genotype to the next generation.

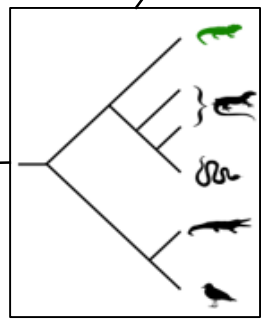
If two populations of one species become so different in phenotype that they can no longer interbreed to produce fertile offspring they have formed two new species.



Classification of living organisms

Evolutionary trees are a method used by scientists to show how organisms are related

Use current classification data for living organisms and fossil data for extinct organisms



Choosing characteristics

Desired characteristics are chosen for usefulness or appearance

Disease resistance in food crops.



Animals which produce more meat or milk.



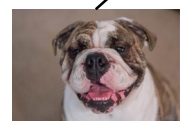
Domestic dogs with a gentle nature.



Large or unusual flowers.



Selective breeding can lead to 'inbreeding' where some breeds are particularly prone to disease or inherited defects e.g. British Bulldogs have breathing difficulties.



Concern: effect of GMO on wild populations of flowers and insects.

Selective breeding

Choosing parents with the desired characteristics from a mixed population

Chosen parents are bred together.

From the offspring those with desired characteristics are bred together.

Repeat over several generations until all the offspring show the desired characteristics.

Concern: effect of GMO on human health not fully explored

A change in the inherited characteristics of a population over time through the process of natural selection.

Evolution

The process by which humans breed plants/animals for particular genetic characteristics

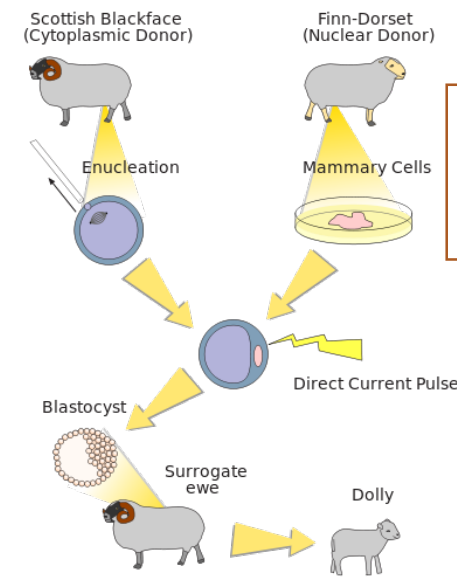
Selective breeding

Genetic engineering

Modern medical is exploring the possibility of GM to overcome inherited disorders e.g. cystic fibrosis

AQA GCSE INHERITANCE VARIATION AND EVOLUTION PART 3

Cloning (Biology only)



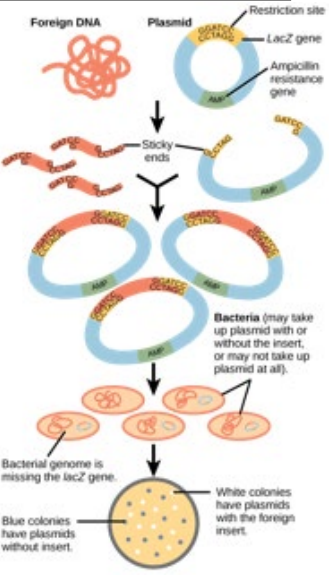
Cloning techniques in plants/animals

Tissue culture	Small groups of cells to grow new plants. Important for preservation of rare plants and commercially in nurseries.
Cuttings	Part of a plant is cut off and grown into full plant.
Embryo transplants	Splitting apart cells from animals embryo before they become specialised. New clone embryos are inserted into womb of adult female.

Concern: some people have ethical objections to adult cell cloning e.g. welfare of the animals.

Adult cell cloning

1. Nucleus is removed from an unfertilised egg.
2. Nucleus from body cell is inserted into egg cell.
3. An electric shock stimulates the egg to divide into an embryo
4. Embryo cells are genetically identical to adult cells.
5. When embryo has developed into ball of cells it is inserted into host womb.



Genetic engineering process (HT only)

1. Enzymes are used to isolate the required gene.
2. Gene is inserted into a vector – bacterial plasmid or virus.
3. Vector inserts genes into the required cells.
4. Genes are transferred to plants/animals/microbes at an early stage of development so they develop the required characteristics.

Genes from the chromosomes of humans or other organisms can be 'cut out' and transferred to the cells of other organisms.

Genetically modified crops (GMO)	<i>Crops that have genes from other organisms</i>	To become more resistant to insect attack or herbicides.
		To increase the yield of the crop.

Each Kg has a gravitational pull of 9.8N.

Gravitational field strength

Gravity exerted around an object.

Earth's gfs = 9.8N/kg

Unit	Newton (N)	1N
Kilo	Kilonewton (KN) = 1000	1X 10 ³
Mega	Meganewton (MN) = 1000,000	1 X 10 ⁶

Centre of mass

The weight of an object acts through a single point

Force	Push or pull	Stretch, squash, turn.
Contact force	Exerted between two objects when they touch	Friction, air resistance, tension.
Non-contact force	Exerted between two objects without touching	Gravity, electrostatic forces, magnetic forces.

Resolving forces

An object pulled with a force at an angle

A single force can be split into two components acting at right angles to each other.

The component forces combined have the same effect.

Weight = mass X gravitational field strength

$W = m \times g$

Weight	Force acting upon an object due to gravity	Newton (N)
Mass	How much matter	Kilograms (Kg)

Science Physics

Gravity

Resultant force

The overall effect of all of the forces acting upon an object

Two forces acting in the same direction are added.

Two forces acting in the opposite direction are taken away.

HIGHER ONLY

Work done against frictional forces, temperature of object rises.

Free body diagram

Show magnitude and direction of all forces upon an object

Object moves left with a force of 5N

Forces and their interactions

Contact and Resultant forces

AQA FORCES – part 1

Work done and energy transfer

Work done

When work is done, energy is transferred

Work done = force X distance moved

$W = F \times s$

1J of work is done when 1N of force moves an object through a distance of 1m, in the direction of the force.

If force is at right angles to direction of movement, NO work is done.

Scalar	A quantity that only has magnitude (size)	e.g. mass, time, speed, temperature, energy,
Vector	A quantity that only has magnitude and direction	e.g. force, velocity, momentum

Scalar and vector quantities

An arrow can be used to show vectors

Length of arrow = magnitude of vector

Direction of arrow = direction of vector

PHYSICS ONLY

$M = F \times d$

Moment = force X distance

Moments, levers and gears

Forces and elasticity

One force	The object changes speed or direction	Two balanced forces can stretch a object.
More than one force	The object changes shape	Two balanced forces can compress an object.
Elastic deformation	The object has been stretched but returns to its original length	Three balanced forces can bend an object.
Inelastic deformation	The object has been stretched but does not return to its original length	Limit of proportionality
Extension	The difference between stretched and unstretched lengths	Beyond this point the spring is permanently deformed

Velocity	Speed + direction	The speed of a car is 30m/s. A car moves forward with a velocity of 30m/s
Distance	How far	The table is 1m long
Displacement	Distance + direction	The beach is 1km due east of the town

Moment

Turning effect of a force about a pivot

Lever

A small force exerted with a long lever applies a large force

Area	Metres squares (m²)
Weight	Newton (N)
Mass	Kilograms (kg)
Gravitational field strength	Newton per kilogram (N/Kg)
Force	Newton (N)
Work done	Joules (J)
Distance	Metres (m)
Moment	Newton-metres (Nm)

Gears

Increase or decrease the rotational effect of a force

Principle of moments

In a balanced system, the sum of the clockwise moments = the sum of the anti-clockwise moments

HIGHER ONLY Pressure

Pressure = Force ÷ Area

$P = F \div A$

Fluid

A liquid or gas

Flows and changes shape to fill a container.

Pressure and depth

Pressure on divers depends on weight of water above

Upthrust

Resultant force exerted by a fluid

Hydraulic machine

Use liquids to transmit pressure

Atmospheric pressure

Caused by billions of air particles colliding with a surface.

Stretching a spring

Force = spring constant X extension, $F = k \times e$

EPE = $\frac{1}{2}$ X spring constant X (extension)², $EPE = \frac{1}{2} ke^2$

Elastic Potential energy (EPE)

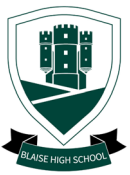
Energy stored in a stretched spring

Force	Newton (N)
Spring constant	Newton per metre (N/m)
Extension	Metres (m)
EPE	Joules (J)

Pressure = height X density X gfs

YR 10 ART AND DESIGN *KNOWLEDGE ORGANISER* Portraiture

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 each project you will look at and analyse the work of an artist or art movement. During this project you will look at *portraiture* and the work of Shepard Fairey and Chuck Close. This research will help you produce your own work.

A03 DRAWING AND RECORDING

You will learn a range of drawing techniques in order to develop skills with accuracy and enlargement. You will personalise your project by selecting personal and meaningful portrait photographs of family/friends.

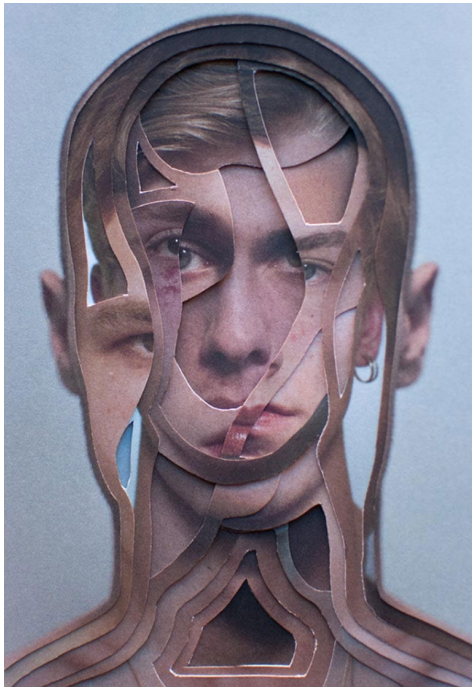
A02 EXPERIMENTING WITH MATERIALS

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

A04 PRODUCING A FINAL PIECE

At the end of the project you will present a final piece of work. This will be a mixed media portrait.

KEYWORDS AND KEY TERMS FOR THIS PROJECT



Shepard Fairey is an American artist known for his large-scale Murals, portraits and street art. He started producing stencils and stickers of Andre the giant when he worked in a skateboard shop. **Pablo Thecuado** is a Spanish collage artist who uses fashion photographs and to produce layered portraits.



KEYWORDS / TECHNIQUES

Portrait - a painting, drawing, photograph, or engraving of a person, especially one depicting only the face or head and shoulders.

Photorealism - an American art movement in which artists attempted to recreate the image in a photo using a different artistic medium such as drawing, pastels, painting, charcoal, etc.

Mixed-media - a variety of media used within a piece of artwork.

Composition – layout or arrangement

Collage - a piece of art made by sticking various different materials such as photographs and pieces of paper or fabric on to a backing.

HEALTH AND SAFETY AT WORK ACT (1974)

This covers all aspects of health and safety of employees.

***Employers must provide safe working areas (this includes machinery, tools, adequate working space, good temperature control (i.e. ventilation and heating), supervision, instruction, and training of staff, cleaning, first aid clothing etc.**

***Employees must also take care of their own health and safety, not endanger others and not misuse premises or equipment.**

FOOD HYGIENE REGULATIONS- These are to prevent outbreaks of food poisoning.

There are three main areas-

- 1. Food premises-** clean, maintained, hot and cold water available, good toilet facilities, clothing lockers, first aid, fire prevention, equipment in good condition, adequate storage facilities and good ventilation.
- 2. Personal hygiene-** correct footwear, uniform, headwear, good personal habits, good health and cleanliness.
- 3. Hygienic practices-** food stored correctly, waste disposed of hygienically, good cleaning schedules, no animals in food areas etc.



Food Safety Act

This covers:

1. Food quality
2. Food safety
3. Food composition.
4. Food labelling and advertising.



UNDER THE FOOD SAFETY ACT ENVIRONMENTAL HEALTH OFFICERS (EHO'S) CAN:

- close dirty premises immediately
- impose fine of £20,000 or six months imprisonment
- take legal action for manslaughter

Note: All premises must be registered with the local authority and can be inspected at any time by an EHO.



Knowledge Organiser- Food Safety Legislation (LO3: AC3.3 LO4: AC4.3)

WHAT IS A RISK ASSESSMENT?

It is a summary of what (in your place of work) could cause harm to people. It is carried out in the following way:

1. Identify risks or hazards
2. Decide who might be harmed and how
3. Evaluate risks and decide on the precautions that need to be taken.
4. Put into practice the precautions.
5. Review the risk assessment and update regularly.

HAZARD ANALYSIS CRITICAL CONTROL POINTS (HACCP)

- **Purchase of food-** buy from reputable suppliers
- **Receipt of food-** checking deliveries- temperature and quality points
- **Storage of food-** remember dry, chilled and frozen
- **Preparation of food-** to avoid cross contamination (4C's)
- **Cooking of food-** cooking to the correct temperature out of the DANGER ZONE above 75°C.
- **Cooling-** cool through the DANGER ZONE as quickly as possible (5 °C -63 °C)
- **Hot-holding-** above 63 °C
- **Reheating- NOT for high-risk groups (above 72°C for two minutes)**
- **Chilled storage-** between 1°C -5°C
- **Serving-** obey the four-hour rule for cold food and two hour rule for hot food.



Knowledge Organiser: Risks and Control Measures for Personal Safety in Hospitality and Catering
(LO3: AC3.1 and AC3.3)

COSHH= CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH
(2002 Regulations)

Substances can take many forms and include:

- Chemicals
- Products containing chemicals
- Fumes
- Dusts
- Vapours
- Mists
- Nanotechnology
- Gases and asphyxiating gases and biological agents (germs). If the packaging has any of the hazard symbols then it is classed as A hazardous substance.
- Germs that cause diseases such as leptospirosis or legionnaires disease and germs used in laboratories.



PPER: Personal Protective Equipment at work Regulations (1992). Seeks to ensure that where risks cannot be controlled by other means **PPE** should be correctly identified and put into use.



- CORROSION**
- Skin Corrosion/Burns
 - Eye Damage
 - Corrosive to Metals
- EXCLAMATION MARK**
- Irritant (skin and eyes)
 - Skin Sensitizer
 - Acute Toxicity
 - Narcotic Effects
 - Respiratory Tract Irritant
 - Hazardous to Ozone Layer (Non-Mandatory)
 - Organic Peroxides
- EXPLODING BOMB**
- Explosives
 - Self-Reactives
 - Organic Peroxides



- SKULLS & CROSSBONES**
- Acute Toxicity (fatal or toxic)
- FLAME**
- Flammables
 - Pyrophorics
 - Self-Heating
 - Emits Flammable Gas
 - Self-Reactives
 - Organic Peroxides
- GAS CYLINDER**
- Gases Under Pressure



- ENVIRONMENT**
- Aquatic Toxicity
- HEALTH HAZARDS**
- Carcinogen
 - Mutagenicity
 - Reproductive Toxicity
 - Respiratory Sensitizer
 - Target Organ Toxicity
 - Aspiration Toxicity
 - Oxidizers
- FLAME OVER CIRCLE**
- Oxidizers

RIDDOR (2013)
Reporting Injuries Diseases Dangerous Occurrences Regulations
 These Regulations require employers, the self-employed and those in control of premises to report specified workplace incidents.



PPE stands for Personal Protective Equipment. PPE means any device or appliance designed to be worn or held by an individual for protection against one or more health and safety hazards.



First Aid

In the event of accident / illness

1. Call a first aider
2. Nearest first aid box
3. Sick bay

For use contact

Location

To call an ambulance

4. By day: Dial

State condition and location of casualty
 Telephonist to call ambulance

5. By night and at weekends: Dial

Ask for ambulance and give details
 Inform security guard

Knowledge Organiser: Personal Safety Responsibilities in the Workplace (L03: AC3.1)

Manual Handling Operations Regulations 1992 (as amended) (MHOR)

The Regulations define manual handling as:

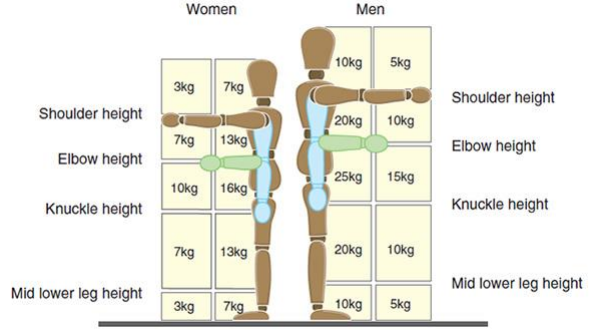
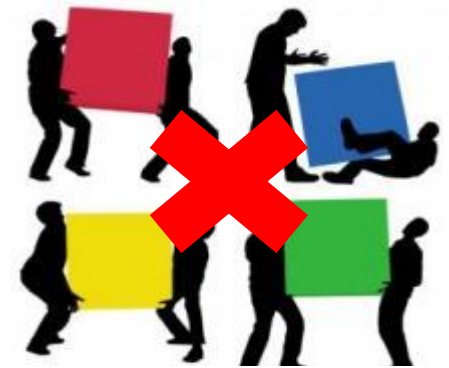
"...any transporting or supporting of a load (including the lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or bodily force".

The **load** can be an **object**, **person** or **animal**.

The MHOR 1992 set out a **clear ranking of measures** for dealing with **risks from manual handling**, these are:

1. **Avoid hazardous manual handling operations so far as is reasonably practicable;**
2. **Assess any hazardous manual handling operations that cannot be avoided; and**
3. **Reduce the risk of injury so far as is reasonably practicable.**

What an employer must do by law:	What you must do as an employee:
<ul style="list-style-type: none"> • Avoid risky manual handling operations if at all possible. 	<ul style="list-style-type: none"> • Attend training sessions on how to lift and handle loads.
<ul style="list-style-type: none"> • Assess any handling operations that cannot be avoided. 	<ul style="list-style-type: none"> • Be aware of your own strengths and weaknesses.
<ul style="list-style-type: none"> • Reduce the risk of injury as far as possible, e.g. by using mechanical handling equipment such as wheeled furniture transporters or trolleys. 	<ul style="list-style-type: none"> • 'Think before you lift.
<ul style="list-style-type: none"> • Store heavy equipment, e.g. food mixer, so that it is easily accessible, e.g. on a worktop or on a low shelf in a cupboard or storeroom. 	<ul style="list-style-type: none"> • Do not take unnecessary risks.
	<ul style="list-style-type: none"> • Ask for help if you need it.
	<ul style="list-style-type: none"> • Assess the load before you attempt to lift or move it- Is it hot, cold, sharp, hard to grip, heavy, likely to become unbalanced if moved?
	<ul style="list-style-type: none"> • Follow the advice on lifting heavy and large objects.



TOP TIPS FOR MANUAL HANDLING

1. **CONDUCT A MANUAL HANDLING RISK ASSESSMENT**
2. **ENSURE EMPLOYEES HAVE THE CORRECT MANUAL HANDLING TRAINING**
3. **USE MECHANICAL AIDS WHEREVER POSSIBLE**
4. **PLAN THE ROUTE BEFORE YOU START**
5. **HUG THE LOAD**
6. **WORK FROM A STABLE BASE**
7. **BEND YOUR KNEES**
8. **AVOID TWISTING OR LEANING**
9. **KEEP YOUR HEAD UP!**
10. **KNOW YOUR LIMITS**
11. **PUSH A LOAD RATHER THAN PULL IT**

Key Terms:

- **Control measure:** a way of reducing the risk of a hazard causing harm.
- **Hazard:** something that causes harm.
- **Risk:** how likely it is that someone will be harmed by a hazard.
- **Risk assessment:** a way of identifying risks in activities (e.g. carrying a heavy saucepan), situations (e.g. how easy it is to escape from a building in an emergency) or when using objects (e.g. a piece of kitchen equipment).
- **Gauntlets:** gloves with extensions that cover the arm up to the elbow



By law an employer **must:**

- Provide employees with **appropriate PPE where it is needed**
- Train employees so they understand the **importance of PPE**
- Put up **signs to remind employees to wear PPE**
- Ensure that employees wear the PPE at all times when they are working in an area with health and safety risks
- Make sure PPE is good quality and is maintained properly

PPE protects different parts of the body including:

- **Masks:** to prevent breathing in contaminated air into the lungs
- Hard hats and reinforced shoes to protect head and feet from falling objects
- Goggles/ eye shields to prevent the eyes being splashed with chemicals or injured by particles in the air
- Thick/ protective clothing to prevent skin contact with heat, extreme cold or corrosive chemicals



Personal Protective Equipment (PPE) at Work Regulations (PPER)

Knowledge Organiser: Risks and Control Measures (LO3: AC3.1, AC3:2 and AC3.3)



PPE protects different parts of the body including:

- **Masks:** to prevent breathing in contaminated air into the lungs
- Hard hats and reinforced shoes to protect head and feet from falling objects
- Goggles/ eye shields to prevent the eyes being splashed with chemicals or injured by particles in the air
- Thick/ protective clothing to prevent skin contact with heat, extreme cold or corrosive chemicals



An employee **must:**

- Attend training sessions on the importance of and how to wear PPE
- Wear PPE if instructed to by your employer, e.g.:
 - Wear a chef/cooks uniform to protect the body/arms from heat
 - Gloves and protective clothing when working in a freezer or handling frozen/chilled foods
 - A mask to protect the lungs when working with, e.g. flour, icing sugar, powdered nuts
 - Protective footwear, mask and gloves when using cleaning chemicals
 - Chain mail (metal) gauntlets when using sharp knives in a butchery
 - Reinforced and closed kitchen clogs or shoes to protect the feet from being injured by falling heavy objects or hot liquid spillage

2.1.1 Computational thinking

[A] Principles of computational thinking

- Computational thinking:** problem solving methods where possible solutions are developed and presented in a way understood by humans.
- Abstraction:** removing unnecessary details from a problem in order to solve it.
- Decomposition:** breaking down the problem into smaller simpler steps to solve individually.
- Algorithmic thinking:** putting the steps in order by getting from the problem to the solution.

Task: sort a list of product names into alphabetical order using computational thinking
Solution

Decomposition means breaking down the problem by...

Deciding what does alphabetical mean for letters, numbers and symbols?

Abstraction means removing unnecessary details by....

Ignoring what the names actually are. The important bit is that the names are in order.

Algorithmic thinking means putting the steps in order by...

For example, compare the first two entries and order them. Then compare the first two entries with the third and order them. Then compare the fourth to the first three...

2.1.2 Designing, creating and refining algorithms

[G] Trace tables

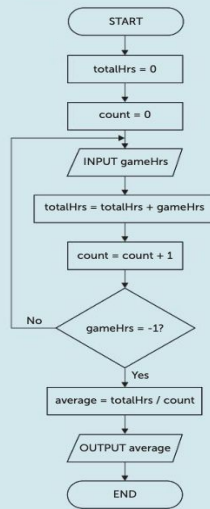
Trace table: is used to show how the values of variables change during execution of a program.

As each line of code is executed, the current value of any variable or logical expression that is changed is written in the appropriate column of the table. Only fill in a cell if the value has changed from the line above.

Example task:

Ben designs a flowchart to calculate the average number of hours students spend per week playing games. He uses test data for 3 students spending 8, 10 and 12 hours playing games. This results in an average of 10 hours.

gameHrs	totalHrs	count	gameHrs = -1?	average
	0	0		
8	8	1	No	
10	18	2	No	
12	30	3	No	
-1	29	4	Yes	7.25



2.1.2 Designing, creating and refining algorithms

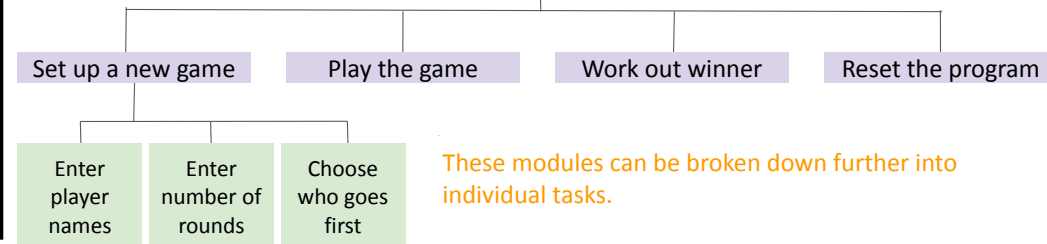
[B] Structure diagrams

Structure diagram: a graphical way of showing the smaller tasks of a larger program. They are made by **decomposing the program** that you want to write into manageable modules. Each module is then decomposed even further into modules to create a subprogram.

Advantages:

- The code is easier as you only need to focus on a small part of the program.
- The programs can be worked upon and tested individually.
- Individual subprograms can be fixed without affecting the rest of the program.

Noughts and crosses program



These modules can be broken down further into individual tasks.

2.1.2 Designing, creating and refining algorithms

[G] Trace tables

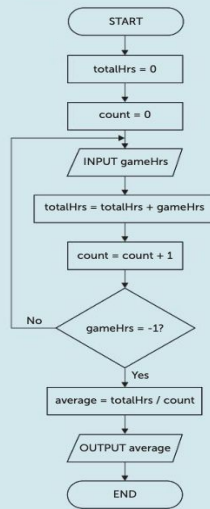
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8	8	1	No	
10	18	2	No	
12	30	3	No	
-1	29	4	Yes	7.25



2.1.3 Searching and sorting algorithms

[A] Standard searching algorithms: binary search

Searching algorithm: allows us to find one piece of data

Binary search: is used to search a list that is in numerical or alphabetical order. It works by repeatedly dividing in half the portion of the list that could contain the required data item.

Example task: consider the following ordered list. Search for data item 50.

15 21 29 32 37 40 42 43 48 50 60 64 77 81 90

Stage 1: middle term is 43, we can therefore discard all data items less than or equal to 43.

48 50 60 64 77 81 90

Stage 2: middle term is 64, so we can discard all data items greater than or equal to 64.

48 50 60

Stage 3: middle term is 50, so we have found the data item.

2.1.3 Searching and sorting algorithms

[B] Standard searching algorithms: linear search

Linear search: each item will be checked one by one in the list, until found.

Example task: look at the following list of integers. Find 5.

14	2	3	11	1	9	5	8	10	6
----	---	---	----	---	---	---	---	----	---

The items you would examine to find 5 are:

14	2	3	11	1	9	5			
----	---	---	----	---	---	---	--	--	--

2.1.3 Searching and sorting algorithms

[C] Standard sorting algorithms: bubble sort

Sorting algorithm: instructions to move elements in the right order (ascending or descending)
Bubble sort: works by repeatedly going through the list to be sorted, swapping adjacent elements if they are in the wrong order. It is not efficient for large lists.

A list of 5 numbers need to be sorted. **7,3,5,9,4**. Show the state of the list after each pass.

Pass 1				
3	7	5	9	4
3	5	7	9	4
3	5	7	9	4
3	5	7	4	9

Examines 5 items.

After the first pass, the largest Number has bubbled to the end of the list.

Pass 2				
3	5	7	4	9
3	5	7	4	9
3	5	4	7	9

Examines 4 items.

Pass 3				
3	5	4	7	9
3	4	5	7	9

Examines 3 items.

Pass 4				
3	4	5	7	9

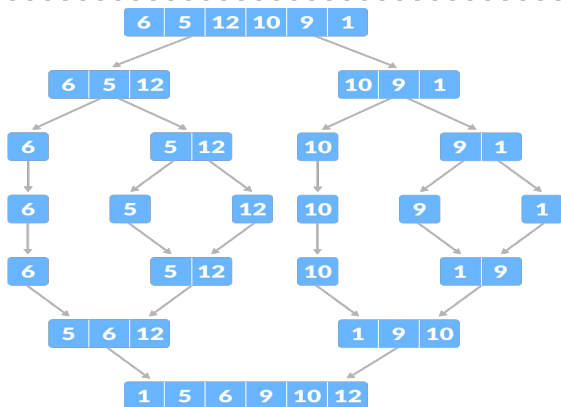
Examines 2 items.

The list is now sorted.

2.1.3 Searching and sorting algorithms

[D] Standard sorting algorithms: merge sort

Merge sort: This is a very fast two-stage sort. In the first stage, the list is repeatedly split in half, until each sublist is one element. In the second stage, each pair of sublists is repeatedly merged to produce a sorted list.



2.1.3 Searching and sorting algorithms

[E] Standard sorting algorithms: insertion sort

Insertion sort: This algorithm is more efficient than the bubble sort. Starting with the second item in the list, it looks at each remaining item and places it in the correct position in the list.

Sort the list **Philip, Max, Keira, Vic, Sara, Jan** into alphabetical order using an insertion sort.

List	Philip	Max	Keira	Vic	Sara	Jan
Pass 1	Max	Philip	Keria	Vic	Sara	Jan
Pass 2	Keira	Max	Philip	Vic	Sara	Jan
Pass 3	Keira	Max	Phillip	Vic	Sara	Jan
Pass 4	Keira	Max	Philip	Sara	Vic	Jan
Pass 5	Jan	Keira	Max	Phillip	Sara	Vic

COMPONENT 1 BTEC TECH PERFORMING ARTS (ACTING)

LEARNING AIM A

A write up consisting of the following criteria for **EACH** of the plays:

- Key characteristics
- Creative intentions and purpose (purpose of the play, target audience, themes, how themes are communicated in the play, context of play (political, social, historical))
- Synopsis of play
- Initial reactions after watching the play Production elements
- Link opinions and theories together with justifications as to why the director/writer/actor may have made particular choices

Roles and responsibilities of an actor/director/various designers
THEN specific roles and responsibilities of an actor/director/designer that are tailor made for **EACH** of the plays

LEARNING AIM B

1) The processes, techniques and approaches used by practitioners

- 1 – Participate in workshop rehearsals in the style of each company
- 2 – Recreate short snippets from the play using these techniques
- 3 – Reflect on the roles and responsibilities of an actor and director from these workshops
- 4 – Research the rehearsal time line of each play (**from page to stage**)

2) The interrelationships between constituent features

Interrelationships – the way in which two or more things are linked together

Constituent features - e.g. the script, performers involved, techniques used in performance and design (e.g. lighting, sound set) relationship between performer and audience etc

Play: Wise Children
Company: Wise Children
Genre: Epic Theatre/ Story Telling
Rehearsal techniques:
 Games and fun
 Physical warm up
Key Features: Multi-roling
 Multi use set
 Puppetry
 Visible costume changes
 Songs.
Stimulus: Wise Children by Angela Carter

Play: Everybody's Talking About Jamie
Company: The Crucible Theatre, Sheffield
Genre: Book Musical
Rehearsal techniques:
 Dance warm-up
 Vocal Warm-up
 Repetition
Key Features:
 Story is told through song
 Choreography
 Humors
 Multi- use set
 Mixture of minimal and realistic set
Stimulus: BBC3 Documentary about a teenage drag queen.

Play: Frankenstein
 Physical Theatre/ Naturalism
Rehearsal techniques:
 Intense physical warm up
 Improvisation
 Repetition
Key Features:
 Highly Physical
 Naturalistic acting
 Minimalistic set
Stimulus:
 Mary Shelley's Frankenstein

COMPONENT 3 BTEC TECH PERFORMING ARTS (ACTING)

Devise a performance in response to a stimulus provided by the exam board. Both parts of the task (written and performance) will be completed under supervision. There is a 12 week window for all parts to be completed. The component is marked out of 60.

Assessment objectives

AO1 - Understand how to respond to a brief. Discuss and practically **EXPLORE** the stimulus considering: target audience, performance space, planning and managing resources, running time and style of work.

Develop ideas considering: structure of work, style and genre used, skills required, creative intentions.

Work effectively as a member of the group making an individual contribution and responding to the contribution of others.

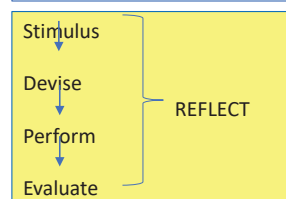
AO2 – Select and develop skills and techniques in response to a brief. Demonstrate **HOW** to select and develop skills and techniques that are needed for the performer and whole group and take part in the rehearsal process.

AO3 – Apply skills and techniques in a workshop performance in response to a brief
 Contribute to a workshop performance using: vocal, physical and interpretative skills. (18 marks)
 This performance will last

AO4 – Evaluate the development process and outcome in response to a brief
 Evaluate the process and performance. Consider: the brief, stimulus and contribution from other group members. Reflect on: selection of skills used, individual strengths/areas for improvement, overall and individual contribution to the group, impact of the groups work.

Key vocabulary

Target audience – who you will perform to and why
Performance space – choosing where the performance will take place if not on the stage and why
Running time – length of the performance
Style of work – genre or practitioner who will influence your work
Vocal skills – ability to adapt voice to suit a character
Physical skills – movement, gestures, body language, facial expressions
Interpretative skills – presenting yourself to the audience and creating emotion
Commitment – how much effort you put in individually and as a group
Rehearsal – practicing the performance
Blocking – deciding where an actor should stand
Performance – Showing of the piece of work to the target audience
Evaluate – identify strengths and areas for improvement of both the rehearsal and performance
Characterisation - creating a character through your movement and dynamic choices



YR 11 Engineering *KNOWLEDGE ORGANISER – R105, R106, R107, R108*

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



R105: Design briefs, design specifications and user requirements

Students explore the requirements of design briefs and specifications for the development of new products and how consumer requirements and market opportunities inform these briefs. They develop their understanding of the design cycle, the requirements for a design brief and design specification, and the importance of research data in developing a design solution. **EXAMINATION**

R107: Developing and presenting engineering designs

Students develop their knowledge and skills in communicating 2D and 3D design ideas, including effective annotation and labelling. They use detailed hand rendering as well as computer-based presentation techniques and computer-aided design (CAD) software

R106: Product analysis and research

Students find out how to perform effective product analysis through both research and practical experience of product assembly and disassembly procedures. This helps them develop skills in critical analysis and an understanding and appreciation of manufacturing processes, design features, materials used and the principles behind good design.

R108: 3D design realisation

Students produce a model prototype and test design ideas in a practical context. They evaluate the prototype against the product specification and consider potential improvements to features, function, materials, aesthetics and ergonomics in the final product

KEYWORDS AND KEY TERMS FOR THIS PROJECT

Coursework (R108) will involve;

Analysis of Specification – Comments regarding each point of the set specification

Materials, show knowledge of a range of modelling materials, examples of use and finishes required

Production Considerations,

Planning, chart showing order of work, tools or equipment, PPE, other information (instructions)

Gantt chart, chart that allocates time for each task

Risk assessment, develop and produce a form that would be used to assess and control hazards during the making of the prototype

Working drawing /cutting list, drawing and details of materials required

Making diary, photos and description of the making process, must include H&S comments

Evaluation

- of planning process, Comments regarding the Planning, risk assessment, PPE, tools and equipment, cutting list

-of making and performance, how well did you use your time, tools, equipment and machines, your skills. Strengths and Weaknesses

further development of ideas, sketched and annotated ideas for development

Specification

Following feedback from customers, OCR Garden Machines has designed a new pull cord handle for its range of petrol engineered garden tools. This handle allows users to grip the pull cord with their full hand resulting in increased grip and greater comfort for the user during use. The product specification is shown below:

The pull cord handle must:

- allow both adult male and female users to grip the handle comfortably
- should not slip within the users hand
- have a quality 'solid' feel
- be a 'one piece' design that would allow large quantity production
- allow ease of installation/replacement to standard cord sizes
- not be damaged by petrol/oil
- not require any surface finishing.
- be readily identifiable

R108: 3D design realisation

LO1: Know how to plan the making of a prototype

LO2: Understand safe working practices used when making a prototype

LO3: Be able to produce a prototype

LO4: Be able to evaluate the success of a prototype

Year 11 French GCSE Theme 2

Model answer Local area and environmental issues

J'habite à Nîmes dans le sud de la France. J'y habite depuis sept ans. C'est une grande ville historique et il y a beaucoup de sites touristiques. Nîmes est une ville agréable et elle est jolie, surtout dans le centre. En été, il fait chaud, mais en hiver, il y a du vent et il gèle.

Bien que Nîmes soit jolie, il y a aussi des problèmes écologiques. Je trouve que la circulation est un grand problème parce qu'il y a toujours des embouteillages au centre-ville. Nous avons beaucoup d'espaces verts où on peut faire des promenades, mais il y a un problème en ce qui concerne les détritus. Les personnes qui jettent des déchets dans la rue ne s'inquiètent pas de l'impact que ça a... Malgré ces problèmes, j'adore habiter à Nîmes.

J'aide beaucoup à la maison et ma famille est très écolo. Nous faisons du recyclage tous les jours, et moi, je trie les déchets pour recycler. Normalement, je prends une douche au lieu de prendre un bain. Je ne laisse jamais le robinet couler lorsque je me brosse les dents et j'essaie de baisser le chauffage central pour réduire le gaspillage d'énergie.

En ce qui concerne l'environnement, je pense que le problème mondial le plus grand est l'effet de serre. Il y a trop de voitures dans les rues et beaucoup d'usines qui émettent les gaz d'échappement. Ces gaz contribuent au réchauffement de la terre et c'est dangereux pour notre planète.

Le week-end dernier, je suis allé au parc pour jouer au foot avec mes amis. J'y suis allé en vélo au lieu d'y aller en voiture parce que c'est bon pour l'environnement. À la maison, j'ai fait du recyclage et j'ai travaillé dans le jardin avec mon père.

À l'avenir, j'ai l'intention d'être plus écolo en changeant mon mode de vie.. Je prendrai le bus ou le train au lieu d'utiliser la voiture Je ferai pousser mes propres fruits et légumes parce que j'espère être plus écolo.

Model answer Travel and tourism

En général, je passe mes vacances au bord de la mer en Espagne ou en Italie. J'adore nager et bronzer au soleil parce que c'est très relaxant.

Au mois d'août, je suis allée à Biarritz avec mes parents et ma petite sœur qui a neuf ans. Nous avons pris l'avion de Londres à Biarritz. Le voyage était assez confortable et très rapide, mais la nourriture était chère ! Après être arrivés à l'aéroport, on a loué une voiture pour aller à l'hôtel.

J'ai trouvé la région intéressante et pittoresque parce qu'il y avait des montagnes, des plages magnifiques où j'ai nagé, des restaurants agréables et pas mal de magasins de vêtements. J'adore faire du shopping et j'ai trouvé plein de jolies choses ! J'ai passé beaucoup de temps à faire de la planche à voile parce que je trouve ça passionnant et j'adore la mer. J'ai aussi joué aux boules. Je l'ai trouvé amusant et assez facile.

L'année prochaine, j'ai l'intention de travailler dans un supermarché pendant un mois pour gagner de l'argent. Ensuite, je partirai en vacances avec deux copines. Nous irons peut-être à Paris parce que j'ai envie de voir les monuments célèbres de Paris et visiter le Louvre et le Marché aux Puces. Si j'étais riche, je voyagerais en Australie parce que j'ai toujours aimé la culture australienne.

<i>faire du recyclage</i>	<i>do recycling</i>
<i>trier les déchets pour recycler</i>	<i>sort the rubbish for recycling</i>
<i>prendre une douche au lieu d'un bain</i>	<i>have a shower instead of a bath</i>
<i>baisser le chauffage central</i>	<i>lower the central heating</i>
<i>aller en vélo au lieu d'aller en voiture</i>	<i>go by bike instead of by car</i>
<i>être plus écolo</i>	<i>be more green</i>
<i>prendre le bus au lieu d'utiliser la voiture</i>	<i>Take the bus instead of using the car</i>

Ambition – developing higher level structures	
Instead of this...	Use this...
...est... (is) <i>Mon frère est embêtant</i>	...peut être... (can be) <i>Mon frère peut être embêtant</i>
J'aime... (I like) <i>J'aime ma ville</i>	...me plaît (I like...) <i>Ma ville me plaît</i>
Je n'aime pas... (I don't like) <i>Je n'aime pas le foot</i>	Je ne supporte pas... (I can't stand) <i>Je ne supporte pas le foot</i>
...parce que c'est amusant (because it's fun) <i>J'aime aller en vacances parce que c'est amusant</i>	...parce que ça m'amuse (because it amuses me) <i>J'aime aller en vacances parce que ça m'amuse</i>
...parce que c'est relaxant (because it's relaxing) <i>J'aime bronzer parce que c'est relaxant</i>	...parce que ça me détend (because it relaxes me) <i>J'aime bronzer parce que ça me détend</i>
...car c'est rigolo (because it's funny) <i>J'aime regarder les comédies car c'est rigolo</i>	...car ça me fait rire (because it makes me laugh) <i>J'aime regarder les comédies car ça me fait rire</i>
pour... + infinitive (in order to...) <i>Je vais à la mer pour faire de la natation</i>	afin de...+ infinitive (in order to...) <i>Je vais à la mer afin de faire de la natation</i>
Nous sommes allés en... (We went to...) <i>Nous sommes allés en France</i>	Nous avons décidé d'aller en... (We decided to go to...) <i>Nous avons décidé d'aller en France</i>
Je voudrais... (I would like...) <i>Je voudrais aller à Paris</i>	J'ai envie de...+ infinitive (I want to...) <i>J'ai envie d'aller à Paris</i>
Je pense que... (I think that...) <i>Je pense que je suis écolo</i>	Je dirais que... (I would say that...) <i>Je dirais que je suis écolo</i>
Dans le futur... (in the future...) <i>Dans le futur, j'aimerais voyager</i>	Quand je serai plus âgé(e)... (When I'm older...) <i>Quand je serai plus âgé(e) j'aimerais voyager</i>
Il n'y a pas de... (There isn't...) <i>Il n'y a pas de piscine</i>	Il n'y a ni...ni... (There is neither...nor...) <i>Il n'y a ni piscine ni cinéma</i>
Je dois faire... (I must do..) <i>Je dois faire du recyclage</i>	Il faut que je fasse... (It is necessary that I do...) <i>Il faut que je fasse du recyclage</i>
Je voudrais... (I would like...) <i>Je voudrais aider les SDF</i>	Si je pouvais, je voudrais (If I could, I would like...) <i>Si je pouvais, je voudrais aider les SDF</i>

Key verbs and tenses			
	Present	Past (perfect)	Future
aller to go	je vais tu vas il / elle / on va nous allons vous allez ils / ells vont	je suis allé(e) tu es allé(e) il / elle / on est allé(e) nous sommes allé(e)s vous êtes allé(e)s ils / elles sont allé(e)s	j'irai tu iras il / elle / on ira nous irons vous irez ils / elles iront
faire to do	je fais tu fais il / elle / on fait nous faisons vous faites ils / ells font	j'ai fait tu as fait il / elle / on a fait nous avons fait vous avez fait ils / elles ont fait	je ferai tu feras il / elle / on fera nous ferons vous ferez ils / elles feront
avoir to have	j'ai tu as il / elle / on a nous avons vous avez ils / ells ont	j'ai eu tu as eu il / elle / on a eu nous avons eu vous avez eu ils / elles ont eu	je aurai tu auras il / elle / on aura nous aurons vous aurez ils / elles auront
être to be	je suis tu es il / elle / on est nous sommes vous êtes ils / ells sont	j'ai été tu as été il / elle / on a été nous avons été vous avez été ils / elles ont été	je serai tu seras il / elle / on sera nous serons vous serez ils / elles seront

Key Vocabulary		Home town, neighbourhood and region					
French	English	French	English	French	English	French	English
déménager	to move house	en haut	up(stairs)	la poste	post office	le foyer	home
se trouver	to be situated	l'étage	floor, storey	le stade	stadium	la grande surface	superstore
vivre	to live	les meubles	furniture	la station-service	service station	l'herbe	grass
laver	to wash	le mur	wall	le tabac	newsagent's	la lèche-vitrine	window-shopping
nettoyer	to clean	l'escalier	staircase	l'usine	factory	le loyer	rent
ranger	to tidy	la fenêtre	window	plus / moins	more / less	la lumière	light
au bord de la mer	(at) the seaside	l'armoire	wardrobe	plus..que / moins que	more than /less than	la marque	make, brand
(à) la campagne	(in) the countryside	le bureau	office, study	plus / le plus	more / the most	la pelouse	lawn
(à) la montagne	(in) the mountains	la cave	cellar	bien / mieux/ le mieux	well/ better/ best	le rayon	department
le quartier	quarter, area	la cuisine	kitchen/cooking	mal/ plus mal/	badly / worse / worst	surchargé	overcrowded
la banlieue	suburb	le rez-de-chaussée	ground floor	le plus mal		la tâche	task
le centre-ville	town centre	la salle à manger	dining room	mauvais/ pire / le pire	bad / worse/ worst	Global issues	
l'est	east	la salle de bains	bathroom	peu / moins / le moins	few / less/ the least	allumer	to switch on
le nord	north	la salle de séjour	lounge	de chaque côté	from each side	le bain	bath
l'ouest	west	le salon	living room, lounge	de l'autre côté	from the other side	la boîte (en carton)	(cardboard) box
le sud	south	le sous-sol	basement	ici	here	le centre de recyclage	recycling centre
animé	lively	l'aéroport	airport	là	there	le chômage	unemployment
bon marché	cheap	la bibliothèque	library	là-bas	over there	le central chauffage	central heating
bruyant	noisy	le centre commercial	shopping centre	par	by	cultiver	to grow
calme	quiet	le centre sportif	sports centre	partout	everywhere	en danger	in danger
célèbre	famous	les commerces	shops	quelque part	somewhere	les déchets	rubbish
démodé	old-fashioned	le commissariat	police station	loin de	far from	détruire	to destroy
pauvre	poor	la gare	train station	tout près	very near	disparaître	to disappear
propre	clean	la gare routière	bus station	Additional higher tier vocabulary		la douche	shower
sale	dirty	le grand magasin	department store	garder	to look after	l'environnement	environment
le bâtiment	building	l'hôtel de ville	town hall	rembourser	to reimburse	éteindre	to switch off
la ferme	farm	la mairie	town hall	le bricolage	DIY	faire du recyclage	to recycle
l'immeuble	block of flats	le musée	museum	les distractions	things to do	gaspiller	to waste
la maison	house	le parc	park	l'embouteillage	traffic jam	l'inondation	flood
individuelle	detached	le parc d'attractions	theme park	l'endroit	place	jeter	to throw (away)
jumelée	semi-detached	la patinoire	ice rink	entouré	surrounded	les ordures	rubbish
mitoyenne	Terraced	la piscine	swimming pool	la fermeture	closure	la pauvreté	poverty
en bas	down(stairs)	la place	square	le four	oven	le pétrole	oil

Global issues				Travel and tourism			
French	English	French	English	French	English	French	English
la piste cyclable	cycle lane	le gaz d'échappement	exhaust fumes	l'accueil (m)	welcome	la carte	map
pollué	polluted	la guerre	war	l'aéroport (m)	airport	la carte postale	postcard
la poubelle	dustbin	harceler	to bully, harass	l'Afrique/ africain	Africa/ African	casser	to break
protéger	to protect	le harcèlement	bullying	l'agence de voyages	travel agency	la chambre de famille	family room
le réchauffement de la Terre	global warming	l'immigré	immigrant	l'Algérie/ algérien	Algeria/ Algerian	chercher	to look for
		l'incendie	fire	l'Allemagne/ allemand	Germany/ German	la Chine/ chinois	China/ Chinese
le robinet	tap	inonder	to flood	les Alpes (f)	Alps	la clé	key
le sac en plastique	plastic bag	s'inquiéter	to worry	l'Angleterre/ anglais	England/ English	la colonie de vacances	holidays camp
le sans-abri	homeless person	lourd	heavy, serious	l'arrivée (f)	arrival	conduire	to drive
sauver	to save	lutter	to struggle	l'ascenseur (m)	lift	se coucher	to go to bed
utiliser	to use	la manifestation	demonstration	s'asseoir	to sit down	la crème solaire	sun cream
Additional higher tier vocabulary		la marée	tide	attendre	to wait for	le départ	departure
agresser	to attack	mentir	to lie	l'auberge de jeunesse	youth hostel	descendre	to stay
améliorer	to improve	mondial	worldwide	l'auto	car	le dortoir	dormitory
l'attaque	attack	le niveau	level	l'autobus	bus	Douvres	Dover
augmenter	to increase	la paix	peace	l'autoroute	motorway	durer	to last
la bande	gang	le paysage	countryside, landscape	l'aventure	adventure	l'échange (m)	exchange
la campagne	campaign	se plaindre	to complain	l'avion	plane	l'Ecosse/ écossais	Scotland/ Scottish
le charbon	coal	produire	to provide	les bagages	luggage	en plein air	in the open air
la couche d'ozone	ozone layer	les produits bios	green products	se baigner	to bathe, swim	l'Espagne/ espagnol	Spain/ Spanish
croire	to believe	ramasser	to pick up	le bateau	boat	l'essence (f)	petrol
le déboisement	deforestation	reconnaissant	grateful	la Belgique/ belge	Belgium/ Belgian	les Etats-Unis	USA
l'effet de serre	greenhouse effect	le refuge	refugee	le bord de lamer	seaside	à l'étranger	abroad
effrayant	frightening	supporter	to tolerate	bronzer	to sunbathe	l'étranger	stranger/ foreigner
égal	equal	supprimer	to suppress	le car	coach	expliquer	to explain
l'emballage	packaging	le souci	worry, concern	la carte	map	faire de la connaissance	to get to know
empêcher	to prevent	le témoin	witness	la carte postale	postcard	faire du camping	to go camping
endommager	to damage	le trou	hole	casser	to break	(se) garer	to park
l'énergie renouvelable	renewable energy	la vague	wave	la chambre de famille	family room	la Grande-Bretagne	Great Britain
l'ennui	problem, worry	voler	to steal	chercher	to look for	britannique	British
entouré	surrounded	le voyou	yob, hooligan	la Chine/ chinois	China/ Chinese	laisser	to leave
l'état	state			la clé	key	laver	to wash
le gaz carbonique	carbon dioxide			Le car	coach	(se) laver	to get washed

Travel and tourism						Education Port-16	
French	English	French	English	French	English	French	English
lentement	slowly	retourner	to return	déranger	to disturb	l'année sabbatique	gap year
lever	to lift	se réveiller	to wake up	donner sur	to overlook	l'apprenti	apprentice
(se) lever	to get up	revenir	to come back	dresser	to put up (a tent)	avoir envie de	to want to
le lit	bed	la rivière	river	emplacement	pitch (tent)	avoir l'intention de	to intend to
la location de voitures	car rental	la route	road, way	événement	event	le baccalauréat	A levels
le logement	accommodation	la salle de séjour	lounge	faire la grasse matinée	to lie in, sleep in	en première	in year 12
loger	to stay	le sable	sand	la foire	fair	en terminale	in year 13
le loisir	free time activity	le sac de couchage	sleeping bag	la frontière	border	étudier	to study
Londres	London	le séjour	stay, visit	héberger	to accommodate	laisser tomber	to drop
louer	to hire, rent	le spectacle	show	l'herbe (f)	grass	la liberté	freedom
les lunettes de soleil	sun glasses	la Suisse/ Suisse	Switzerland/ Swiss	inconnu	unknown	le lycée	sixth form
le maillot de bain	swimsuit	le tourisme	tourism	le jardin zoologique	zoo	Job, career choices and ambitions	
nager	to swim	tourner	to turn	jumelé	twinned	l'agent de police	police officer
le parc d'attractions	theme park	la Tunisie/ tunisien	Tunisia/ Tunisian	le lavabo	washbasin	l'avenir	future
partir	to leave	les vacances (f)	holidays	les lits superposés	bunkbeds	le boucher	butcher
le Pays de Galles	Wales	la valise	suitcase	manquer	to miss	le boulanger	baker
gallois	Welsh	la voiture	car	se mettre en route	to set off	le boulot	job
la pièce d'identité	ID document	le vol	flight	la moquette	carpet	le candidat	candidate
la plage	beach	voler	to fly	paraître	to seem	le coiffeur	hairdresser
le plan de la ville	town plan	voyager	to travel	le permis de conduire	driving licence	le facteur	postman
se présenter	to introduce oneself	la vue de la mer	sea view	la perte	loss	le fermier	farmer
prêt	ready	Additional higher tier vocabulary		plaire	to please	gagner	to earn
le projet	plan	l'aire de jeux (f)	play area	la plongée sous-marine	underwater diving	l'infirmier	nurse
se promener	to go for a walk	atterrir	to land	ralentir	to slow down	l'informaticien	IT worker
le/la propriétaire	owner	l'avis (m)	opinion	remarquer	to notice	l'ingénieur	engineer
la randonnée	walk, hike	la chambre d'hôte	bed and breakfast	le sommet	summit	le maçon	builder
remercier	to thank	le chemin	way, path	la station balnéaire	seaside resort	le mécanicien	mechanic
le rendez-vous	meeting	le chemin de fer	railway	la tour	tower, tour	le patron	boss
les renseignements	Information	la climatisation	air conditioning	traduire	to translate	le petit job	part-time job
réserver	to book, reserve	le concours	competition	le trajet	journey	le plombier	plumber
rester	to stay	se débrouiller	to get by, to cope	la traversée	crossing	le policier	policeman

What is development?

Development is the progress of a country in terms of economic growth, well-being and human welfare

Economic	This is progress in economic growth through levels of industrialisation and use of technology.
Social	This is an improvement in people's standard of living. For example, clean water and electricity.
Environmental	This involves advances in the management and protection of the environment.

Measuring development

These are used to compare and understand a country's level of development.



Economic indicators examples

Employment type	The proportion of the population working in primary, secondary, tertiary and quaternary industries.
Gross Domestic Product per capita	This is the total value of goods and services produced in a country per person, per year.
Gross National Income per capita	An average of gross national income per person, per year in US dollars.

Social indicators examples



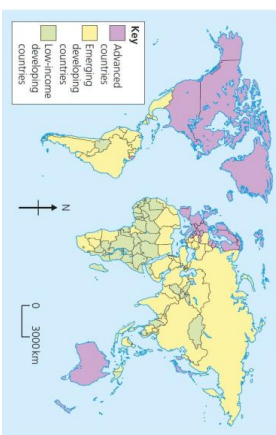
Infant mortality	The number of children who die before reaching 1 per 1000 babies born.
Literacy rate	The percentage of population over the age of 15 who can read and write.
Life expectancy	The average lifespan of someone born in that country.

Mixed indicators

Human Development Index (HDI)	A number that uses life expectancy, education level and income per person.
--------------------------------------	----------------------------------------------------------------------------

Variations in the level of development

LICs	Poorest countries in the world. GNI per capita is low and most citizens have a low standard of living.
NEEs	These countries are getting richer as their economy is progressing from the primary industry to the secondary industry. Greater exports leads to better wages.
HICs	These countries are wealthy with a high GNI per capita and standards of living. These countries can spend money on services.



Causes of uneven development

Development is globally uneven with most HICs located in Europe, North America and Oceania. Most NEEs are in Asia and South America, whilst most LICs are in Africa. Remember, development can also vary within countries too.

Unit 2b Geography AQA

The Changing Economic World

Physical factors affecting uneven development

Natural Resources <ul style="list-style-type: none"> Fuel sources such as oil. Minerals and metals for fuel. Availability for timber. Access to safe water. 	Natural Hazards <ul style="list-style-type: none"> Risk of tectonic hazards. Benefits from volcanic material and floodwater. Frequent hazards undermines redevelopment.
Climate <ul style="list-style-type: none"> Reliability of rainfall to benefit farming. Extreme climates limit industry and affects health. Climate can attract tourists. 	Location/Terrain <ul style="list-style-type: none"> Landlocked countries may find trade difficulties. Mountainous terrain makes farming difficult. Scenery attracts tourists.

Human factors affecting uneven development

Aid <ul style="list-style-type: none"> Aid can help some countries develop key projects for infrastructure faster. Aid can improve services such as schools, hospitals and roads. Too much reliance on aid might stop other trade links becoming established. 	Trade <ul style="list-style-type: none"> Countries that export more than they import have a trade surplus. This can improve the national economy. Having good trade relationships. Trading goods and services is more profitable than raw materials.
Education <ul style="list-style-type: none"> Education creates a skilled workforce meaning more goods and services are produced. Educated people earn more money, meaning they also pay more taxes. This money can help develop the country in the future. 	Health <ul style="list-style-type: none"> Lack of clean water and poor healthcare means a large number of people suffer from diseases. People who are ill cannot work so there is little contribution to the economy. More money on healthcare means less spent on development.
Politics <ul style="list-style-type: none"> Corruption in local and national governments. The stability of the government can effect the country's ability to trade. Ability of the country to invest into services and infrastructure. 	History <ul style="list-style-type: none"> Colonialism has helped Europe develop, but slowed down development in many other countries. Countries that went through industrialisation a while ago, have now develop further.

Consequences of Uneven Development

Levels of development are different in different countries. This uneven development has consequences for countries, especially in wealth, health and migration.

Wealth	People in more developed countries have higher incomes than less developed countries.
Health	Better healthcare means that people in more developed countries live longer than those in less developed countries.
Migration	If nearby countries have higher levels of development or are secure, people will move to seek better opportunities and standard of living.

The Demographic Transition Model

The demographic transition model (DTM) shows population change over time. It studies how birth rate and death rate affect the total population of a country.



STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5
High DR High BR Steady	BR Low Declining DR Very High	Rapidly falling DR Low BR High	Low DR Low BR Zero	Slowly Falling DR Low BR Negative
e.g. Tribes	e.g. Kenya	e.g. India	e.g. UK	e.g. Japan

Reducing the Global Development Gap

Microfinance Loans

This involves people in LICs receiving smalls loans from traditional banks.
 + Loans enable people to begin their own businesses
 - Its not clear they can reduce poverty at a large scale.



Aid

This is given by one country to another as money or resources.
 + Improve literacy rates, building dams, improving agriculture.
 - Can be wasted by corrupt governments or they can become too reliant on aid.

Fair trade

This is a movement where farmers get a fair price for the goods produced.
 + Paid fairly so they can develop schools & health centres.
 -Only a tiny proportion of the extra money reaches producers.



Foreign-direct investment

This is when one country buys property or infrastructure in another country.
 + Leads to better access to finance, technology & expertise.
 - Investment can come with strings attached that country's will need to comply with.



Debt Relief

This is when a country's debt is cancelled or interest rates are lowered.
 + Means more money can be spent on development.
 - Locals might not always get a say. Some aid can be tied under condition from donor country.

Technology

Includes tools, machines and affordable equipment that improve quality of life.
 + Renewable energy is less expensive and polluting.
 - Requires initial investment and skills in operating technology



EG: Tourism - Reducing the Development Gap In The Gambia

Location and Background

The Gambia is a LIC African nation. Location makes The Gambia an attractive place for visitors to explore the tropical blue seas, mangrove forests and historic slavery locations



multiplier effect

Yes it does reduce the development gap

-In 2015, 2.12 million visited.
 -Tourism contributes 27% of GDP will increase to 38% by 2025.
 -130,000 jobs rely on tourism.
 -Global recession 2008 caused a decline in tourism. Now tourism is beginning to recover.



Jobs from tourism have meant more money has been spent in shops and other businesses.
 -Government has invested in infrastructure to support tourism.
 -New sewage treatment plants have reduced pollution.

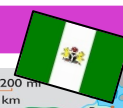
No it doesn't reduce the development gap

Holiday companies like The Gambia Experience keep a large % of the profits. This is called 'leakage' of profits.

The Gambia is still poor with 74% of the rural population living below the poverty line.

In 2014, the Ebola virus affected some countries in West Africa meant that people stopped visiting The Gambia.
 In 2016 the Gambian President) refused to step down after he was defeated This lead to rioting and 25,000 tourists were sent back to their home

Case Study: Economic Development in Nigeria



Location & Importance

Nigeria is a NEE in West Africa. Nigeria is just north of the Equator and experiences a range of environments. Nigeria is the most populous and economically powerful country in Africa. Economic growth has been base on oil exports.



Influences upon Nigeria's development

Political

Suffered instability with a civil war between 1967-1970. From 1999, the country became stable with free and fair elections. Stability has encouraged global investment from China and USA.

Social

Nigeria is a multi-cultural, multi-faith society. Although mostly a strength, diversity has caused regional conflicts from groups such as the Boko Haram terrorists.

Cultural

Nigeria's diversity has created rich and varied artistic culture. The country has a rich music, literacy and film industry (i.e. Nollywood). A successful national football side.

Industrial Structures

Once mainly based on agriculture, 50% of its economy is now manufacturing and services. A thriving manufacturing industry is increasing foreign investment and employment opportunities.

The role of TNCs

TNCs such as Shell have played an important role in its economy.
 + Investment has increased employment and income.
 - Profits move to HICs.
 - Many oil spills have damaged fragile environments.



Changing Relationships

Nigeria plays a leading role with the African Union and UN. Growing links with China with huge investment in infrastructure. Main import includes petrol from the EU, cars from Brazil and phones from China.

Environmental Impacts

The 2008/09 oil spills devastated swamps and its ecosystems. Industry has caused toxic chemicals to be discharged in open sewers - risking human health. 80% of forest have been cut down. This also increases CO² emissions.

Aid & Debt relief

+ Receives \$5billion per year in aid. + Aid groups (ActionAid) have improved health centres, provided anti-mosquito nets and helped to protect people against AIDS/HIV. - Some aid fails to reach the people who need it due to corruption.

Effects of Economic Development

Life expectancy has increased from 46 to 53 years. 64% have access to safe water. Typical schooling years has increased from 7 to 9.

Case Study: Economic Change in the UK



UK in the Wider World

The UK has one of the largest economies in the world. The UK has huge political, economic and cultural influences. The UK is highly regarded for its fairness and tolerance. The UK has global transport links i.e. Heathrow and the Eurostar.



Causes of Economic Change

De-industrialisation and the decline of the UK's industrial base. Globalisation has meant many industries have moved overseas, where labour costs are lower. Government investing in supporting vital businesses.

Towards Post-Industrial

The quaternary industry has increased, whilst secondary has decreased. Numbers in primary and tertiary industry has stayed the steady. Big increase in professional and technical jobs.

Developments of Science Parks

Science Parks are groups of scientific and technical knowledge based businesses on a single site.
 • Access to transport routes.
 • Highly educated workers.
 • Staff benefit from attractive working conditions.
 • Attracts clusters of related high-tech businesses.

EG: Bristol and Bath Science Park

Sustainability
 200 m² of Solar panels installed
 2,200m² of hedgerows have been retained
 The Metrobus stops outside the Science park
 The site only offers highly skilled jobs which are not suitable for the entire population of Bristol

Change to a Rural Landscape

Social

Rising house prices have caused tensions in villages. Villages are unpopulated during the day causing loss of identity. Resentment towards poor migrant communities.

Economic

Lack of affordable housing for local first time buyers. Sales of farmland has increased rural unemployment. Influx of poor migrants puts pressures on local services.

Improvements to Transport

A £15 billion 'Road Improvement Strategy'. This will involve 10 new roads and 1,600 extra lanes. £50 billion HS2 railway to improve connections between key UK cities. £18 billion on Heathrow's controversial third runway. UK has many large ports for importing and exporting goods.

UK North/South Divide

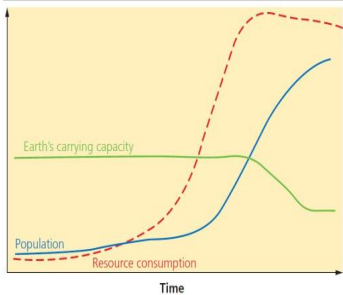
- Wages are lower in the North.
 - Health is better in the South.
 - Education is worse in the North.
 + The government is aiming to support a Northern Powerhouse project to resolve regional differences.
 + More devolving of powers to disadvantaged regions.

Resource Challenges		
Resources are things that humans require for life or to make our lives easier. Humans are becoming increasingly dependent on exploiting these resources, and as a result they are in high demand.		
Significance of Water		
Resources such as food, energy and water are what is needed for basic human development.		
FOOD	WATER	ENERGY
Without enough nutritious food, people can become malnourished . This can make them ill. This can prevent people working or receiving education.	People need a supply of clean and safe water for drinking, cooking and washing. Water is also needed for food, clothes and other products.	A good supply of energy is needed for a basic standard of living. People need light and heat for cooking or to stay warm. It is also needed for industry.

Demand outstripping supply

The demand for resources like food, water and energy is rising so quickly that supply cannot always keep up. Importantly, access to these resources vary dramatically in different locations

1. Population Growth	2. Economic Development
<ul style="list-style-type: none"> Currently the global population is 7.3 billion. Global population has risen exponentially this century. Global population is expected to reach 9 billion by 2050. With more people, the demand for food, water, energy, jobs and space will increase. 	<ul style="list-style-type: none"> As LICs and NEEs develop further, they require more energy for industry. LICs and NEEs want similar lifestyles to HICs, therefore they will need to consume more resources. Development means more water is required for food production as diets improve.



3. Changing Technology and Employment

- The demand for resources has driven **the need for new technology** to reach or gain more resources.
- More people in the **secondary and tertiary industry** has increased the **demand for resources** required for electronics and robotics.

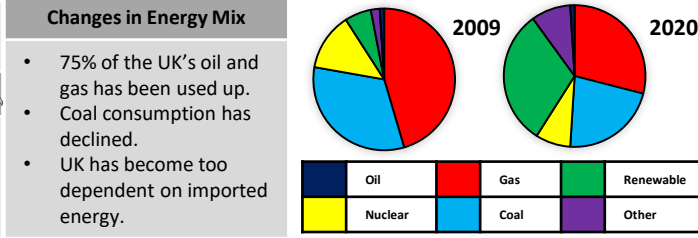
Food in the UK	
Growing Demand	Impact of Demand
<ul style="list-style-type: none"> The UK imports about 40% of its food. This increases people's carbon footprint. There is growing demand for greater choice of exotic foods needed all year round. Foods from abroad are more affordable. Many food types are unsuitable to be grown in the UK. 	<p>Foods can travel long distances (food miles). Importing food adds to our carbon footprint.</p> <ul style="list-style-type: none"> + Supports workers with an income + Supports families in LICs. + Taxes from farmers' incomes contribute to local services. - Less land for locals to grow their own food. - Farmers exposed to chemicals.

Agribusiness	Sustainable Foods
<p>Farming is being treated like a large industrial business. This is increasing food production.</p> <ul style="list-style-type: none"> + Intensive farming maximises the amount of food produced. + Using machinery which increases the farms efficiency. - Only employs a small number of workers. - Chemicals used on farms damages the habitats and wildlife. 	<p>Organic foods that have little impact on the environment and are healthier have been rising. Local food sourcing is also rising in popularity.</p> <ul style="list-style-type: none"> • Reduces emissions by only eating food from the UK. • Buying locally sourced food supports local shops and farms. • A third of people grow their own food.

Unit 2c Geography AQA

The Challenge of Resource Management

Energy in the UK	
Growing Demand	Energy Mix
The UK consumes less energy than compared to the 1970s despite a smaller population. This is due to the decline of industry .	The majority of UK's energy mix comes from fossil fuels . By 2020, the UK aims for 15% of its energy to come from renewable sources . These renewable sources do not contribute to climate change .



Water in the UK	
Growing Demand	Deficit and Surplus
<p>The average water used per household has risen by 70%. This growing demand is predicted to increase by 5% by 2020.</p> <p>This is due to:</p> <ul style="list-style-type: none"> • A growing UK population. • Water-intensive appliances. • Showers and baths taken. • Industrial and leisure use. • Watering greenhouses. 	<p>The north and west have a water surplus (more water than is required).</p> <p>The south and east have a water deficit (more water needed than is actually available).</p> <p>More than half of England is experiencing water stress (where demand exceeds supply).</p>

Pollution and Quality	Water stress in the UK
<p>Cause and effects include:</p> <ul style="list-style-type: none"> • Chemical run-off from farmland can destroy habitats and kills animals. • Oil from boats and ships poisons wildlife. • Untreated waste from industries creates unsafe drinking water. • Sewage containing bacteria spreads infectious diseases. 	<p>Average rainfall increase 2008 figures</p> <ul style="list-style-type: none"> Normal range Above average Substantially above average Very wet

Management	Water Transfer
<p>UK has strict laws that limits the amount of discharge from factories and farms.</p> <p>Education campaigns to inform what can be disposed of safely.</p> <p>Waste water treatment plants remove dangerous elements to then be used for safe drinking. Pollution traps catch and filter pollutants.</p>	<p>Water transfer involves moving water through pipes from areas of surplus (Wales) to areas of deficit (London).</p> <p>Opposition includes:</p> <ul style="list-style-type: none"> • Effects on land and wildlife. • High maintenance costs. • The amount of energy required to move water over long distances.

Energy in the UK (continued)	
Significance of Renewables	Exploitation
<ul style="list-style-type: none"> + The UK government is investing more into low carbon alternatives. + UK government aims to meet targets for reducing emissions. + Renewable sources include wind, solar and tidal energy. - Although infinite, renewables are still expensive to install. - Shale gas deposits may be exploited in the near future 	<p>Nuclear</p> <ul style="list-style-type: none"> New plants provide job opportunities. Problems with safety and possible harm to wildlife. Nuclear plants are expensive. <p>Wind Farm</p> <ul style="list-style-type: none"> Locals have low energy bills. Reduces carbon footprint. Construction cost is high. Visual impacts on landscape. Noise from wind turbines.

Option 1: FOOD



Food Security is when people at all times need to have physical & economic access to food to meet their dietary needs for an active & healthy life. This is the opposite to Food Insecurity which is when someone is unsure when they might next eat.

Human



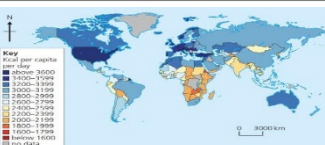
- **Poverty** prevents people affording food and buying equipment.
- **Conflict** disrupts farming and prevents supplies.
- **Food waste** due to poor transport and storage.
- **Climate Change** is affecting rainfall patterns making food production difficult.

Physical



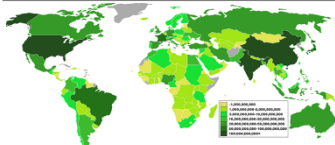
- The **quality of soil** is important to ensure crops have key nutrients.
- **Water supply** needs to be reliable to allow food to grow.
- **Pest, diseases and parasites** can destroy vast amounts of crops that are necessary to populations.
- **Extreme weather** events can damage crops (i.e. floods).

Daily Calorie Intake



This map shows how many **calories per person** that are consumed on average for each country. This can indicate the global distribution of **available food** and **food inequality**.

Food Supply



This map shows the amount of **food produced** in different countries. Whilst Asia and **North America** have **high** production outputs, **Africa** and **Central America** have **low** production outputs.

Increasing Food Supply



C.S. Makueni programme, Kenya

Hydroponics - A method of growing plants without soil. Instead they use nutrient solution.

New Green Revolution - Aims to improve yields in a more sustainable way. Involves using both GM varieties and traditional and organic farming.

Biotechnology - Genetically modified (GM) crops changes the DNA of foods to enhance productivity and properties.

Irrigation - Artificially watering the land so crops can grow. Useful in dry areas to make crops more productive.

Two villages in Makueni County involved in the project

The project:

- Built sand dams to provide an improved water supply for each village
- Training programme for famers
- Water tank on the roof of the schools

Did it work? Yes, but only 2 villages helped so small scale

- Less time fetching water – more time for work
- More crops grown, better yields
- Appropriate technology used

Sustainable Food Supply



This ensures that **fertile soil, water and environmental resources** are available for future generations.

Organic Farming - The banned use of chemicals and ensuring animals are raised naturally.

Permaculture - People growing their own food and changing eating habits. Fewer resources are required.

Urban Farming - Planting crops in urban areas. i.e. roundabouts.

Managed Fishing - Includes setting catch limits, banning trawling and promoting pole and line methods.

Largest irrigation scheme in the world. Involves large and small dams. Thousands of channels provides water to supports Pakistan's rich farmlands.

Advantages

- 14 million ha has been irrigated
- Increased yield & range of foods (better diet)
- HEP dams built – renewable energy

Disadvantages

- Few take an unfair share of water
- Water is wasted and demand is rising due to population growth.
- High evaporation rates in the summer means water is lost

Option 2: WATER



Water security is when people have good access to enough clean water to sustain well-being and good health. Water insecurity is when areas are without sufficient water supplies. Water Stress is when less than 1700m³ is available per person.

Human



- **Pollution** caused from human and industrial waste being dumped into peoples water sources.
- **Poverty** prevents low income families affording water.
- **Limited infrastructure** such as a lack of water pipes and sewers.
- **Over-abstraction** is when more water is taken than is replaced.

Physical



- **Climate** needs to provide enough rainfall to feed lakes and rivers. Droughts affect supply if water.
- **Geology** can affect accessibility to water. Permeable rock means sourcing water from difficult aquifers, whereas impermeable allows water to run-off into easily collected basins.

Impact of Water Insecurity



Food production

The less water available for irrigating crops the less food that will be produced. This could lead to starvation.

Industrial output

Manufacturing industries depend heavily on water. A severe lack of water can impact economic output.

Disease and Water Pollution

Inadequate sanitation systems pollutes drinking water causing diseases such as cholera and typhoid.

Water conflict

Water sources that cross national borders can create tensions and even war between countries.

Increasing Water Supply



C.S. Lesotho Highland Water Project

Water diversion - Involves diverting water to be stored for longer periods. Often water is pumped underground to prevent evaporation.

Dams and Reservoirs - Dams control flow and storage of water. Water is released during times of water deficit. **Water transfer** – includes schemes to move water from areas of surplus to areas of deficit.

Desalination – Involves the extraction of salt from sea water to produce fresh drinking water.

Lesotho is a highland country dependent on South Africa. Lesotho has water surplus due to high rainfall.

Advantages

- Provides 75% of Lesotho's GDP.
- Provides water to areas of drought in South Africa.

Disadvantages

- Dams displaced 30,000 people.
- Destruction to key ecosystems.
- 40% lost through pipe leakages.

Sustainable Water Supply



Ensures water supplies don't cause damage to the environment whilst also supporting the local economy.

Water conservation - Aims to reduce the amount of water wasted.

Groundwater Management - Involves the monitoring of extracting groundwater. Laws can be introduced.

Recycling and 'Grey' Water - Means taking water that has already been used and using it again rather than returning it to a river or the sea. This includes water taken from bathrooms and washing machines.

How does the project work?

- Provides 'taankas' that store water underground.
- Small dams called 'johed' interrupt water flow and encourages infiltration.
- Villages take turns to irrigate their fields so water is not overused.
- Maintained by farmers so it is entirely sustainable.
- Greater education for awareness.

Option 3: ENERGY



Energy security means having a reliable, uninterrupted and affordable supply of energy available. Energy insecurity can be experienced by countries with both a high and low energy consumption. Technology is increasing energy consumption.

Physical



- **Geology** determines the availability of fossil fuels.
- **Climate variations** will affect the potential use of renewable energy.
- **Natural disasters** can damage energy infrastructure.

Economic



- **Cost** of extracting fossil fuels is becoming costly and difficult.
- **Price of fossil fuels** are volatile to potential political changes.
- **Infrastructure** for energy is costly, especially for LICs.

Technology



- **New technology** is making once difficult energy sources now reachable/exploitable.

Political



- **Conflict** and turmoil in energy rich countries can affect exports.
- **Stricter regulations** over Nuclear.

Impact of Energy Insecurity



Sensitive environments

Exploration of energy resources threatens to harm sensitive areas such as the oil drilling in Alaska, USA.

Food production

Food production depends on the energy needed to power machinery and transport goods to different markets.

Energy conflict

Shortages of energy resources can lead to tensions and violence. Conflict can be caused by fear of energy insecurity.

Industry

Countries can suffer from shortfalls in energy leading to a decline in manufacturing and services.

Increasing Energy Supply



Non-renewables

Fossil Fuels - Conventional power stations can be made more efficient with carbon capture overcoming the environmental impacts.

Nuclear - Once a nuclear plant is built it can provide a cheap and long-term dependable source of energy.

Renewables

Wind, Solar, Biomass - These are examples of environmentally friendly renewable sources that can't run out but cost a lot to install.

Fracking is used to extract natural gas trapped in underground shale rock. It is a method considered by the UK.

Advantages

- Estimated to create 64,000 jobs.
- UK has large shale gas reserves.
- Is far cheaper than natural gas.

Disadvantages

- May cause groundwater pollution
- Is a non-renewable resource.
- May trigger minor earthquakes.

Sustainable Energy Supply

This involves balancing supply & demand. It also includes reducing waste & supporting the environment.

Home design - Building homes to conserve energy. i.e. roof insulation.

Reduce demand - Changing attitudes towards energy used to save energy.

Efficient technology - Making cars more efficient by improving engine design and weight. i.e. Hybrid engines.

Transport - Using public buses & bikes.

Chambamontera is an isolated community in the Andes of Peru. It introduced a micro-hydro to exploit water power as an energy source.

Benefits to the community

- Provides renewable energy.
- Low maintenance & running costs
- Has little environmental impacts.
- Using local labour and materials.
- Businesses are developing.
- Less wood is needed to be burnt.

What are Natural Hazards?

Natural hazards are physical events such as earthquakes and volcanoes that have the potential to do damage to humans, property and the economy. Hazards include tectonic hazards, tropical storms and forest fires.

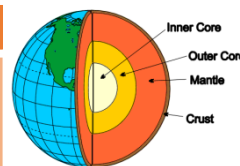
What affects hazard risk?

Population growth
Global climate change
Deforestation
Wealth - LICs are particularly at risk as they do not have the money to protect themselves



Structure of the Earth

The earth has 4 layers
The core (divided into inner and outer), mantle and crust.

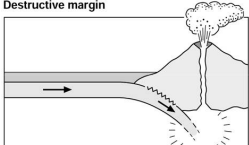
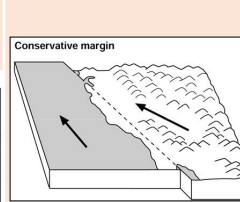
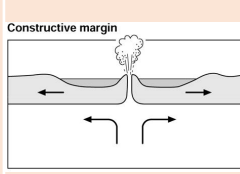


The crust is split into major sections called **tectonic plates**.

There are 2 types of crust: **Oceanic** (thin and younger but dense) and **Continental** (old and thicker but less dense).

These plates move due to convection currents in the mantle and, where they meet, tectonic activity (volcanoes and earthquakes) occurs..

Plates either move towards each other (**destructive margin**) away from each other (**constructive**) or past each other (**conservative**).



Earthquakes and Volcanoes

Volcanoes

- **Constructive margins** – Hot magma rises between the plates e.g. Iceland. Forms Shield volcanoes.
- **Destructive margins** – an oceanic plate subducts under a continental plate. Friction causes oceanic plate to melt and pressure forces magma up to form composite volcanoes after repeated eruptions.

Earthquakes

- **Constructive margins** – usually small earthquakes as plates pull apart.
- **Destructive margins** – violent earthquakes as pressure builds and is then released.
- **Conservative margins** – plates slide past each other. They catch and then as pressure builds it is released e.g. San Andreas fault.

Effects of Tectonic Hazards?

Primary effects happen immediately. Secondary effects happen as a result of the primary effects and are therefore often later.

Primary - Earthquakes	Secondary - Earthquakes
<ul style="list-style-type: none"> - Property and buildings destroyed. - People injured or killed. - Ports, roads, railways damaged. - Pipes (water and gas) and electricity cables broken. 	<ul style="list-style-type: none"> - Business reduced as money spent repairing property. - Blocked transport hinders emergency services. - Broken gas pipes cause fire. - Broken water pipes lead to a lack of fresh water.

Primary - Volcanoes	Secondary - Volcanoes
<ul style="list-style-type: none"> - Property and farm land destroyed. - People and animals killed or injured. - Air travel halted due to volcanic ash. - Water supplies contaminated. 	<ul style="list-style-type: none"> - Economy slows down. Emergency services struggle to arrive. - Possible flooding if ice melts Tourism can increase as people come to watch. - Ash breaks down leading to fertile farm land.

Responses to Tectonic Hazards

Immediate (short term)	Long-term
<ul style="list-style-type: none"> - Issue warnings if possible. - Rescue teams search for survivors. - Treat injured. - Provide food and shelter, food and drink. - Recover bodies. - Extinguish fires. 	<ul style="list-style-type: none"> - Repair and re-build properties and infrastructure. - Improve building regulations - Restore utilities. - Resettle locals elsewhere. - Develop opportunities for recovery of economy. - Install monitoring technology.



Comparing Earthquakes – Nepal and Chile

Nepal. April 2015. Magnitude 7.8.

Chile. February 2010. Magnitude 8.8.

Primary Effects	
<ul style="list-style-type: none"> • 9000 deaths • Over 500,000 homes destroyed • 26 hospitals and 50% of schools destroyed • Cost of earthquake was estimated to be over US\$5 billion. 	<ul style="list-style-type: none"> • 500 deaths • 210,000 homes destroyed • Cost of earthquake was estimated to be over US\$30 billion.

Secondary Effects	
<ul style="list-style-type: none"> • Avalanche on Mount Everest killed 19 people. • The river Khali Gandaki was blocked by landslides – the area had to be evacuated in case of flooding. • Rice seed stored in homes was ruined as homes collapsed. This caused food shortages. 	<ul style="list-style-type: none"> • A fire at a chemical plant near Santiago – the area had to be evacuated. • Roads blocked mainly by landslides • A drastic income decrease in the Chilean wine industry (one of the top wine industries in the world).

Immediate Responses	
<ul style="list-style-type: none"> • Nepal requested international help, including the UK. • Red Cross donated tents for 225,000 people. • Facebook launched a safety feature so people could indicate they were safe. 	<ul style="list-style-type: none"> • Water and electricity was restored to 90% of homes within 10 days. • Temporary repairs were made to Route 5 (road running north to south) within 24 hours

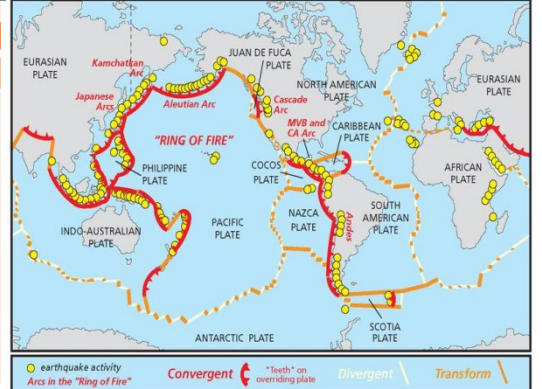
Long term responses	
<ul style="list-style-type: none"> • World Heritage Sites (including Mount Everest) reopened August 2015. • There are now stricter controls on buildings 	<ul style="list-style-type: none"> • Chile's strong economy (based on copper exports) could be rebuilt without the need for foreign help.

Unit 1a Geography

The Challenge of Natural Hazards



Distribution of tectonic activity
Along plate boundaries.
On the edge of continents.
Around the edge of the Pacific.

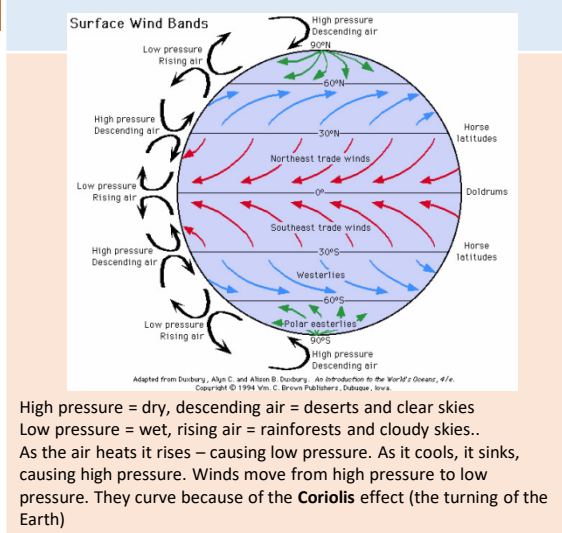


Reducing the impact of tectonic hazards

Monitoring	Prediction
<p>S – seismographs H – heat seeking camera (thermal imaging) A – angle – bulging on the volcano measured by tiltmeter G – gas monitoring stations – more CO2 released.</p>	<p>By observing monitoring data, this can allow evacuation before event. Animals can detect</p>
Protection	Planning
<p>Reinforced buildings and making building foundations that absorb movement. Automatic shut offs for gas and electricity. Cross bracing is built into building construction to give strength</p>	<p>Avoid building in at risk areas. Training for emergency services and planned evacuation routes and drills.</p>

Global atmospheric circulation

At the equator, the sun's rays are most concentrated. This means it is hotter. This one fact causes global atmospheric circulation at different latitudes.

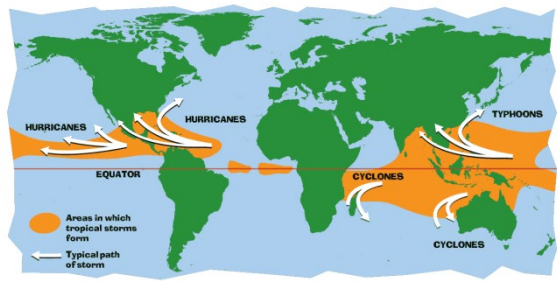


High pressure = dry, descending air = deserts and clear skies
Low pressure = wet, rising air = rainforests and cloudy skies..
As the air heats it rises – causing low pressure. As it cools, it sinks, causing high pressure. Winds move from high pressure to low pressure. They curve because of the **Coriolis effect** (the turning of the Earth)

LICs suffer more than HICs from natural disasters because they are not as prepared and struggle to react effectively.

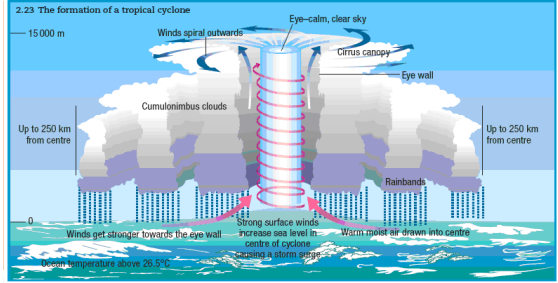
Tropical Storms

Occur in low latitudes between 5° and 30° north and south of the equator (in the tropics). Ocean temperature needs to be above 27° C. Happen between summer and autumn.



Sequence of a Tropical Storm

- Air is heated above warm tropical oceans.
- Air rises under low pressure conditions.
- Strong winds form as rising air draws in more air and moisture causing torrential rain.
- Air spins due to Coriolis effect around a calm eye of the storm.
- Cold air sinks in the eye so it is clear and dry.
- Heat is given off as it cools powering the storm.
- On meeting land, it loses source of heat and moisture so loses power.



Climate change will affect tropical storms too. Warmer oceans will lead to more intense storms – but not necessarily more frequent ones.

Extreme weather in the UK

- Rain** – can cause flooding damaging homes and business.
- Snow & Ice** – causes injuries and disruption to schools and business. Destroys farm crops.
- Hail** – causes damage to property and crops.
- Drought** – limited water supply can damage crops.
- Wind** – damage to property and damage to trees potentially leading to injury.
- Thunderstorms** – lightning can cause fires or even death.
- Heat waves** – causes breathing difficulties and can disrupt travel.

UK weather is getting more extreme due to climate change. Temperatures are more extreme and rain is more frequent and intense leading to more flooding events. Since 1980 average temperature has increased 1 degree and winter rainfall has increased.

Typhoon Haiyan, Philippines, November 2013

Primary Effects	Secondary Effects
<ul style="list-style-type: none"> At least 6340 killed 90% buildings in Tacloban destroyed 30,000 fishing boats were destroyed 	<ul style="list-style-type: none"> \$1.5 Billion of damage Storm surge was not expected Water supply polluted 1.9 million homeless, 6 million displaced Public Order – Looting Airports unusable for supplies

Immediate Responses	Long-term Responses
<ul style="list-style-type: none"> US aircraft carrier George Washington helped with the search and rescue. Over 1200 evacuation centres were set up. UK government sent shelter kits to provide emergency shelter for families. 	<ul style="list-style-type: none"> Thousands of homes have now been built away from areas at risk of flooding Cash for work programme people paid to help clear the debris and rebuild the city of Tacloban. Oxfam helped to support the replacement of fishing boats.

Prediction	Planning	Protection
Monitoring wind patterns allows path to be predicted. Use of satellites to monitor path to allow evacuation	Avoid building in high risk areas Emergency drills Evacuation routes	Reinforced buildings and stilts to make safe Flood defences eg levees and sea walls Replanting Mangroves

Extreme weather event – Beast from the East

Causes:

- A polar continental air mass brought extremely cold air to the UK from the east
- This air mass met **storm Emma** (a low pressure system), bringing lots of warmer moist air from the south-west.

The polar jet stream un-expectedly twisted in direction and this caused a jump in temperatures high over the Arctic, known as **sudden stratospheric warming**

Social Effects

- Schools across the country closed for up to 3 days
- Hundreds were stranded for up to 36hrs on the M80 Motorway in Scotland and A roads in Devon.
- Snow drifts in excess of 7m in rural locations and people were blocked into their homes

Economic Effects

Supermarket shelves were left empty because fresh deliveries could not be made.
British Airways cancelled a huge number of short-haul flights from airports like Heathrow

Environmental impacts

- Many coastal areas were issued with flood warnings as well.

Management strategies/responses

Community centers opened for homeless people to shelter from the conditions. Armed forces volunteered to rescue drivers and drive NHS workers to work. Drivers of a Greggs Delivery van, stuck on the A1 near Newcastle, gave out free food to stranded drivers

Climate Change – natural or human?

Evidence for climate change shows changes before humans were on the planet. So some of it must be natural. However, the **rate** of change since the 1970s is unprecedented. Humans are responsible – despite what Mr Trump says!

Causes

Natural	Human
<ul style="list-style-type: none"> Orbital changes – The sun's energy on the Earth's surface changes as the Earth's orbit is elliptical its axis is tilted on an angle. Solar Output – sunspots increase to a maximum every 11 years. Volcanic activity – volcanic ash reflects sunlight away reducing global temperatures temporarily. Volcanoes also release Co2 . 	<ul style="list-style-type: none"> Fossil fuels – release carbon dioxide with accounts for 50% of greenhouse gases. Agriculture – accounts for around 20% of greenhouse gases due to methane production from cows etc. Larger populations and growing demand for met and rice increase contribution. Deforestation – logging and clearing land for agriculture increases carbon dioxide in the atmosphere and reduces ability to planet to absorb carbon through photosynthesis.

Effects of Climate Change

Social	Environmental
<ul style="list-style-type: none"> Increased disease eg. skin cancer and heat stroke. Winter deaths decrease with milder winters. Crop yields affected by up to 12% in South America but will increase in Northern Europe but will need more irrigation. Less ice in Arctic Ocean increases shipping and extraction of oil and gas reserves. Droughts reduce food and water supply in sub-Saharan Africa. Water scarcity in South and South East UK. Declining fish in some areas affect diet and jobs. Increased extreme weather eg. Tropical storms. 	<ul style="list-style-type: none"> Increased drought in Mediterranean region. Lower rainfall causes food shortages for orangutans in Borneo and Indonesia. Sea level rise leads to flooding and coastal erosion. Ice melts threaten habitats of polar bears. Forests in North America may experience more pests, disease and forest fires.

Managing Climate Change

Mitigation	Adaption
<ul style="list-style-type: none"> Alternative energy production will reduce CO2 production. Planting Trees – helps to remove carbon dioxide. Carbon Capture – takes carbon dioxide from emission sources is stored underground. International Agreements e.g. the Paris Climate Agreement. 	<ul style="list-style-type: none"> Changes in agricultural systems need to react to changing rainfall and temperature patterns and threat of disease and pests. Managing water supplies – eg. by installing water efficient devices and increasing supply through desalination plants. Reducing risk from rising sea levels would involve constructing defences such as the Thames Flood Barrier or restoring mangrove forests, or raising buildings on stilts.

Evidence for Climate Change

The Met Office has reliable climate evidence since 1914 – but we can tell what happened before that using several methods.

Ice and Sediment Cores

- Ice sheets are made up of layers of snow, one per year. Gases trapped in layers of ice can be analysed. Ice cores from Antarctica show changes over the last 400 000 years.
- Remains of organisms found in cores from the ocean floor can be traced back 5 million years.

Pollen Analysis

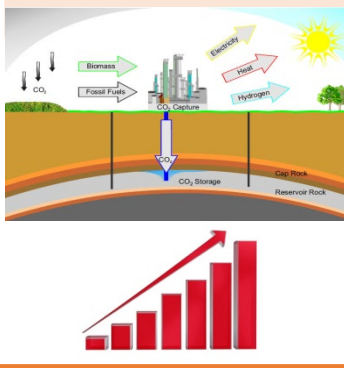
- Pollen is preserved in sediment. Different species need different climatic conditions.

Tree Rings

- A tree grows one new ring each year. Rings are thicker in warm, wet conditions
- This gives us reliable evidence for the last 10 000 years.

Temperature Records

- Historical records date back to the 1850s. Historical records also tell us about harvest and weather reports.



What is an Ecosystem?

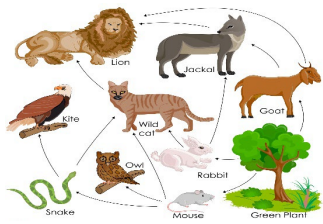
An ecosystem is a system in which organisms interact with each other and with their environment.

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.

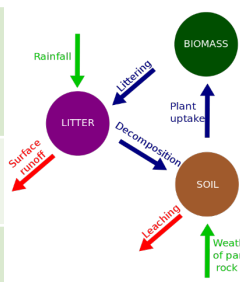


Food Web and Chains

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**.

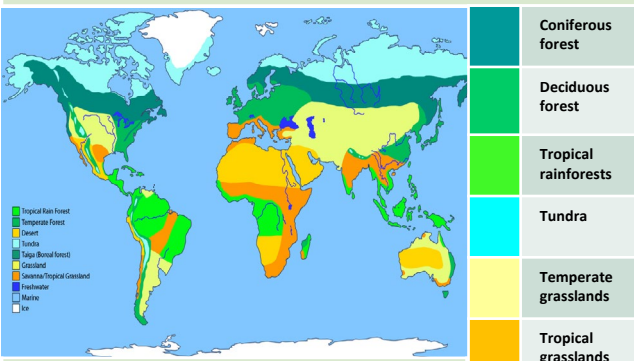


Litter This is the **surface layer** of vegetation, which over time breaks down to become **humus**.

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.



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 hooved 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 Geography AQA

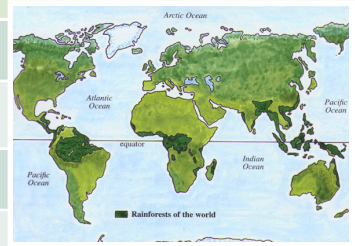
The Living World

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.

Rainforest nutrient cycle

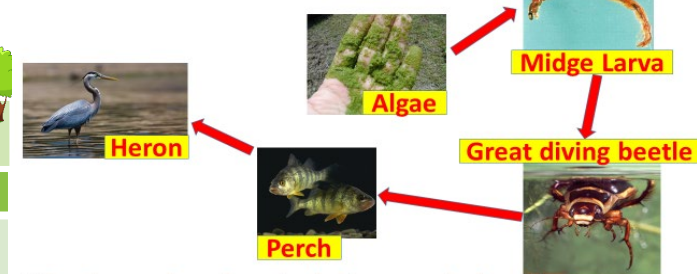
The **hot, damp conditions** on the forest floor allow for the **rapid decomposition** of dead plant material. This provides plentiful nutrients that are easily absorbed by plant roots. However, as these nutrients are in high demand from the many fast-growing plants, they do not remain in the soil for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

Climate of Tropical Rainforests

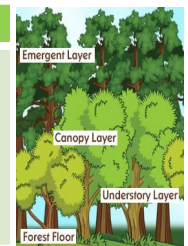
- Evening temperatures rarely fall below **22°C**.
- Due to the **presence of clouds**, temperatures rarely rise above **32°C**.
- Most afternoons have heavy showers.
- At night with no clouds insulating, temperature drops.

Pond ecosystem

Can you connect these living organisms together?

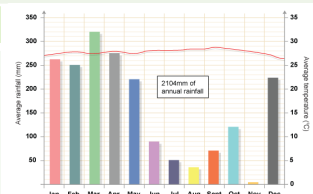


What does each need to exist that **is not** on the board?



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 .





Tropical Rainforests: Case Study Malaysia









Malaysia is a LIC country in 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		Rainforest inhabitants
Orangutans	Large arms to swing & support in the tree canopy.	Many tribes have developed sustainable ways of survival. The rainforest provides inhabitants with... <ul style="list-style-type: none"> • Food through hunting and gathering. • Natural medicines from forest plants. • Homes and boats from forest wood.
Drip Tips	Allows heavy rain to run off leaves easily .	
Lianas & Vines	Climbs trees to reach sunlight at canopy.	


Issues related to biodiversity

Why are there high rates of biodiversity?	What are the causes of deforestation?
<ul style="list-style-type: none"> • 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. 	<p>Logging </p> <ul style="list-style-type: none"> • 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. <p>Agriculture </p> <ul style="list-style-type: none"> • 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.

Main issues with biodiversity decline	Mineral Extraction	Tourism
<ul style="list-style-type: none"> • 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. 	<p></p> <ul style="list-style-type: none"> • 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. 	<p></p> <ul style="list-style-type: none"> • 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.

Impacts of deforestation	Energy Development	Road Building
<p>Economic development </p> <ul style="list-style-type: none"> + 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. <p>Soil erosion </p> <ul style="list-style-type: none"> - 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. 	<p></p> <ul style="list-style-type: none"> • 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. 	<p></p> <ul style="list-style-type: none"> • 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


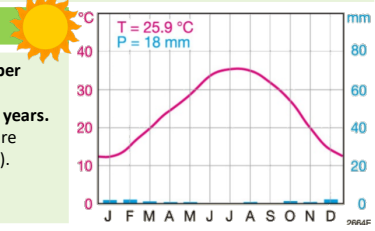
Climate Change
<p></p> <ul style="list-style-type: none"> -When rainforests are cut down, the climate becomes drier. -Trees are carbon 'sinks'. With greater deforestation comes more greenhouse emissions in the atmosphere. -When trees are burnt, they release more carbon in the atmosphere. This will enhance the greenhouse effect.
<p>Uncontrolled and unchecked exploitation can cause irreversible damage such as loss of biodiversity, soil erosion and climate change.</p> <p>Possible strategies include:</p> <ul style="list-style-type: none"> • 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

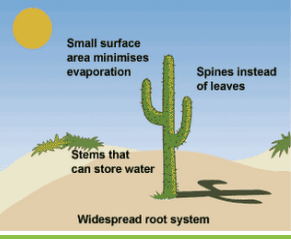

Hot Desert: Case Study Thar Desert – India/Pakistan



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	Major characteristics of hot deserts
<p>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 world's major deserts.</p> 	<ul style="list-style-type: none"> • 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	Climate of Hot Deserts
<ul style="list-style-type: none"> - 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. 	<p></p> <ul style="list-style-type: none"> • 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.  <p>T = 25.9 °C P = 18 mm</p>

Adaptations to the desert	Desert Interdependence
<p></p> <ul style="list-style-type: none"> • Small surface area minimises evaporation • Spines instead of leaves • Stems that can store water • Widespread root system 	<p>Different parts of the hot desert ecosystem are closely linked together and depend on each other, especially in such a harsh environment.</p> 

Opportunities and challenges in the Hot desert	
Opportunities	Challenges
<ul style="list-style-type: none"> • 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 Bhali. • Thar desert has attracted tourists, especially during festivals. 	<ul style="list-style-type: none"> • 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.

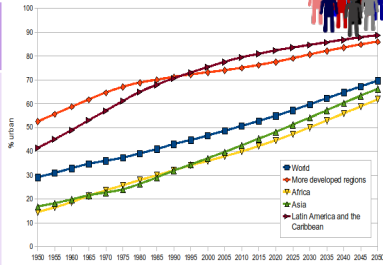
Causes of Desertification		Strategies to reduce Desertification
<p>Desertification means the turning of semi-arid areas (or drylands) into deserts.</p>	<p>Climate Change Reduce rainfall and rising temperatures have meant less water for plants.</p>	<ul style="list-style-type: none"> • Water management - 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.
<p>Fuel Wood People rely on wood for fuel. This removal of trees causes the soil to be exposed.</p>	<p>Overgrazing Too many animals mean plants are eaten faster than they can grow back. Causing soil erosion.</p>	
<p>Over-Cultivation If crops are grown in the same areas too often, nutrients in the soil will be used up causing soil erosion.</p>	<p>Population Growth A growing population puts pressure on the land leading to more deforestation, overgrazing and over-cultivation.</p>	

What is Urbanisation?

This is an increase in the amount of people living in urban areas such as towns or cities. In 2007, the UN announced that for the first time, more than 50 % of the world's population live in urban areas.

Where is Urbanisation happening?

Urbanisation is happening all over the world but in LICs and NEEs rates are much faster than HICs. This is mostly because of the rapid economic growth they are experiencing.



Causes of Urbanisation

Rural - urban migration (1)

The movement of people from rural to urban areas.



Push

- Natural disasters
- War and Conflict
- Mechanisation
 - Drought
- Lack of employment



Pull

- More Jobs
- Better education & healthcare
- Increased quality of life.
- Following family members.

Natural Increase (2)

When the birth rate exceeds the death rate.

Increase in birth rate (BR)



- High percentage of population are child-bearing age which leads to high fertility rate.
- Lack of contraception or education about family planning.

Lower death rate (DR)

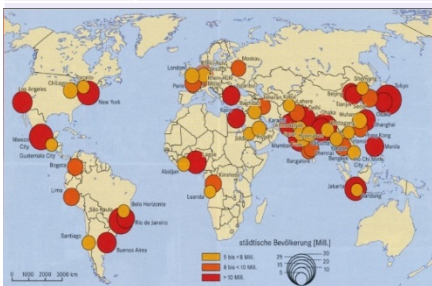


- Higher life expectancy due to better living conditions and diet.
- Improved medical facilities helps lower infant mortality rate.

Types of Cities

Megacity

An urban area with over 10 million people living there.



More than two thirds of current megacities are located in either NEEs (Brazil) and LICs (Nigeria). The amount of megacities are predicted to increase from 28 to 41 by 2030.

Sustainable Urban Living

Sustainable urban living means being able to live in cities in ways that do not pollute the environment and using resources in ways that ensure future generations also can use them.



Water Conservation

This is about reducing the amount of water used.

- Collecting rainwater for gardens and flushing toilets.
- Installing water meters and toilets that flush less water.
- Educating people on using less water.



Creating Green Space

Creating green spaces in urban areas can improve places for people who want to live there.

- Provide natural cooler areas for people to relax in.
- Encourages people to exercise.
- Reduces the risk of flooding from surface runoff.

Energy Conservation



Using less fossil fuels can reduce the rate of climate change.

- Promoting renewable energy sources.
- Making homes more energy efficient.
- Encouraging people to use energy.

Waste Recycling



More recycling means fewer resources are used. Less waste reduces the amount that eventually goes to landfill.

- Collection of household waste.
- More local recycling facilities.
- Greater awareness of the benefits in recycling.

Unit 2a Geography AQA

Urban Issues & Challenges

Sustainable Urban Living Example: Freiburg



Background & Location

Freiburg is in west Germany. The city has a population of about 220,000. In 1970 it set the goal of focusing on social, economic and environmental sustainability.



Sustainable Strategies

- The city's waste water allows for rainwater to be retained.
- The use of sustainable energy such as solar and wind is becoming more important.
- 40% of the city is forested with many open spaces for recreation, clean air and reducing flood risk.

Integrated Transport System



This is the linking of different forms of public and private transport within a city and the surrounding area.

Brownfield Site



Brownfield sites is an area of land or premises that has been previously used, but has subsequently become vacant, derelict or contaminated.

Traffic Management



Urban areas are busy places with many people travelling by different modes of transport. This has caused urban areas to experience different traffic congestion that can lead to various problems.

Environmental problems

- Traffic increases air pollution which releases greenhouse gases that is leading to climate change.



Economic problems

- Congestion can make people late for work and business deliveries take longer. This can cause companies to loose money.

Social Problems

- There is a greater risk of accidents and congestion is a cause of frustration. Traffic can also lead to health issues for pedestrians.

Congestion Solutions

- Build ring roads and bypasses to keep through traffic out of city centres. 2+ car share lane Bristol
- Introduce park and ride schemes to reduce car use.
- Encourage car-sharing schemes in work places.
- Have public transport, cycle lanes & cycle hire schemes.
- Having congestion charges discourages drivers from entering the busy city centres.



Traffic Management Example: Bristol

In 2012 Bristol was the most congested city in the UK. Now the city aims to develop it's integrated transport system to encourage more people to use the public transport. The city has also invested in cycle routes and hiring schemes. And the new Metrobus (linking north and south Bristol?)



Greenbelt Area

This is a zone of land surrounding a city where new building is strictly controlled to try to prevent cities growing too much and too fast.

Urban Regeneration



The investment in the revival of old, urban areas by either improving what is there or clearing it away and rebuilding.



Location and Background

Bristol is situated in the south-west of England with a population of 400,000. It was a major port and is now a centre for finance and engineering



City's Importance

- 8th most popular city for foreign visitors
- Has the largest concentration of silicon chop manufacturing companies outside California.
- Two big universities with good reputations – Bristol and UWE.
- Situated on the junction of the M5 and M5 with easy access to London, Wales, and Birmingham

Impacts of national and international migration on the character of the city

Migrants contribute taxes towards the economy of Bristol, supporting public service (schools, waste disposal, roads, sewage system).



Migrants mainly work in the low paid, unskilled jobs that Bristolians do not want to do eg restaurants and hotels.

Pressure on house prices means that the average rent in Bristol is £800 and the average house price is £514,000. Due to migration Bristol is a multicultural city with many cultural festivals – such as St Paul's Carnival

Urban change has created challenges

Social: Inner city Bristol still suffer from dereliction – Stoke's Croft and the Harbourside following the decline of industry. Inequalities in health- high rates of obesity and cancer in Filwood due to lack of income and education

Economic: In parts of the city deprivation is high. Filwood is in the top 10% of most deprived areas in England.

Environmental: Bristol is the most congested city in England. Urban sprawl has led to more congestion and loss of the countryside (Bradley Stoke)

How urban growth has created city's opportunities

Social: 2 large footballs teams, 1 rugby team and major cricket ground. Great Shopping opportunities – Cribbs Causeway and Cabot Circus. Bristol Hippodrome welcomes west end musicals regularly

Economic: 50 electronic and IT companies have been attracted to Bristol in recent years. Big employers such as Airbus, Rolls Royce and Lloyds TSB have their HQs in Bristol

Environmental: Bristol has 300 parks and 1/3 of the city is set aside for open space. In 2015 Bristol was awarded European Green Capital. It was heralded for its commitment to clean transport and energy, and its role as a low-carbon hub of industry.

Bristol Harbourside urban regeneration

Why was it needed: The old Harbour was once thriving and busy but the River Avon was too narrow and tidal for boats to fit down. SO the port moved to Avonmouth

Main features: Brownfield sites and derelict buildings pulled down, replaced with office blocks, apartments, museums, restaurants and pubs. 3000 jobs created from a £300 million investment. BUT High cost of property – av price £600,000 and the area would suffer in a recession.

Location and Background

Rio is a coastal city situated in the South East region of Brazil within the continent of South America. It is the second most populated city in the country (6.5 million) after Sao Paulo.



City's Importance

- Has the second largest GDP in Brazil It is headquarters to many of Brazil's main companies, particularly with Oil and Gas.
- Sugar Loaf mountain is one of the seven wonders of the world.
- One of the most visited places in the Southern Hemisphere.
- Hosted the 2014 World Cup and 2016 Summer Olympics.

Migration to Rio De Janeiro

The city began when Portuguese settlers with slaves arrived in 1502. Since then, Rio has become home to various ethnic groups.



However, more recently, millions of people have migrated from rural areas that have suffered from drought, lack of services and unemployment to Rio. People do this to search for a better quality of life.

This expanding population has resulted in the rapid urbanisation of Rio de Janeiro.

City Challenges

Social: There is a severe shortage of housing, schools and healthcare centres available. Large scale social inequality, is creating tensions between the rich and poor.

Economic: The rise of informal jobs with low pay and no tax contributions. There is high unemployment in shanty towns called Favelas

Environmental: Shanty towns called Favelas are established around the city, typically on unfavourable land, such as hills. Congestion on mountain roads. Pollution in Guanabara Bay

City's Opportunities

Social: Standards of living are gradually improving. The Rio Carnival is an important cultural event for traditional dancing and music. 19 out of the 50 top schools are in Rio. Life expectancy is 78 in Rio whereas it is 73 in Brazil

Economic: Rio has one of the highest incomes per person in the country. The city has various types of employment including oil (Petrobras, retail and manufacturing.

Environmental: The hosting of the major sporting events encouraged more investment in sewage works and public transport systems.

Self-help schemes - Favela, Bairro Project

- 100% mortgages available for people to buy their homes
- Government has demolished houses and created new estates.
- Community policing has been established, police pacification (UPP) along with a tougher stance on gangs with military backed police.
- Cable car built for locals to access the city . People given one free ticket a day.



Example – Coastal Management Study – Swanage

Reason for management

Swanage suffers from longshore due to the angle of the prevailing wind. The town is an important tourist town and needs a beach to keep the tourists visiting. In addition to this an eroded beach would mean that Swanage would be at risk of hug coastal erosion of the town and property behind. The land has high economic value and is important to protect.

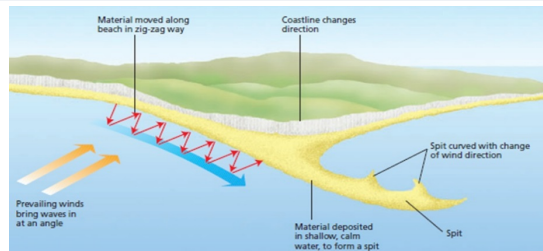
The management strategy

Groynes and a sea wall were built in the 1920s
In the 1980s rock armour was put at the base of the cliff and groundwater was drained from the cliff
In 2005, 18 timber groynes were put in replacing the old ones the beach was also replenished

Effects and conflicts

Effects – Swanage’s sea wall is expected to collapse in the next three years, exposing 84 houses, 15 hotels and Shore Road to the sea.
The replenishment of the beach will have to be done every 20 years and will incur huge costs. Most of these costs will be paid for by the taxpayer.
Conflicts - £2.2 million was the cost of the recent coastal management. Locals argue that this is a waste of money because holding a beach back (by using groynes) will affect the coastline further down by holding back sediment.
Some locals were against the construction of the groynes due to their visual appearance and the danger associate with them,

Example: Spurn Head, Holderness Coast.



- 1) Swash moves up the beach at the angle of the prevailing wind.
- 2) Backwash moves down the beach at 90° to coastline, due to gravity.
- 3) Zigzag movement (Longshore Drift) transports material along beach.
- 4) Deposition causes beach to extend, until reaching a river estuary.
- 5) Change in prevailing wind direction forms a hook.
- 6) Sheltered area behind spit encourages deposition, salt marsh forms.

Types of Erosion

The break down and transport of rocks – smooth, round and sorted.

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

Types of Weathering

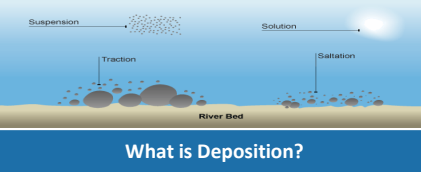
Weathering is the breakdown of rocks where they are.

Biological	Breakdown of rock by plants and animals e.g. roots pushing rocks apart.
Mechanical	Breakdown of rock without changing its chemical composition e.g. freeze thaw

Types of Transportation

A natural process by which eroded material is carried/transported.

Solution	Minerals dissolve in water and are carried along.
Suspension	Sediment is carried along in the flow of the water.
Saltation	Pebbles that bounce along the sea/river bed.
Traction	Boulders that roll along a river/sea bed by the force of the flowing water.

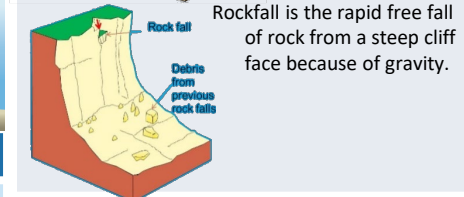
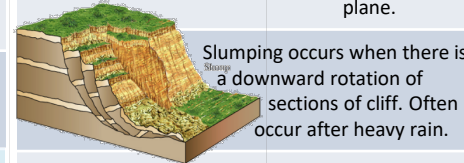


What is Deposition?

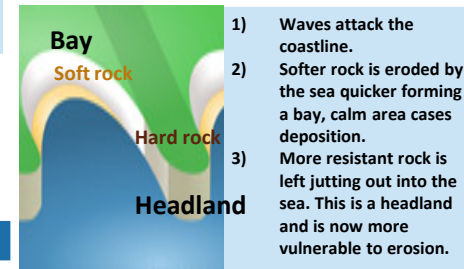
When the sea or river loses energy, it drops the sand, rock particles and pebbles it has been carrying. This is called deposition. Heaviest material is deposited first.

Mass Movement

A large movement of soil and rock debris that moves down slopes in response to the pull of gravity in a vertical direction.



Formation of Bays and Headlands



Unit 1c - Coasts Geography AQA

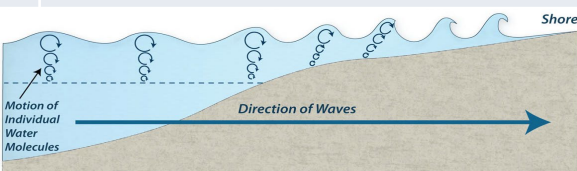
Physical Landscapes in the UK

How do waves form?

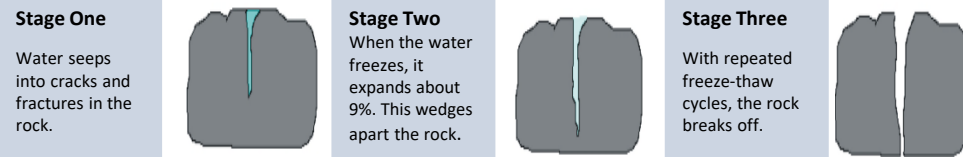
Waves are created by wind blowing over the surface of the sea. As the wind blows over the sea, friction is created - producing a swell in the water.

Why do waves break?

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



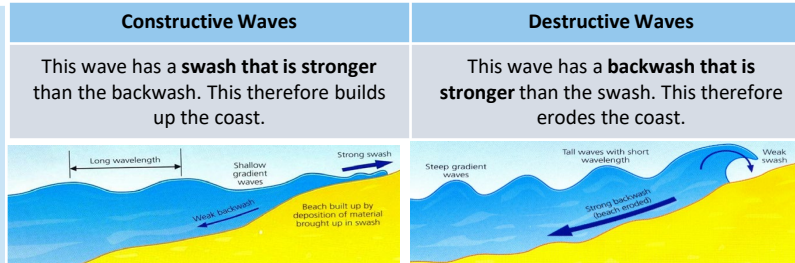
Mechanical Weathering Example: Freeze-thaw weathering



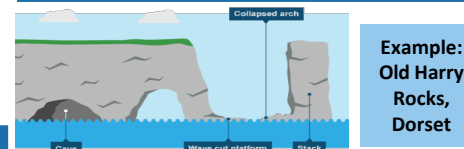
Size of waves

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

Types of Waves



Formation of Coastal Stack



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

Coastal Defences

Hard Engineering Defences

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

Soft Engineering Defences

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

Example – River Management Study – Somerset Levels floods

Why was the scheme needed?

The rivers were already swollen with water 30cm of rain fell in 24 hours
 The ground was saturated from previous rain events
 The land has hills surrounding it - The Mendips in the north east and the Quantocks in the south west
 Burrowbridge is at the confluence of the River Tone and Parrett

Management Strategy - 2012/4

5 miles of the River Tone and Parrett were dredged. A total of 130,000 cubic metres of silt was removed.
 A 300m long semi-circular embankment was built on private land around the village of Thorney.
 Drayton Road, the main road into Muchelney was raised by just over a metre
 A barrage is proposed to be built upstream of Bridgwater

Social, Economic and Environmental Issues

Social – Building an embankment and raising the road means that life can carry on when there are future floods – people can get to work, school.
Economic – The cost of a barrage is estimated at £32 million.
Environmental – Dredging speeds up the flow of the river and increase erosion downstream.
 Building a road higher up could lead to erosion and possible collapse

Middle Course of a River

Here the gradient get gentler, so the water has less energy and moves more slowly. The river will begin to erode laterally making the river wider.

Water Cycle Key Terms

Precipitation	Moisture falling from clouds as rain, snow or hail.
Interception	Vegetation prevents water reaching the ground.
Surface Runoff	Water flowing over the surface of the land into rivers
Infiltration	Water absorbed into the soil from the ground.
Transpiration	Water lost through leaves of plants.

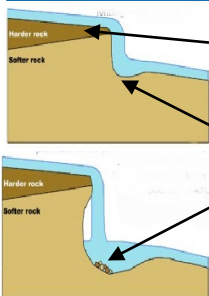
Physical and Human Causes of Flooding.

Physical: Prolong & heavy rainfall Long periods of rain causes soil to become saturated leading runoff.	Physical: Geology Impermeable rocks causes surface runoff to increase river discharge.
Physical: Relief Steep-sided valleys channels water to flow quickly into rivers causing greater discharge.	Human: Land Use Tarmac and concrete are impermeable. This prevents infiltration & causes surface runoff.

Upper Course of a River

Near the source, the river flows over steep gradient from the hill/mountains. This gives the river a lot of energy, so it will erode the riverbed vertically to form narrow valleys.

Formation of a Waterfall



- 1) River flows over alternative types of rocks.
- 2) River erodes soft rock faster creating a step.
- 3) Further hydraulic action and abrasion form a plunge pool beneath.
- 4) Hard rock above is undercut leaving cap rock which collapses providing more material for erosion.
- 5) Waterfall retreats leaving steep sided gorge.

Formation of Ox-bow Lakes

Step 1		Step 2	
Step 3		Step 4	

Unit 1d - Rivers

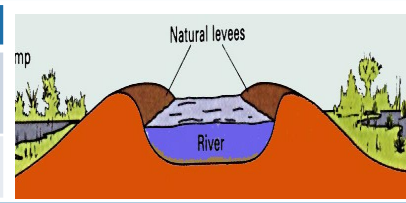
Lower Course of a River

Near the river's mouth, the river widens further and becomes flatter. Material transported is deposited.

Formation of Floodplains and levees

When a river floods, fine silt/alluvium is deposited on the valley floor. Closer to the river's banks, the heavier materials build up to form natural levees.

- ✓ Nutrient rich soil makes it ideal for farming.
- ✓ Flat land for building houses.



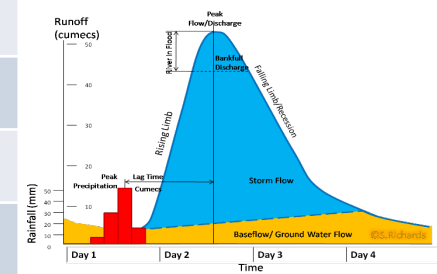
River Management Schemes

Soft Engineering	Hard Engineering
<p>Afforestation – plant trees to soak up rainwater, reduces flood risk.</p> <p>Demountable Flood Barriers put in place when warning raised.</p> <p>Managed Flooding – naturally let areas flood, protect settlements.</p>	<p>Straightening Channel – increases velocity to remove flood water.</p> <p>Artificial Levees – heightens river so flood water is contained.</p> <p>Deepening or widening river to increase capacity for a flood.</p>

Hydrographs and River Discharge

River discharge is the volume of water that flows in a river. Hydrographs who discharge at a certain point in a river changes over time in relation to rainfall

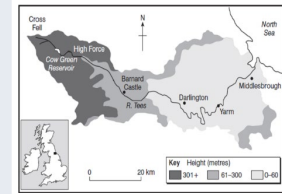
1. **Peak discharge** is the discharge in a period of time.
2. **Lag time** is the delay between peak rainfall and peak discharge.
3. **Rising limb** is the increase in river discharge.
4. **Falling limb** is the decrease in river discharge to normal level.



Case Study: The River Tees

Location and Background
 Located in the North of England and flows 137km from the Pennines to the North Sea at Red Car.

Geomorphic Processes
Upper – Features include V-Shaped valley, rapids and waterfalls. High Force Waterfall drops 21m and is made from harder Whinstone and softer limestone rocks. Gradually a gorge has been formed.
Middle – Features include meanders and ox-bow lakes. The meander near Yarm encloses the town.
Lower – Greater lateral erosion creates features such as floodplains & levees. Mudflats at the river's estuary.



YR 11 GRAPHIC DESIGN KNOWLEDGE ORGANISER

In Art, Design and GRAPHICS 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 the surf company and brand MAMBO. art movement. You will also look at the work of designers David Carson and Neville Brody.

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.

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.

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

ILLUSTRATION

WEIGHT OF LINE – thick and thin lines gives depth



STYLISE - depict or treat in a mannered and non-realistic style. To draw in a specific style.



KEY DESIGNERS DAVID CARSON

Grunge typography using handmade and PC fonts. Distortions mixed with photos and collage.

NEVILLE BRODY

Heavy typography overlapping using positive and negative space. PC based and modern.

Typography may be defined as the theory and practice of letter and typeface **design**. In other words, it is an art concerned with **design** elements that can be applied to the letters and text.

TYPOGRAPHY

SERIF - slight projection finishing off a stroke of a letter in certain typefaces.
SANS SERIF – Lettering and type without the serif.



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.

BTEC Tech Award Health and Social Care Component 2—Learning Aim A

Knowledge Organiser

Understand the different types of Health and Social Care services and barriers to accessing them.

This knowledge organiser will help you to understand key words and concepts, as well as how to spell them and define what they mean.

A1: Health and Social Care Services

Health Care Services

Primary Care Services

Usually the service which an individual would access first if they had a health issue. For example: GP, dentist, optometry.

Secondary and Tertiary Care Services

Secondary/tertiary care refers to services provided by medical specialists who generally do not have the first contact with a patient but they have been passed on by the primary service. For example: cardiologists (heart disease) and neurologists (for problems with the nervous system).

Allied Health Professionals

AHPs provide treatment and support for adults and children who are ill, have disabilities or additional needs. They work across a wide range of different settings including the community and people's homes, as well as hospitals. For example: dieticians and physiotherapists.

Social Care Services—includes informal support offered by friends and family

Services for children and young people, e.g. foster care, residential care, youth work

Services for adults or children with specific needs (learning disabilities, long-term health issues), e.g. residential care, respite care

Services for older adults, e.g. residential care, home care services.



A2: Barriers to accessing Services



Some individuals cannot access services due to barriers which prevent (stop) them from doing so.

Physical barriers, e.g. issues getting into and around the facilities.

Sensory barriers, e.g. hearing and visual difficulties

Social, Cultural and Psychological barriers, e.g. lack of awareness, differing cultural beliefs

Language barriers, e.g. differing first language, language impairments

Geographical barriers, e.g. distance of service provider, poor transport links

Intellectual barriers, e.g. learning difficulties

Resource barriers for service provider, e.g. staff shortages, lack of local funding

Financial barriers, e.g. charging for services, cost of transport, loss of income while accessing services.

Key Words: Primary, Secondary, AHPs, Barriers

BTEC Tech Award Health and Social Care Component 2—Learning Aim B

Knowledge Organiser

Demonstrate care values and review own practice

This knowledge organiser will help you to understand key words and concepts, as well as how to spell them and define what they mean.

B1 Care Values

Care Values are a range of standards within Health and Social Care settings, that help to guide professionals in giving the most appropriate care to each individual.

1. Empowering and promoting **independence** by involving individuals, where possible, in making choices, e.g. about treatments they receive or about how care is delivered.
2. **Respect** for the individual by respecting service users' needs, beliefs and identity.
3. Maintaining **confidentiality** (when dealing with records, avoiding sharing information inappropriately, e.g. gossip)
4. Preserving the **dignity** of individuals to help them maintain privacy and self-respect
5. Effective **communication** that displays empathy and warmth
6. **Safeguarding and duty of care**, e.g. maintaining a healthy and safe environment, keeping individuals safe from physical harm
7. Promoting **anti-discriminatory** practice by being aware of types of unfair discrimination.



B2 Reviewing own application of care values

Using teacher feedback from your demonstration, you will be expected to: Identify your own strengths (what was good about your demonstration of the care values) and areas for improvement (what didn't go so well) against the care values.



Definitions

Independence

Free to make own choices.

Respect

Understanding the feelings and wishes of others.

Dignity

Keeping respect and for a person.

Anti-Discriminatory

Prevents discrimination on gender, age, race, disability etc.

Confidentiality

Keeping information private and secure.

The Elizabethans

1580 - 1603



GCSE History Knowledge Organiser

The Elizabethans: 1580-1603

Elizabeth became queen



The Elizabethans 1580 - 1603



Elizabeth and government <i>Issue: The power of the queen</i>	<ul style="list-style-type: none"> Elizabeth and her court: patronage, the Privy Council and the rebellion of the Earl of Essex Elizabeth and her parliaments including opposition from Puritans Elizabeth and her people including local government and propaganda
Catholics <i>Issue: The nature and extent of a Catholic threat</i>	<ul style="list-style-type: none"> The enforcement of Elizabeth's religious settlement after 1580 Catholic links abroad, plots against Elizabeth, and the Elizabethan spy network Mary Queen of Scots, the Armada and war with Spain
Daily lives <i>Issue: The nature and dynamics of Elizabethan society</i>	<ul style="list-style-type: none"> The contrasting lives of rich, middling and poor Elizabethans Family life: husbands and wives, parents and children, wider kinship Poverty: its causes, Elizabethan explanations and responses
Popular culture <i>Issue: "Merry England"?</i>	<ul style="list-style-type: none"> Theatres and their opponents The Puritan attack on popular pastimes The persecution of witches
The wider world <i>Issue: The nature and significance of England's connections with the wider world</i>	<ul style="list-style-type: none"> Imperial ambition: the motives and achievements of Elizabethan adventurers Roanoke: England's attempt at an American colony Trade with the east, including first contacts with India

The Elizabethans: Government - How powerful was the Queen?

Page 1

1.1 Elizabeth and her court - Patronage and Privy Council

Privy Council

- 19 councillors who managed the day-to-day running of the country. Led by Secretary of State.
- Gave Elizabeth advice on crucial decisions such as going to war, finance, law and order

Royal Court

- A large group of courtiers who travelled with Elizabeth to her 60 residences
- Elizabeth showed off her power by hosting plays, hunts, feasts and jousts

Strength: Elizabeth used patronage to control the Royal Court

Problem: The court could split into rival factions

Strength: William Cecil led the Privy Council for 40 years and was loyal to Elizabeth; offered advice

Problem: Privy Councillors such as Walsingham manipulated Elizabeth e.g. execution of Mary; could form factions

1.2 Elizabeth and her court - Essex Rebellion, 1601

The Earl of Essex was one of Elizabeth's favourite courtiers but their relationship deteriorated and Essex staged a rebellion against her. It fails and he is executed for high treason.

1. Elizabeth promotes Robert Cecil
2. Cecil and Essex form rival factions
3. Essex made peace in Ireland against Queen's wishes
4. Essex banned from court and financially ruined
5. Essex attempts to lead a rebellion. He only has 300 supporters and the Privy Council helps to stop it

VOCABULARY	Tax
Faction	Rebellion
Patronage	Militia
Treason	Pageant
Monopoly	Sermon
Propaganda	Residence
Censorship	Promote
Heir	Court
	Tax
	Prorogue
	Majestic
	Armed resistance against a leader
	Volunteer soldiers
	Extravagant party
	A speech written by a priest
	Home
	Raise someone to a higher position
	Short for royal court
	Money collected by a government
	Shut down
	Grand

2 Elizabeth and Parliament

Parliament

1. MPs voted on major changes to laws
2. Elizabeth needed MPs permission to raise new taxes and introduce new punishments

Elizabeth controlled Parliament by:

1. Only calling Parliament 35 months in 45 years
2. Using Cecil and other councillors to control debate. She could prorogue parliament.
3. Banning discussion of her marriage and religion

Parliament sometimes challenged Elizabeth:

1. Puritan MPs wanted more freedom of speech. Peter Wentworth was locked up in the Tower of London for asking Queen to name a Protestant heir.
2. 1601 Elizabeth gave into pressure from MPs and changed the rules for monopolies

3.2 Elizabeth and her people, local government

Local government was important because Elizabeth never visited many areas of the country

1. A Lord Lieutenant was appointed to run each county. They were wealthy nobles.
2. The Justices of the Peace were responsible for local law and order, Poor Law, setting taxes, repairing roads and quarter sessions (held every three months to decide punishments for minor crimes)

Strength: Kept the Privy Council informed about local issues and provided militia in emergencies

Problem: LLs were not always loyal e.g. Essex

Strength: Helped Elizabethan society run smoothly

Problem: Some corruption e.g. favoured wealthy families paying less tax

3.1 Elizabeth and her people, propaganda and censorship

Royal Progresses

1. 10 weeks each summer
2. Elizabeth stayed with nobles
3. Pageants were held

So Elizabeth was seen as majestic and caring

Portraits

1. Courtiers commissioned (paid for) portraits to flatter the queen e.g. Ditchley Portrait
2. Unflattering portraits burned; new pattern issued 1596
3. Most people never saw a portrait



So Elizabeth was seen as youthful and strong

Printing Press

1. Censored by Privy Council
2. Writers who criticised the queen punished e.g. John Stubbs
3. Positive texts supported e.g. Faerie Queen poem

So Elizabeth was only seen in a positive light

The Church

1. Church service every year on Accession Day to thank the Queen
2. 'Prayer for the queen's majesty' at every service
3. Church leaders would write sermons, prayers and songs praising the queen

So Elizabeth was seen as the rightful Queen

1 Problem of religion

When Elizabeth became Queen, the English people were divided into different religious groups.

Key Issue	Catholics	Protestants	Puritans
Who should be head of the church?	The Pope	The Monarch	There should be no head of the Church
Who should help run the church?	Archbishops and bishops	Archbishops and bishops	An elected committee
What language should the Bible be in?	Latin	English	English
How should churches be decorated?	Highly decorated, stained-glass windows	Less decoration in Church	Completely plain churches
Should priests wear vestments?	Yes	No	Absolutely not

In 1559 Parliament passed two acts called the **religious settlement**. It contained both Protestant and Catholic ideas.

Act of Supremacy made Elizabeth supreme governor (head) of the church, no role for Pope, Bishops helped run the church

Act of Uniformity made it compulsory to attend church, churches could be decorated

Aims:
To bring England into line with Elizabeth's own moderate Protestant beliefs

To prevent Catholic superpowers such as France and Spain from invading England

To prevent rebellions in strongly Catholic areas of England such as the North and the South West

To placate (keep happy) Protestant and Puritan MPs in Parliament

VOCABULARY

Act	Vestments	Papal Bull	Clergy	Moderate	Tolerant	Enforce	Pamphlet	Legitimate	Hung, drawn and quartered	Figurehead	Convert	Martyr	Rebellion
A law	Priests' clothing	Statement from Pope	People who work in church	Not extreme	Accepting	To make something happen	Small leaflet	Legal	Execution method	Symbolic leader	Change religion	A person who dies for a cause	Armed resistance against a leader

2 Enforcing the Religious Settlement

Catholics reacted to the Religious Settlement in different ways. Some converted to Protestant. Church Papists were Catholics who attended church. Recusants refused to attend church.

1570 - Papal Bull - The Pope ordered Catholics to disobey Elizabeth

Elizabeth enforced RS more harshly after 1580 as recusancy rose.

Financial suffering

1581 Act of persuasions - Raised the fine for recusancy to £20 month. 1587 Recusancy Act - The Queen could take 1/3 of a recusant's land if they couldn't pay their debt

Physical suffering

Recusants imprisoned if they couldn't pay fines

1585 Act of Priests - sheltering a priest punishable by death. Margaret Clitherow was tortured and died - she became a martyr.

Social suffering

1593 Act Restraining Recusants - no large gatherings and Catholics had to stay within 5 miles of home

3 Edmund Campion - Elizabeth was threatened by Catholic priests

Jesuits = extreme Catholics who moved to England in the 1580s to destroy the Protestant faith

Led by Edmund Campion who was found guilty of treason and hung, drawn and quartered in 1581

A threat because...

- Loyal to the Pope not Elizabeth
- Printed pamphlets criticising Elizabeth
- Tried to convert nobles and gentry
- Celebrated Mass (Catholic church service)

Jesuits failed because...

- Walsingham's spy network tracked plans and movements of the Jesuit priests
- Concentrated their efforts on the gentry
- Did not spend enough time in North and West so did not build a strong base



4 Mary Queen of Scots - Elizabeth was threatened by her Catholic cousin

Mary Queen of Scots arrived in England in 1568 and was immediately imprisoned. She was a significant threat to Elizabeth because:

- She had a legitimate claim to the throne as Elizabeth's cousin + next in line to the throne
- She had been Queen of France and was still supported by the French
- Unlike Elizabeth, Mary had a son - James - who was her heir
- She was Catholic so was a figurehead for Catholic rebellion including: Throckmorton Plot 1583



Planned by France, the Pope and Philip Throckmorton was messenger

Planned by Philip of Spain and Babington

Aimed to assassinate Elizabeth, invade England, free MQoS and make her Queen

Defeated because Walsingham intercepted letters from MQoS ordering Elizabeth's execution

Elizabeth responded by refusing to execute MQoS but Walsingham now checks her mail

Elizabeth responded by executing Babington. MQoS, executed in 1587 after Walsingham manipulated her

5. Philip and the Armada - Elizabeth was threatened by Catholics from abroad

Reasons for war with Spain	The Spanish Armada 1588	Impact of the Armada
Religion	Philip builds fleet of 130 ships	Elizabeth uses the defeat to show strength of Protestant faith and her rule
Philip a devout (strong) Catholic and was influenced by the Papal Bull	Leader of the Armada was inexperienced	No more Catholic plots But...
Privateering English ships attacked Spain in the New World	Fireships break the Armada's crescent formation	War in the Netherlands continued until 1604
The Netherlands Elizabeth supported Protestant rebels here	The wind changed and ships blown north - 67 return to Spain	Philip sent another Armada in 1597 (also fails)



1 Social Structure

Elizabethan society was hierarchical with great inequalities.

The rich: the Nobility and the Gentry were wealthy landowners with political power

They could hold positions of authority e.g. Justice of the Peace, Lord Lieutenant, MP

Grand homes, some had over 50 rooms including service rooms, a Great Chamber and a Great Hall. Surrounded by gardens and orchards.

They hosted feasts which included exotic meat e.g. venison and swan, exotic fruit, fish, vegetables, wine. After the feast there might be a banquet. Servants would serve the guests.

The middling sort: Yeomanry and Tradesmen lived in reasonable comfort

Yeomen owned a small amount of land. Tradesmen has their own businesses in towns. Had some local authority e.g. church warden

Well built homes with chimneys. 5-10 rooms, a few service rooms and chambers upstairs.

Varied diet of meat and vegetables but no exotic food items or feasts. 'Yeoman bread' of wheat and bran. The servants would join at the table. Mead and beer.

The Poor: The labouring (working) poor had very challenging lives

The poor had insecure employment, often only around harvest time. 2/3 only had a cottage and small garden.

Poorly built cottage, no chimney, 1-2 rooms, no chambers

Rye bread and pottage Risk of famine

VOCABULARY

Hierarchical	Yeoman	Service rooms	Great Chamber	Mead	Great Hall	Orchards	Feasts	Banquet	Inflation	Chambers	Insecure	Harvest	Church warden	Cottage	Rye, bran	Famine	Patriarchal	Infant mortality	Deterrent	Compassion	Apprenticeships
An order where the people at the top have more power	Famer who owned their own land	Room for laundry, food preparation	Room for feasts	Alcoholic drink made of honey	Impressive entrance hall	An area of land with fruit trees	A large meal	A sweet course at the end of a feast	Prices rising	Rooms for sleeping	Uncertain	Time of year when crops collected	Local person who looks after the church building	Small home	Types of grain	Not having enough food	A system where men have more power	Death of children	Harsh punishment	Kindness	Training for work

2 Family Life

Parents and Children

Most families were small due to high infant mortality. Parents cared for their children and harsh discipline was rare. Most children left home around the age of 12 to work for wealthier families. Only the sons of the wealthy went to school.

Marriage

Elizabethan society was patriarchal so wives were expected to obey their husbands. Most people married in their mid-late 20s. The rich had some say over who their children married. Divorce was difficult and same-sex marriage was unknown.

Kinship - wider family

This was not as important as the nuclear (immediate) family. Most people lived with their immediate family. Families did not all live in the same part of the country.



3 Causes of Poverty

Poverty increased in this period and became a major social problem. The number of people living in poverty challenges the interpretation of Elizabethan England as a golden age. Poverty increased for 4 main reasons:

Population Growth	Population rose from 2.7m in 1540 to 4.1m in 1601	This meant that there was an increased demand for wheat which led to inflation
Inflation	Price of wheat increased by 250%	This meant that many of the poorest people in society could not afford bread, the staple diet of the poor
Sheep Farming	Farming sheep was very profitable	This meant that farmers reared sheep instead of growing wheat, further decreasing the amount of wheat available, leading to increased demand and inflation
Bad Harvests	Bad harvest in 1594, 1595, and 1596.	This meant that there was even less wheat, increasing demand and leading to a further increase in prices

The Elizabethans believed that the poor could be divided into two categories: **DESERVING POOR:** people who wanted to work but couldn't (i.e. elderly, children, disabled) **UNDESERVING POOR:** people who could work but didn't (criminals, lazy people)

Vagrants were unemployed people who moved around looking for work - the number of vagrants also increased. People feared vagrants (also called vagabonds) because:

- Disease
- Crime
- Rebellion
- Poor rate

4 Responses to Poverty

The government punished vagrants (vagabonds) harshly: 1572 Vagabonds whipped; second offence hanged

1589 people could be fined for sheltering vagrants

At first the government did little to help those that they saw as the deserving poor but poverty became such a great problem that Elizabeth was forced to take action.

The 1601 Poor Law treated the different groups differently:

COMPASSION for the DESERVING POOR: poor relief (benefits), materials for work, apprenticeships for young people

DETERRENDS for the UNDESERVING POOR: whipping, hard labour, the House of Correction

Paid for by a local tax called the poor rate and managed by the Justices of the Peace

1 Merry England

In the Elizabethan period people enjoyed pastimes and festivities including:

- Parish ales** - festivals to celebrate a local saint. These included drinking, **Morris dancing**, sports.
- Religious festivals** e.g. Christmas and Shrove Tuesday. **Pagan festivals** e.g. May Day
- Sports** - Elizabethans enjoyed football and **cudgelling** (fighting with sticks) as well as cruet sports like **cock-fighting**
- Alehouse** - the pub - the poor and middling sort spent a lot of time here, drinking and singing

In the Victorian era, artists portrayed Elizabethan England as 'Merry England' - a prosperous time where people had plenty of time to enjoy these pastimes and festivities. Some historians emphasise the cultural achievements of this period including:

- Artists learned new techniques e.g. Nicholas Hilliard's miniature paintings
- Musicians wrote Ayres - songs accompanied by a lute
- Playwrights are renowned for their plays e.g. Shakespeare's Romeo and Juliet

This idea of 'Merry England' contributes to the interpretation that Elizabethan England was a 'golden age'.



3 Theatre
Elizabethan England saw the first purpose built theatres.

At the start of Elizabeth's reign plays were performed by **Bands of Strolling Players** - it was feared this could lead to disease or rebellion.

After 1572, performers needed a licence from the Lord Chamberlain or they could be treated like **vagrants**. Theatre Companies developed, each with a **patron** (rich supporter), **playwright** (to write the plays), **actors**, and a **theatre**. The first theatre (The Theatre) was opened in 1575. The Globe Theatre opened in 1599.

The theatre was popular because:

- It was cheap** 1 penny in the Yard 2 pennies in the Galleries
- It was fashionable** The Queen loved it and watched the play Twelfth Night at court
- It was sociable** The crowd could heckle the actors. **Bankside** had many attractions e.g. **alehouses**. A **jig** (dance) sometimes followed the performance.

Some groups opposed the theatre:

- London authorities** were worried that the large crowds that gathered in the theatres would spread disease
- The Puritans** believed the theatre was a sin because it distracted people from reading the Bible

2 Puritan opposition

In the 1570s some historians came up with a different interpretation of culture in late Elizabethan England. This interpretation challenged the idea of **Merry England**.

They found evidence that in some areas:

- Parish ales** stopped or declined
- May Day games and other festivals disappeared
- Plays and **Morris dancing** stopped

This happened in areas where there was a strong Puritan influence. In particular, in areas where there was a Puritan **elite** or an influential Puritan **preacher**.

In **popular memory**, Puritans are often presented as people who just wanted to stop fun. Historians suggest the Puritans ended festivities for other reasons:

- They wanted to remove Catholic influence
- They thought that the **Sabbath** (Sundays) should be protected and used for prayer and reading the Bible
- They wanted to remove **pagan** influence
- They wanted people to live ordered, **holy** lives and festivals sometimes led to violence and **illegitimate** children (children born outside marriage)

4 Witchcraft

In the 1580s and 1590s there was a huge increase in the number of innocent women accused of witchcraft. This challenges the 'golden age' interpretation of Elizabeth England.

A belief in witchcraft had existed since the Middle Ages but Elizabeth introduced a new law in 1563 that made witchcraft a crime that was punishable by death.

Elizabethans believed that -

- Magic was the cause of some unexplained events
- Cunning folk** were people who could cure disease and see the future
- Witchcraft was a form of magic that caused harm
- Witches were helped by small animals called **familiars**

There are different interpretations of the rise in witchcraft accusations:

- Some historians argue it was caused by rising **poverty**
- Some historians argue it was caused by **misogyny**
- Some historians argue it was caused by **Puritan influence**

Evidence: The number of **accusations** went up as poverty increased in 1580s

Evidence: Most people who were accused were elderly women

Evidence: Accusations were high in areas with many Puritan **preachers** e.g. Essex

VOCABULARY

Era	Time period
Portray	To show
Prosperous	Wealthy
Merry	Happy
Pastime	Activity that isn't work
Saint	A holy person
Elite	People with power
Morris dancing	A folk dance
Pagan	Non-Christian
Lute	A string instrument
Miniature	Small
Renowned	Famous
Bands of strolling players	Performers who move around the country
Licence	A certificate that gives permission
Shout out	Shout out
Pub	Pub
Hatred of women	Hatred of women
Theatre	The area around The Globe Theatre
Interpretations not created by historians	Interpretations not created by historians
Religious leader	Religious leader
Being accused of something	Being accused of something
Heckle	
Alehouse	
Misogyny	
Bankside	
Popular memory	
Preacher	
Accusation	

The Elizabethans: Wider World - What did the Elizabethan explorers achieve? Page 5

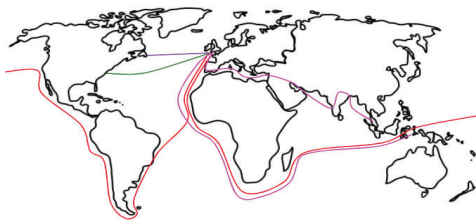
1 What was the 'Age of Exploration'?

From the 15th century onwards, Europeans travelled to other continents. This was helped by:

- Navigation tools** like the compass and new maps like the Mercator map
- Changing attitudes allowed for more research into **navigation** and mathematics
- Tudor monarchs invested in a strong **Navy** for protection. **Galleons** were large ships that could make long journeys.

Where did the explorers go?

- Francis Drake** and **Walter Raleigh** attempted to circumnavigate the globe 1577-1580
- Humphrey Gilbert** and **Ralph Fitch** travelled to India via land and sea and **James Lancaster** travelled to the East Indies
- Walter Raleigh** attempted to set up a colony in America



VOCABULARY

Continent	A large land mass
Navigation	Planning and following a route
Navy	Ships
Circumnavigate	To go around
Colony	A territory controlled by an empire
Colonist	A person who lives in a colony
Empire	A group of territories controlled by one country
Motive	Reason to do something
Trade	Buy and sell
Decline	Go down
Merchant	A person who trades
Import	To bring goods into a country
Prestige	Admiration
Raid	Rob
Knighted	Given a special title
Imperialism	The process of building an empire
Charter	Permission from the Queen
Voyage	Journey by sea
Sandbanks	Piles of sand underwater
Commission	Pay for
Indigenous peoples	People who originally live somewhere
Account	Report
Chief	Leader of Algonquian people

2 What motivated Elizabethan explorers?

Elizabethan explorers had a range of motives:

- Wealth** England's cloth trade was in decline. **Merchants** knew they could become very rich from **importing** spices and silk for the **gentry**.
- Power** Spain, England's Catholic rival, already had an empire in the New World. Explorers could also gain personal **prestige**.
- Knowledge** Explorers wanted to find new sea routes. In particular they hoped to find a **North-West passage** to China.

Francis Drake's circumnavigation of the globe demonstrates these motives:

- He **traded** linen for spices in the **Spice Islands**.
- He **raided** Spanish ships for gold and silver. He was **knighted** when he returned.
- He discovered **Tierra del Fuego** was a group of islands and not a continent.

3 Imperialism

During Elizabeth's reign, explorers wanted to build an empire in North America. These attempts all failed. Elizabeth supported **imperialism** because she thought a **colony** would:

- 1) Provide riches
 - 2) Act as a base for attacking the Spanish
- Elizabeth issued royal **charters** to explorers, allowing them to set up a **colony** in her name: Humphrey Gilbert tried and failed to set up a colony in Newfoundland in 1583. Walter Raleigh organised a failed **voyage** to Roanoke in 1585. A second attempt also failed in 1587.

Reasons for the failure of the Roanoke colony in 1585

- Poor planning:** Roanoke was a poor place for ships as it had **sandbanks**. Most of the people who went were soldiers so they lacked a range of skills.
- Relationship with Algonquian people:** Some of the colonists stole food supplies. The English also brought diseases so the Algonquian people viewed them with suspicion. The colonists killed their **Chief**, Wingina.
- Food:** Many seeds were destroyed when the ship got wrecked on the sand. The colonists relied on the Algonquian people for food.

4 India and the East Indies

During Elizabeth's reign, English merchants tried to set up trade links with India and the East Indies

- In 1581 a group of **merchants** in London set up the **Turkey Company**. It **commissioned** **Ralph Fitch** to travel to India to find out about **trade** opportunities.
- In 1600 a group of **merchants** in London set up the East India Company. **James Lancaster** led two **voyages** to the East Indies to establish a direct trade link. The first failed.

In the 16th Century India was ruled by the powerful and wealthy **Mughal Empire**. This Empire contained 150 million people and controlled 25% of the world's wealth.

Ralph Fitch visited markets where he saw huge quantities of jewels and spices. He wrote an account of his journey which inspired other **merchants** to travel here.

5 Different interpretations of the 'Age Of Exploration'

In the Victorian era, many people saw the Elizabethan explorers as heroes who had laid the foundations for the **British Empire**. In **popular memory**, Elizabethan explorers have often been portrayed as brave adventurers who achieved a lot.

An alternative interpretation is that Elizabethan explorers achieved little in comparison to other European nations at the time, including Spain and Portugal.

Other interpretations highlight the negative aspects of Elizabethan exploration including:

- Francis Drake's involvement in the slave trade
- The violence towards the **indigenous peoples** and the impact of disease in North America
- The **legacy** (long-term impact) of the East India Company in India

The People's Health

c. 1250 to present



GCSE History Knowledge Organiser

Periods	Learners should study the following content:
Medieval Britain c.1250–c.1500	<ul style="list-style-type: none"> • The characteristic features of medieval Britain: an overview • Living conditions: housing, food, clean water and waste. • Responses to the Black Death: beliefs and actions • Approaches to public health in late-medieval towns and monasteries
Early Modern Britain c.1500–c.1750	<ul style="list-style-type: none"> • Cultural, social and economic change including the growth of towns: an overview • Changing living conditions: housing, food, clean water and waste • Responses to outbreaks of plague including national plague orders and local reactions • The impact of local and national government on public health including measures to improve the urban environment and the government response to the gin craze, 1660–1751
Industrial Britain, c.1750–c.1900	<ul style="list-style-type: none"> • Industrialisation, the growth of major cities and political change: an overview • Urban living conditions in the early nineteenth century: housing, food, clean water and waste • Responses to cholera epidemics • Public health reform in the nineteenth century including the Public Health Acts and local initiatives
Britain since c. 1900	<ul style="list-style-type: none"> • Economic, political, social and cultural change: an overview • Living conditions and lifestyles: housing, food, air quality and inactivity • Responses to Spanish Influenza and AIDS • Growing government involvement in public health including pollution controls, anti-smoking initiatives and the promotion of healthy lifestyles



Medieval Britain was a very religious society

- Almost everyone was a **Christian** and non-believers could be punished as **heretics**
- **Monasteries** played a very important role in local communities
- People believed that illness was God's punishment for sins



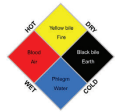
Medieval Britain was a highly unequal society

- The **monarch** held the most power in society
- Most people were **peasants** who owned no land and had no say in how the country was ruled



Medieval Britain was a mainly rural society

- **90%** of the population lived in the countryside
- Peasants worked long hours on their farms to produce enough food to feed themselves
- There were a few small towns which were cramped and busy



Medical knowledge was limited

- The Church taught the theory of the **four humours**, which stated that illness occurred when the body's **humours** were out of balance
- Most believed that illness was God's punishment for sins



Widespread disease meant that life expectancy was short

- Life expectancy for ordinary people was just **30 years old**, largely a result of high **infant mortality**
- Common diseases in the Middle Ages included:
 - **Dysentery**: an **intestinal** disease caused by contaminated food and poor hygiene
 - **Influenza** and **Tuberculosis**: **respiratory** diseases spread by water droplets in the air
 - **Childbed fever**: infections caught by mothers during childbirth



90% lived in the countryside where life was difficult but quite healthy.

Peasants lived in small homes made from **wattle and daub**. Animals sheltered inside homes at night. Cramped conditions allowed **influenza** and **tuberculosis** to spread quickly



A peasants' diet was quite healthy but lacked variety with lots of fruit and vegetables, **pottage**, milk and cheese, and fish. Peasants depended on a good **harvest**. A failed harvest could lead to **famine** and **starvation**



Drinking water came from springs and streams. Peasants drank **small beer** which killed the bacteria and germs in the water



Waste collected in **middens** or **cesspits** **contaminated** drinking water from springs and streams leading to **dysentery**

Medieval towns provided benefits and dangers to health.



Houses were tightly packed together, allowing **influenza** and **tuberculosis** to spread quickly



Each town held a **weekly market**, which provided a variety of fresh food including meat and fresh herbs. **Drovers** brought animals into town to be slaughtered, filling the streets with **dung** and increasing the risk of **dysentery**



Some towns had a **conduit** in the town square which provided clean water



Gongfarmers were paid to remove human waste from latrines and **cesspits** and **rakers** were paid to clean the streets. Only the very rich had **latrines** in their houses. Most people shared **outdoor latrines** with neighbours



The Black Death hit England in 1348, killing 50% of the population. It was deadly because no one knew what caused it and treatments and preventions were ineffective

Beliefs about the causes of the Black Death

The disease was caused by the **Yersinia Pestis** pathogen that was passed on by the bite of a flea that lived on black rats.

However, no one at the time knew this. Instead, they thought it was caused by:

 God punishing them for their sins

 Bad-smelling air (**miasma**)

 The movement of the planets



Actions taken to prevent/treat the Black Death

Attempts to treat or prevent the disease were ineffective, for example:



Priests urged people to pray for **forgiveness** so that God would take the disease away



Flagellants whipped themselves in the streets to prove to God that they were sorry for their sins



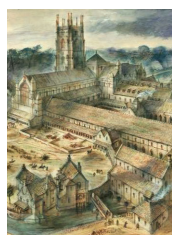
Doctors believed that balancing the **humours** by **bloodletting** would cure people with the **Black Death**



People placed **posies** of sweet-smelling flowers in their houses to purify the air and get rid of **miasma**

Although **King Edward III** ordered the Mayor of London to clean the city streets, the government did very little to deal with the disease.

Despite their limited medical knowledge, people in towns and monasteries made great efforts to improve public health



Monasteries led the way in hygiene

Monks improved sanitation in their communities by spending money on:

- Water pipes to bring fresh water
- Latrines

Monasteries led the way in public health because:

- They needed fresh water for **baptisms** and **infirmaries**
- Monasteries had the wealth to build **latrines** and dig trenches to lay pipes



Towns made efforts to improve public health

Town authorities, such as the **mayor** and the **aldermen**, wanted to improve public health to attract **merchants** and increase **trade**

- In **Bristol**, town authorities ordered **dung** heaps and **prostitutes** moved to the **outskirts** of town
- In **London**, wealthy residents paid for **latrines** and **conduits** to be built to improve the urban environment



There were more people in Early Modern Britain but it remained a rural place

- The population grew to 6 million in 1750
- Towns and cities such as London, Bristol, and York began to grow as people migrated from the countryside to live in overcrowded suburbs outside cities
- However, most people still lived in the countryside



Britain developed global connections in the Early Modern period

- The British Empire expanded and colonies were established in America and India
- Trade increased, bringing new products like coffee, sugar and tobacco



Early Modern Britain was still highly unequal

- The monarch continued to hold the most power
- Parliament challenged the power of the monarch, although only 3% of the population could vote



Technological developments led to new ways of seeing the world

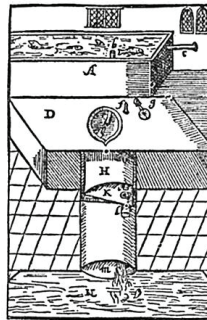
- New inventions such as the microscope encouraged a more scientific way of understanding the world
- However, religion was still very important and medical knowledge only improved very slowly



Unhygienic living conditions mean that most people died of the same diseases as in the Middle Ages

- **Dysentery**: an intestinal disease caused by contaminated food and poor hygiene
- **Influenza and Tuberculosis**: respiratory diseases spread by water droplets in the air
- **Childbed fever**: infections caught by mothers during childbirth

Living conditions improved for some but for most they stayed largely the same



The rich could afford new developments

- ✓ The rich could afford a greater variety of foods, including imports such as coffee, sugar, and tobacco - although these led to health problems
- ✓ Houses were made out of stone or brick and were heated by coal fires, creating pollution
- ✓ The rich paid for fresh water to be piped into their homes
- ✓ The first flushing toilet was invented in 1596 and the very rich had then in their homes

Living conditions for the poor remained largely the same

- ✗ The diet of the poor was unchanged, still based mainly on pottage and vegetables
- ✗ In the countryside, famine was still a danger
- ✗ Most people continued to get water from conduits and water sellers in towns and streams in the countryside
- ✗ The poor still used cesspits to store their waste, contaminating water supplies and increasing the risk of dysentery



The Plague was feared throughout this period. Responses were largely ineffective but national government got more and more involved



The Plague - the same disease as the Black Death - returned to England roughly every 20 years

The last outbreak in 1665 (the Great Plague) killed 15% of London's population

There was still no understanding of the real causes, with God and miasma blamed instead

For the first time, the national government began to take action



1578

Elizabeth I issued Plague Orders. These 17 rules included:

- cats and dogs must be kept off the streets
- infected houses must be isolated for six weeks
- the clothes of victims must be burned
- special prayers must be said in church



1604

The 1604 Plague Act introduced harsh punishments for breaking isolation including whipping and hanging.

Local governments continued to combat the spread of disease



In 1550 York posted watchmen to stop plague victims entering the city.

In the 1600s many towns built pest houses to house the plague victims away from the city

As towns and cities developed, local government began to play a greater role in improving the urban environment

In York city aldermen introduced the following rules to keep the streets clean:



Pigs were not allowed to wander the streets



Fines for throwing human waste into the street



No one could build a privy over the main city stream

After the Great Fire of London in 1665, London authorities rebuilt the city with wider streets to reduce overcrowding.



However, most of these improvements affected the wealthier areas of the city and the poor continued to live in unhygienic conditions.

The problems caused by drunkenness forced the government's role to expand



The Gin Craze

From the 1720s, cheap gin was causing problems such as:

- Increased crime
- Health problems related to drinking too much alcohol
- An increase in the number of abandoned children

1729 1736 1743

The early Gin Acts tried to control gin drinking through taxes and licences

They were ineffective because they were impossible to enforce.

1751

The 1751 act was successful because it introduced harsh punishments for illegal gin selling, including:

- Whipping
- Transportation to Australia



Industrialisation transformed Britain from an agricultural country to an industrial one

- Steam engines were used to power factories
- The factories made great profits for their owners but were dangerous places to work



Rapid industrialisation led to the growth of major cities

- Britain's population skyrocketed from 20 million in 1850 to 40 million in 1900.
- Huge numbers moved to overcrowded cities such as Manchester and Leeds to find work in the factories
- This process was known as urbanisation



During the 19th Century, ordinary people slowly gained more political power

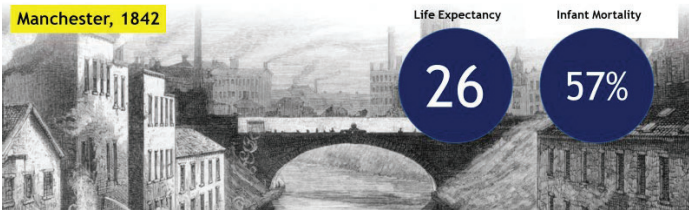
- Almost all working men won the right to vote in the 1880s
- Although the government followed laissez-faire policies in the early 1800s, by 1900 it had become normal for the government to pass laws to improve the lives of ordinary people



Medical knowledge advanced rapidly in the Industrial Period

- There were rapid advances in medical knowledge, such as Louis Pasteur's germ theory
- However, new scientific ideas were not always accepted quickly

Rapid industrialisation and urbanisation led to deadly living conditions in Industrial towns and cities



HOUSING

- The poor lived in slums
- Overcrowded lodging houses and poorly ventilated back-to-back houses
- Cramped conditions allowed contagious diseases like diphtheria and tuberculosis to spread



FOOD

- The urban poor had a terrible diet, living on potatoes, bread and butter
- There was no tinned food or refrigeration and food was often adulterated
- Malnutrition meant that diseases such as rickets were common



WATER

- Water companies charged high prices
- In slum areas, whole streets shared one pump
- Water was pumped from rivers which were contaminated with human and industrial waste



WASTE

- The poor continued to share privies and cesspits with their neighbours
- Most richer families now had flushing toilets that contaminated rivers
- Contaminated food and water led to outbreaks of typhoid and cholera

Unsanitary living conditions and limited medical knowledge caused deadly and repeated cholera epidemics in the 19th Century



Cholera arrived in England in 1831. There were epidemics in:

1831 1848 1854 1866

Cholera epidemics would repeat in later years, killing tens of thousands of people.

The cholera bacteria was carried in contaminated drinking water, although this was not widely understood. Instead, inaccurate ideas about the causes spread:



Most people believed in miasma theory: the idea that cholera was caused by bad-smelling air



Many still believed that disease was a punishment from God

Attempts to prevent cholera became more effective as understanding of the disease improved and the government took action

1846 The 1846 Cholera Bill made the problem worse

- Instructed residents to connect their homes to sewers to reduce miasma
- However, this only increased the flow of waste into rivers

1854 John Snow proved that cholera was spread in contaminated water

- By tracing cholera deaths to the Broad Street pump, John Snow proved that cholera was carried by contaminated water
- However, his conclusions were largely ignored

1858 Joseph Bazalgette's sewers cleaned up the River Thames

- Flushing toilets filled the Thames with so much waste that the summer of 1858 was known as the Great Stink
- Parliament granted £3 million to Joseph Bazalgette to build 1300 miles of sewers across London
- The sewers allowed waste to be taken out to sea on the tide

Public health improved greatly throughout the 19th century as the government moved away from laissez-faire policies

Laissez-faire policies = policies in which the government does not take action to improve people's lives

In the early 19th Century the government followed laissez-faire policies because:

1. Working-class people could not vote
2. The government wanted to keep taxes low
3. Government did not understand the problems caused by unhygienic conditions

In the 19th Century, the government introduced public health acts which gradually moved away from laissez-faire:

1848 Public Health Act



Towns are allowed to set up Boards of Health



Boards of Health can raise taxes to build sewers and provide clean water



However, this was not compulsory

1875 Public Health Act



Towns must set up Boards of Health



Local authorities must take responsibility for sewers and water supplies



National government had the power to force local authorities to act

The government abandoned laissez-faire in the 19th Century because:



Repeated cholera epidemics showed that laissez-faire policies were not working



Edwin Chadwick put pressure on the government to act by publishing shocking research into public health







In 1861, Louis Pasteur published his germ theory, confirming that bacteria - and not miasma - spread disease



By the 1880s, all working-men had won the right to vote. The government now had to listen to the concerns of the poor.

In the 20th Century, Britain underwent dramatic economic, political, social and cultural changes

	In 1900...	In 2000...
Economic change 	Most people were manual workers , such as coal miners New technology, such as cars and radio, boosted the economy	Most people worked in 'service industries' such as tourism and hospitality Technology such as the Internet, and air travel transformed the economy
Political change 	Working men over the age of 21 had the right to vote The government began to realise it had to do something to look after the poor	All men and women over 18 had the right to vote Governments expanded the welfare state , e.g. the NHS and National Insurance
Social change 	About 40 million people lived in Britain Most people were working-class and worked long hours for low pay	The population expanded to 60 million Britain had a larger middle-class who had more comfortable lives
Cultural change 	Most people believed in God and went to Church People led active lifestyles : playing football or working their allotment	Most people trusted science, not religion People led sedentary lifestyles : watching TV and gaming

Living conditions significantly improved in the twentieth century but new challenges to public health emerged.



HOUSING • The 1919 Housing Act ordered local councils to build council houses with:

- running water
 - indoor toilets
 - gardens
- During the 1930s, the government began a **slum clearance** programme. More slums were destroyed during the **Blitz**
- After 1945, **New Towns** were built to solve the problem of **overcrowding**

- FOOD** • New technology such as **refrigeration** and **canning** made food cheaper
- New **supermarkets** increased the variety of food available to British families
 - However, increased **fast food** consumption led to **diabetes** and **heart disease**

- AIR QUALITY** • Coal smoke from homes and factories produced thick **smog** in large cities
- Increased car ownership added to air pollution, leading to **asthma**
 - By 1950 most adults smoked and rates of **lung cancer** increased

- INACTIVITY** • Car ownership and sedentary forms of leisure led to an increase in inactivity
- Inactivity was partly to blame for an **obesity crisis** which led to increased rates of **diabetes** and **heart disease**

Government response to the Spanish Flu in 1918-1919 was slow and ineffective

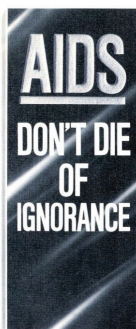


- spread by soldiers returning from the First World War
- killed over 50 million people worldwide

Effective government response **Ineffective government response**

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ☑ A silent film, <i>Dr Wise on Influenza</i>, was released that explained precautions such as how to make face masks | <ul style="list-style-type: none"> ☒ Occupied by the war, the government did not issue advice until late 1918 ☒ Important decisions such as closing schools were left to local authorities ☒ Not enough copies of <i>Dr Wise on Influenza</i> were made |
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The government response to the AIDS epidemic improved as the 1980s progressed



AIDS is a condition caused by the HIV virus that attacks the body's immune system. It can be spread via:

- Unprotected sexual intercourse
- Sharing **hypodermic needles**
- Pregnancy (from mother to baby)

Effective government response **Ineffective government response**

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ☑ An information leaflet called 'Don't die of ignorance' was sent to every household ☑ Hospitals provided free testing for the HIV virus ☑ In 1987 Princess Diana was photographed shaking hands with AIDS patients, calming public fears | <ul style="list-style-type: none"> ☒ In the early 1980s, the AIDS epidemic caused panic and prejudice ☒ Newspapers called AIDS the 'Gay Plague' and blamed it on gay men and drug users ☒ Government advice wrongly suggested that AIDS could be spread through touch, adding to panic |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

During the 20th Century, the government became increasingly involved in improving public health in Britain

The NHS



- Introduced in **1948**, the NHS provided free medical care **'from cradle to grave'** including:
 - Hospital care
 - Dental treatment
 - **Prescriptions**
 - GP visits

Pollution controls



- In **1956** Parliament introduced the Clean Air Act to control pollution



Anti-smoking



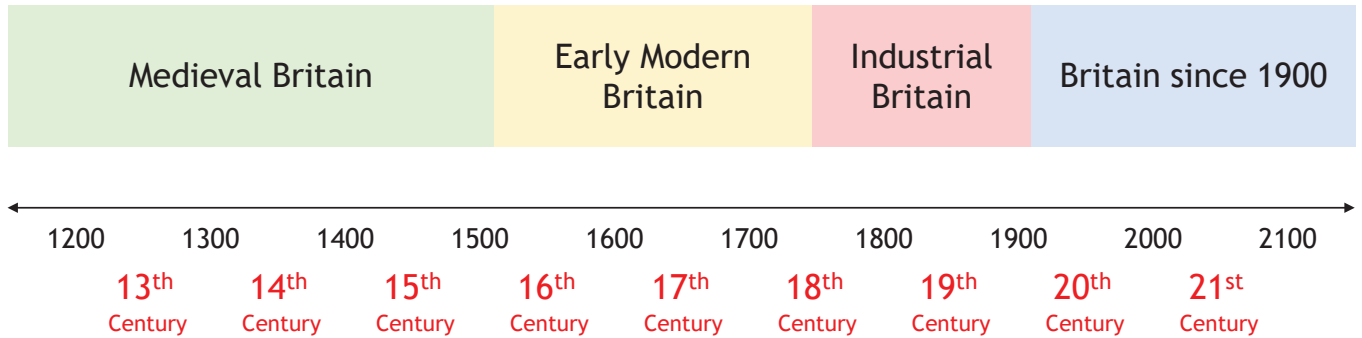
- The government has taken steps to reduce smoking, such as:
 - 1964** TV Adverts for cigarettes banned
 - 2007** Smoking banned in all public places
 - 2016** Blank packaging introduced

Healthy lifestyles



- Government campaigns encouraged **healthier lifestyles**, such as:
 -  The **Five-a-Day** campaign
 -  The **NHS Couch to 5k** programme

The People's Health: Timeline



By Laws	Laws that only apply in the local area
Cathedral	The largest church in an area
Cesspit	A pit for collecting human waste
Conduit	A stone channel for transporting water
Contaminated	Made dirty
Drovers	Someone who drives animals to market
Famine	A period of hunger caused by a lack of food
Hazardous	Dangerous
Hierarchy	A social system where people are ranked from top to bottom
Humours	The four substances that made up the body, according to Greeks
Latrine	A medieval toilet
Miasma	Foul-smelling air
Midden	A pit for collecting waste
Monastery	A religious building run by monks
Outskirts	Places around the outside of a city or town
Parish	A small area with its own church
Pottage	A vegetable stew
Pathogen	Bacteria/virus causing disease
Peasants	A farm labourer with low social status
Small Beer	A weak beer
Wattle and Daub	Sticks and mud
Widespread	Everywhere

Adulterated	Make food / drink cheaper and less healthy by adding another substance
Back-to-back houses	Slum housing where houses are built close together without gardens
Boards of Health	Local government organisations responsible
Compulsory	Something you have to do, not optional
Contagious	Describing a disease that can be passed from person to person
Contaminated	Dirty, containing pathogens
Epidemic	A widespread occurrence of a disease
Germ Theory	The idea that bacteria causes disease
Industrialisation	More people working in factories
Laissez-faire	Government not involved in people's lives
Lodging houses	Houses that are divided up and rooms rent to different families
Privies	Shared outside toilets
Sanitation	Cleanliness
Urbanisation	More people living in towns and cities

Aldermen	Local government officials
Cesspit	A pit for collecting human waste
Famine	A period of hunger caused by a lack of food
Flushing toilet	A toilet that uses water to get rid of human waste
Gin	A strong alcoholic spirit
Gin Act	A law designed to reduce gin drinking
Isolated	Cut off from the rest of the population
Isolation	Being cut off from the rest of the population
Parliament	A part of the government that is elected
Pest houses	Houses for isolated plague victims
Privy	A toilet
Proclamation	A government order
Scavengers	People whose job it was to clear the cesspits
Transportation	Punishment by being sent to Australia
Watchmen	Local officials who patrolled the streets at night
Water sellers	People who carried water around and sold it

Council Housing	Housing built by local government and rented out
From cradle to grave	Throughout your entire life
Hypodermic needle	A syringe often used by drug users
National Insurance	A government scheme providing unemployment benefits
Middle Class	Wealthier people who worked in offices, e.g. lawyers
Prescriptions	Medicines
Princess Diana	Prince Charles' wife, 1981-1992
Right-to-buy	1980s government policy to sell council housing
Service industries	Jobs where people provided services, such as tourism or catering
Smog	Pollution caused by smoke in the air
Welfare state	Government programmes that look after the people
Working Class	Poorer people who worked with their hands, e.g. coal miners

Viking Expansion

c.750 - c.1050



GCSE History Knowledge Organiser

Sections	Learners should study the following content:
Homelands	<ul style="list-style-type: none"> The Vikings in Scandinavia: landscape, society and everyday life Viking ships, seafaring and trade c.750 Viking beliefs and rituals
Volga Vikings	<ul style="list-style-type: none"> The changing nature of Viking (Rus) trade and settlement in Russia from c.750 The nature of Viking trade and interaction with the Arab world Viking relations with Constantinople and the Byzantine Empire
Raiders and Invaders	<ul style="list-style-type: none"> The nature and causes of Viking raids in Britain, Ireland, the Scottish Islands and France, 793–850 The nature of Viking warfare: warships, warriors and tactics The 'great heathen army' in England and the establishment of Danelaw, 865–879
Settlers	<ul style="list-style-type: none"> The nature and extent of Viking settlement in the British Isles and France Viking life in Jorvik The nature and extent of Viking settlement across the Atlantic including Iceland, Greenland and North America
Kings	<ul style="list-style-type: none"> Harald Bluetooth, Jelling and the conversion of the Vikings to Christianity Svein Forkbeard and his invasions of England Cnut's Anglo-Scandinavian Empire, 1016–1035

1 The Vikings in Scandinavia

Life in the Viking homelands was determined by the geography of Scandinavia

The Homelands

DENMARK is a fertile land of gently rolling hills in the south of Scandinavia.
NORWAY has a long coastline stretching to the Arctic. Along the coast are inlets called fjords. Inland there are huge mountains.
SWEDEN also stretches north to the Arctic. It is a land of thick forests and lakes.



Viking Society

- Viking society was hierarchical and divided into three main groups
 - Jarls were large landowners and warriors
 - Bondi were small landowners who fought for the jarls
 - Thralls were slaves who had been captured in war
- Viking society was patriarchal: women could not be bondis or jarls, instead running the household and managing the thralls when men were away

Everyday Life



- Vikings lived in wooden longhouses which they shared with their animals during the winter
- Most Vikings earned a living by farming, fishing, or hunting
- Viking food came from a variety of sources:
 - Farming: milk, eggs, pork, rye bread
 - Fishing: herring and shellfish
 - Hunting: elk and deer
- Food was preserved by salting or smoking

VOCABULARY

- Fertile**: Able to grow crops
- Patriarchal**: Dominated by men
- Polytheistic**: Having lots of different gods
- To sacrifice**: To kill something as an offering to the gods
- Salting**: Coating food in salt to preserve it

2 Viking ships, seafaring, and trade

Seafaring was an essential part of living in the Viking homelands



Viking Ships

- Viking ships were made of wood and powered by both sails and oars
- Warships - *skeids* - were long and narrow, allowing them to travel quickly, reaching Britain in just 2 days
- Cargo ships - *knarrs* - were wider and sturdier

Trade

- Ships allowed the Vikings to trade with places such as England, Scotland, and northern Germany
- In the 8th Century, trading towns such as Hedeby (Denmark) and Kaupang (Norway) began to develop
- Each town was protected by a jarl and traded in jewellery, cloth, and iron

3 Viking beliefs and rituals

Religion was central to Viking life but it is difficult to know precisely what they believed

The Vikings believed that the centre of the universe was a sacred tree called Yggdrasil, which was split into levels



- Asgard --- the home of the gods
- Midgard --- the world of the humans
- Hel --- the underworld

Viking religion was polytheistic. The most important gods were:

ODIN

- The ruler of Asgard
- God of warriors
- Warriors who died feasted forever in his hall, Valhalla



THOR

- Odin's son and protector of Asgard
- God of sailors
- Carried a hammer



FREYA

- The goddess of love and fertility
- Her twin brother Freyr was the god of farming



The Vikings sacrificed horses as offerings to their gods and held huge feasts in their honour.



4 Trade and settlement in Russia

From the 8th Century, Vikings began to explore, trade with, and settle in the river systems of western Russia

- c. 750** Vikings from Sweden travelled up the Neva and Volkhov rivers and settled in Staraya Ladoga
- c. 800** By hauling boats and trade goods over land the Vikings were able to reach two important rivers:
 - The River Dnieper allowed the Vikings to travel south to the Black Sea and reach Constantinople and the Byzantine Empire
 - The River Volga allowed the Vikings to travel South to the Caspian Sea and reach Baghdad and the Abbasid Empire
 These Volga Vikings exchanged swords, furs, walrus ivory, and slaves for silver and gold
- c. 850** Volga Vikings - known by local Slavs as Rus - began to settle along the banks of rivers
 - The Rus formed an elite who ruled over the Slavs
 - They built the large towns of Novgorod and Kiev
 - The Rus eventually assimilated, speaking Slavic and marrying Slav women

5 Trade and interaction with the Arab World

By the 10th Century, Vikings interacted regularly with the Arab world

- Baghdad was the capital of the Abbasid Empire and home to over a million people
- Volga Vikings travelled down the Volga, crossed the Caspian Sea, and trekked by camel to Baghdad
- In the city's bazaars, Vikings exchanged their goods for:
 - Silk, transported from China
 - Arabic silver coins, called dirhams
- Interactions were not always peaceful: 500 Viking ships raided Baku in 913



VOCABULARY

- Abbasid Empire**: Large and powerful Muslim empire
- Assimilated**: Became similar to
- Bazaars**: Markets
- Byzantine Empire**: Large and powerful Christian empire
- Elite**: High status
- Mercenaries**: Foreign soldiers hired for money / rewards
- Merchants**: People who travel to trade goods
- Rus**: The name given to the Vikings in eastern Europe
- Slavs**: The people of Eastern Europe
- Volga Vikings**: The Vikings who settled in eastern Europe

6 Constantinople and the Byzantine Empire

At different times the Vikings were traders, raiders, and mercenaries in the Byzantine Empire

Traders

- Viking merchants traded for wine, olive oil, fruit, and spices in the bazaars of Constantinople

Raiders

- Viking raiders attacked Constantinople in 860, 907, and 940
- Although they were unsuccessful, they forced the Byzantine emperor to sign trade treaties

Mercenaries

- The emperor formed an elite bodyguard of Vikings called the Varangian Guard

7 Raids in Britain, Ireland, Scotland, and France

From the 790s, the Vikings began to raid wealthy areas of western Europe



Historians have divided the Viking raids on western Europe into four phases:

- PHASE 1 793-830** Vikings raided Lindisfarne in 793. Hit-and-run attacks on other coastal monasteries with 2/3 ships
- PHASE 2 830-850** Larger raids with 30-100 ships. Raiders travelled up rivers to attack inland trading towns
- PHASE 3 850-865** The Vikings began over-wintering in defensible areas
- PHASE 4 865-** Large Viking army lands in England. Vikings become invaders not raiders

Historians disagree about the causes of the Viking raids:



The nature of the Viking raids was different in different parts of western Europe:

- | | | | |
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| <p>Britain</p> <ul style="list-style-type: none"> Raids on monasteries in the 790s Raiders looted gold and silver and ransomed monks and holy books Attacks on market towns in 830s Vikings overwintered in Kent in 850-1 | <p>Scottish Islands</p> <ul style="list-style-type: none"> The Orkney and Shetland Islands offered good grazing land Viking raiders seized the islands from the Picts around 800 | <p>Ireland</p> <ul style="list-style-type: none"> 795 to 830, Vikings raided monasteries From 830, larger fleets over-wintered In 841, Vikings established Dublin as a base for raiding However, the Irish had expelled the Vikings by the 870s | <p>France</p> <ul style="list-style-type: none"> From the 840s, sailed up the River Seine to attack Rouen and Paris French king built fortified bridges As a result, raids stopped by the 860s |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

8 Viking warfare

Viking raiders were feared warriors and sailors

<p>Warriors</p> <p>Jarls led close-knit units of loyal bondi armed with:</p> <p>Double-edged swords</p> <p>Battle axes</p> <p>Wooden shields</p>		<p>Tactics</p> <p>In battle, Viking warriors formed a shield wall</p> <p>Viking berserkers whipped themselves into a frenzy before combat</p> <p>Raiders murdered monks who resisted, often performing the 'blood eagle' ritual</p>	<p>Warships</p> <p>By 800, the Vikings had developed ideal ships for raiding. They had:</p> <ul style="list-style-type: none"> A sail for rapid ocean travel Oars for rowing into the wind and up rivers A shallow draught for landing on beaches Capacity for over 100 warriors on the largest ships
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9 The 'Great Heathen Army' and the Danelaw

In 865, a Viking army invaded England, eventually gaining control of the Danelaw

The Viking 'Great Heathen Army' rampaged across England for 14 years

- Vikings demanded Danegeld from the Anglo-Saxons
- By 878 the army had conquered East Anglia, Mercia, and Northumberland

In 878, the Vikings were defeated by King Alfred of Wessex at the Battle of Edington.

- Alfred and Guthrum, the Viking leader, agreed the Treaty of Wedmore:
- Vikings can settle the Danelaw (northeast England)
 - Guthrum must be baptised as a Christian



VOCABULARY

- Blood Eagle**: A gruesome Viking execution method
- Berserker**: A particularly ferocious Viking warrior
- Draught**: The depth of a ship's hull
- Fortified**: Defended
- Monasteries**: Large, wealthy Christian religious centres
- To over-winter**: To stay in one place over the winter, rather than returning home
- Ransom**: To demand money to return something / someone

Viking Expansion: Settlers



10 Settlement in western Europe

The nature of Viking settlement in western Europe varied from place to place

- 800 Scotland and the islands**
 - Vikings established rural settlements in the Shetland/Orkney Islands, north of Scotland, and Isle of Man, based in Pict villages
 - Place names ending in -ness and -wick suggest Vikings dominated these areas and may even have wiped out the Picts entirely
- 865 England**
 - The Danelaw was ruled by jarls based in fortified trading towns called burhs, such as Jorvik
 - Large numbers of Viking place names (-by, -thorpe) and words (egg, sky, slaughter) suggest significant settlement
- 911 Normandy**
 - In 911, the French king offered a Viking, Rollo, control of Normandy in return for Christian conversion and protection against raiders
 - Viking settlement was limited to coastal areas / rivers
 - The settlers assimilated into French society and became Normans
- 914 Ireland**
 - Viking settlement was limited to coastal towns, such as Dublin
 - Dublin was a large trading base with wooden thatched houses
 - By the 11th Century, Vikings had assimilated into Irish society, for example converting to Christianity

11 Jorvik

Archaeological evidence from Jorvik can tell us a lot about Viking settlement

The Vikings captured Jorvik from the Anglo-Saxons in 866. By the 11th Century, 10,000 people lived there

- Homes in Jorvik were small, wooden structures with a latrine outside in the yard
- It's location on the River Ouse made Jorvik a trading centre for metals, silk, and ivory
- Vikings minted coins using Anglo-Saxons designs
- Burials in churchyards suggest Christianity, although coins often portrayed Thor and Odin
- Vikings lived alongside Anglo-Saxons in Jorvik and intermarriage was common



12 Iceland, Greenland, and North America

From the 9th Century, the Vikings established settlements across the North Atlantic

- | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>ICELAND (870-)</p> <ul style="list-style-type: none"> Settlers in Iceland found little fertile land or wood for houses Food came from fishing, hunting, and livestock Iceland was ruled by the Althing, an assembly of chieftains which met once a year | <p>GREENLAND (983-)</p> <ul style="list-style-type: none"> Greenland was discovered by Erik the Red Greenland imported wood, metal, and grain from Iceland and Europe In return, Greenlanders exported walrus ivory and polar bear furs | <p>NORTH AMERICA (1000-)</p> <ul style="list-style-type: none"> Erik's son, Leif Eriksson, attempted to settle in North America He called the region Vinland and traded with Native Americans This and later settlements failed however |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

VOCABULARY

- Assembly**: A meeting to make decisions
- Assimilated**: Became similar to
- Intermarriage**: Marriage between different groups
- Latrine**: A basic toilet
- Livestock**: Farm animals kept for meat and dairy
- Picts**: People who lived in Scotland and the islands before the Vikings

13 Harald Bluetooth

Harald Bluetooth was a great warrior king who converted Denmark to Christianity



Christianity

- In 965, Harald was baptised as a Christian
- He forced the Danes to become Christian, although many still worshipped the old Viking Gods
- The grave site at Jelling contains evidence of Christian practices, including a wooden church and a the grave of Harald's father, Gorm the Old

Expanding his Kingdom

- Harald captured the region of Vik in Norway
- He moved the Danish capital to Roskilde to be nearer Norway
- He built bridges and roads to connect his Empire together
- He minted coins to improve trade

Defence

- To defend his kingdom, Harald built four large wooden forts
- He strengthened the Danevirke, a wall to defend against attack from German tribes
- Nevertheless, he was killed by his own son, Swein, who had risen in rebellion in 986

VOCABULARY

To be baptised	To officially become a Christian
Consolidated	Made more secure
Danes	People from Denmark
Jelling	A Viking grave site in Denmark
Minted coins	Produced coins
Tolerated	Put up with

14 Svein Forkbeard

Svein Forkbeard consolidated his father's kingdom and raided and invaded England



Consolidating power

- Like his father, Svein was a Christian king but he tolerated paganism
- He minted coins and protected merchants to improve trade
- Raiding in England earned Svein danegeld
- In 1000, Svein defeated the King of Norway in battle and added a large part of Norway to his kingdom

Raiding England

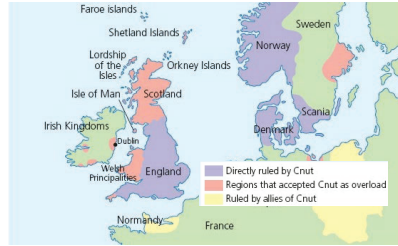
- In 1002, King Athelred ordered the execution of all Vikings living in England in the St Brices Day Massacre
- In retaliation, from 1003 to 1012 Svein raided England constantly, burning towns like Norwich and Exeter
- The English gave thousands of pounds of jewellery and coins in Danegeld to stop Svein's attacks

Invading England

- In 1013 Svein invaded England with a huge fleet
- Aethelred fled to Normandy and Svein was crowned king
- Svein died just 5 weeks later and Aethelred was welcomed back as king by the English earls

15 Cnut the Great

Cnut became King of England and built a large Anglo-Scandinavian Empire



Seizing the English crown

- In 1015, Cnut sailed for England with 160 ships and 10,000 men
- In 1016 he fought a series of battles against Ethelred's son, Edmund Ironside
- After Ironside's death, Cnut became king of England

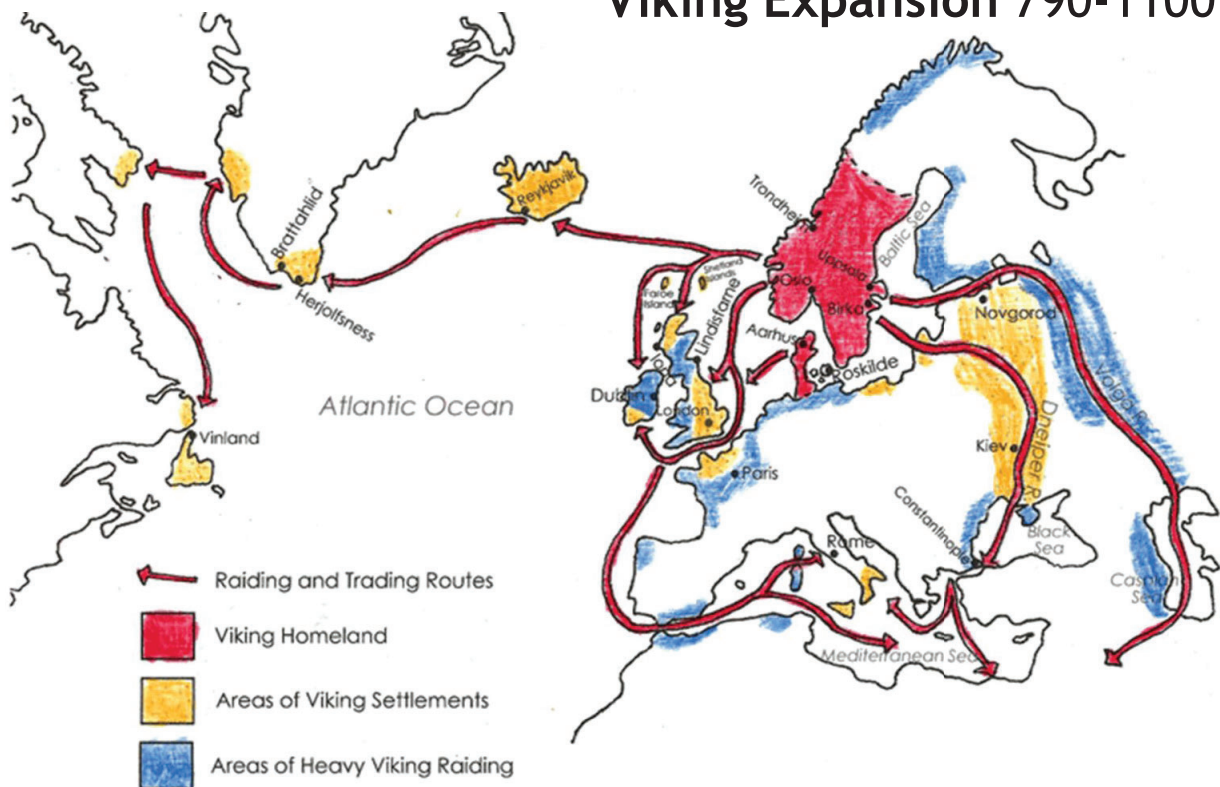
Ruling England

- Cnut defended England against further Viking attacks
- He executed English leaders and replaced them with Viking jarls, but there was no large scale settlement
- He increased taxes to pay for defence and worked hard to develop the Church

Anglo-Scandinavian Empire

- In 1017, Cnut married Emma of Normandy, creating an alliance with Normandy
- In 1018, Cnut became King of Denmark following the death of his brother, Harald
- In 1028, Cnut invaded Norway with a fleet of 50 ships and was named king

Viking Expansion 790-1100



Coursework requirement: Analyse the relationships between media products, their purpose and specific audiences using considered examples across all the three media sectors.

The 3 sub-sectors within the media industry		
Audio/Moving Image	Print/Publishing	Interactive
Media products that you listen to or watch. Examples include: film trailers, TV shows, music videos, animations, radio shows and podcasts.	Printed media products that you read or look at. Examples include: newspaper, magazines, comics, brochures, advertisements, books.	Media products that require your input in order use them (clicking on buttons!). Examples include: websites, mobile apps, games, E-magazines, advertisements.
Purposes of media texts	Definition	Examples
	These are factual based media products. They may include video or picture evidence and expert knowledge and opinions.	The news, documentaries, public information broadcasts, factsheets. Blue Planet, Newsround, The Guardian.
Entertainment	These are created to hold the attention and interest of an audience. Audiences find pleasure in consuming these types of media products.	Reality TV, soap-operas, drama, gossip or TV magazines, comics. Love Island, Coronation Street.
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.	Sci-fi films and books, action / adventure/fantasy films, animations. Harry Potter books and films.
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.	Block buster films, magazines, music albums. The End Game.
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.	Local free magazines and papers. The Mead BS10.
Raising awareness	Media products that aim to raise awareness want to increase the number of people who know about a cause.	Adverts for organisations such as Cancer Research UK.
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.	Films, plays, books. Such as Dunkirk
Inspiration	Media products that hope to encourage people to do something positive, as a result of engaging with the product.	Campaigns such as This Girl Can and Race for Life.
Experimentation	Media texts that have not been made before or have not been made in a certain way before are made for experimentation purposes.	Social experiment TV shows such as Big Brother.

Keyword / concept	Description
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 to them.
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 such as 30-40 years old. Ethnicity - belonging to a social group that has certain characteristics in common such as race, religion or cultural traditions. 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? Quantitative data are measures of values and are expressed as numbers. This is data about numeric variables. For example how many; how much; or how often.
Qualitative data	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 Succeder - seeks control.
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

When analysing the relationship between product, audience and purpose try to answer the following questions: How successful is the product in targeting their audience and achieving their purpose? What has been done to attract the attention of the target audiences? What has been done to fulfil its purpose? If you were analysing the relationship between the soap opera Coronation Street, its audience and the purpose of the film you may write:

Coronation Street's purpose of providing entertainment is linked well to its target audience of working class mainstreamers because they are likely to be more interested in non-informative television programmes than informative ones. Also Coronation Street is current, so it keeps up with the times of year to suit its target audience. For example, Coronation Street celebrates Christmas which makes viewers feel involved with the programme and makes the programme very cultural and believable. The purpose suits the psychometrics of their viewers, the viewers want to feel safe watching the programme and be able to trust that the programme is easy to watch and to understand. The storylines can happen in real life but wouldn't ordinarily occur within 1 street in such a short space of time. Coronation Street dramatizes these events and makes them gripping with cliff-hangers at the end of each episode. This encourages the target audience to keep watching.

Year 11 – BTEC Music Component Music Knowledge Organiser

Elements of Music	
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.

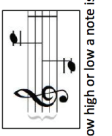
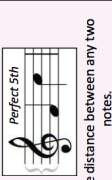



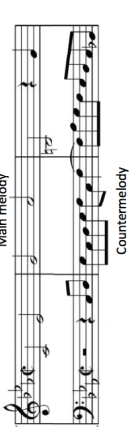

Personal and professional skills for the music industry	
Time management	The ability to manage your time well in all processes involved within the music industry.
Self-discipline	The ability to stick to your plan and commit to your rehearsal/practise session.
Working with others	The ability to communicate well with your peers and to work together well to create the final music product.
Correct and safe use of equipment	The ability to maintain and correctly use musical equipment, including musical instruments, and electrical equipment.
Maintaining a development plan	Keeping a log of your journey, always referring back to the skills you are developing with regular check-in points.

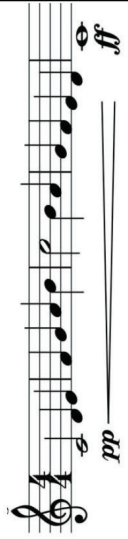


Composition Skills	
Creating chord sequences	Using major and minor triads from within a key to create patterns of chords.
Using musical starting points	Using a musical/visual stimuli to inspire continuation of an initial idea.
Exploring musical structures	Taking inspiration from other pieces of music 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)




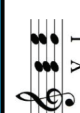


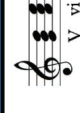

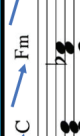
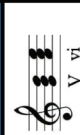
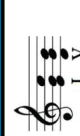
Key Performance & Rehearsal Skills	
Rhythm and timing	Being able to play rhythms accurately and stay in time with other musicians, keeping the music together.
Accuracy of pitch	Being able to sing or play the correct notes, ideally from sheet music.
Intonation/tuning	Being able to stay in tune and not 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 repertoire & 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.
Instrumental or vocal technique & Musical skills exercises	Breathing exercises, scales, and technical exercises specific to your instrument/voice in order to develop a good technique.
Creating a practise routine	Organising your practise sessions and keeping a log to ensure development in all areas of performance.
Stage presence	Having confidence to command the audience and allowing them to engage in your performance.
Expression & musicality	Having the ability to connect with a song/piece of music and put your own stamp on it, showing emotion.
Health and safety in the use of equipment	Learning and maintaining high standards of looking after musical equipment of all varieties.

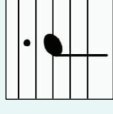
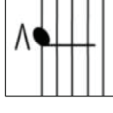

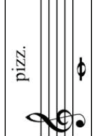
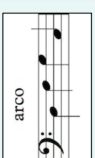
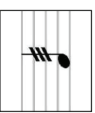

Music Production Skills	
Recording and editing audio (voice and instruments)	Exploring how to record using music technology musical instruments and voices. Also how to edit out errors and record multiple layers.
Exploring digital recording software and tools	Exploring how to use music technology equipment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

How you will communicate your music skills development	
Methods of capturing musical development:	Digital or written portfolio – including production notes, rehearsal diaries, annotated photographs/screenshots, milestone performances and reviews, recorded audition, compositional sketches and ideas.
Keeping a clear and organised approach:	Key points in the process need to be referenced clearly and in chronological order. Your written commentaries must match the quality of your practical work to show your full understanding.

Melody – Knowledge Organiser			
Pitch  How high or low a note is	Interval  The distance between any two notes.	Motif  A fragment of a melody.	Range  The difference between the lowest and highest notes
Phrase A longer melodic idea. Musical "sentences" are constructed from phrases. 			
Melodic movement Steps – movement between notes that are next to each other in the scale Skips – movement equal to two steps. You "skip" over a note in the scale Leaps – "any movement that is larger than a skip" Scale – when a section of a melody moves along using notes in scale order Chromatic – movement using steps including notes that are not in the key Passing note – notes which link chord tones			
Counter melody  Main melody Counter melody		Compositional devices Repetition – repeat a melodic idea Sequence – repeat a melodic idea but starting on a different note Imitation – repeat a melodic idea in another instrument Variation – change the melodic idea slightly Ostinato – constant repetition of a melodic idea Inversion – turn the melodic idea upside down Retrograde – play the melodic idea backwards	
Scale/mode A group of notes which a melody is based on e.g. major, minor, blues, chromatic, diatonic			
Hook/riff A memorable, repeated melodic idea designed to catch the ear of the listener. 			

Dynamics – Knowledge Organiser	
DYNAMICS refer to how loud or soft music is played. It is an important part of performing music EXPRESSIVELY. 	
Fortissimo <i>ff</i> VERY LOUD	Mezzo-forte <i>mf</i> Fairly Loud
Forte <i>f</i> LOUD	Mezzo-piano <i>mp</i> Fairly Soft
Piano <i>p</i> Soft	Pianissimo <i>pp</i> Very Soft
Crescendo  Gradually getting louder	
Diminuendo  Gradually getting softer	

Harmony – Knowledge Organiser																	
HARMONY – how chords are used in a piece of music.																	
Triad  A basic type of chord made up of three notes	Inversion  Rearranging the order of the individual notes of a chord	Power Chord  A chord using only the 1 st and 5 th scale degrees; no 3 rd	Arpeggio – playing the individual notes of a chord one after another Cadence – a movement between two chords at the end of a phrase Chromatic – music that uses chords that are not naturally found in the key Diatonic – music that uses only chords that belong to the key Dominant – the fifth chord (V) of a key Harmonic rhythm – the rate at which the chords change in a piece Modulation – when the harmony shifts to a new key Primary triads – chords I IV and V in a key Progression – a sequence of chords put together Seventh – adding the 7 th degree of the scale to a triad Tonic – the first chord (I) in a key														
Building Chords Using Scale Degrees <table border="1"> <tr> <td>C</td><td>D</td><td>E</td><td>F</td><td>G</td><td>A</td><td>B</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td> </tr> </table> Examples: Minor triads are built using the 1, b3 and 5 degrees of a scale so a C minor triad contains the notes C Eb G				C	D	E	F	G	A	B	1	2	3	4	5	6	7
C	D	E	F	G	A	B											
1	2	3	4	5	6	7											
Major Triad 1 3 5  V I	Minor Triad 1 b3 5  IV i	Major 7th chord 1 3 5 7  I V	Minor 7th chord 1 b3 5 b7  V vi														
Perfect Cadence "The strongest one"  V I		Interrupted Cadence "The cliffhanger one"  V vi															
Plagal Cadence "The Amen one"  IV I		Chord Symbol 															

Articulation – Knowledge Organiser			
ARTICULATION means how you play or sing a note. It is an important part of performing music EXPRESSIVELY.			
Staccato  Performed short and briefly. Notes sound detached from each other.	Accent  Emphasise a note so that it sounds louder than others.	Legato  Perform the notes smoothly. Notes sound connected to each other. A smooth articulation between two notes is called a SLUR .	Other Articulations Vibrato – a slight "wobbling" of the pitch of a note for expression. An important vocal technique as well as for instruments. Tonguing – the technique used by brass and wind players. Faster rhythms often require the technique of double or triple tonguing. Bend – guitarists can use their fingers to bend the string from one note to another. Brass and wind players can also do this with different mouth shape and air pressure.
Pizzicato <i>pizz.</i>  Perform the notes by plucking them with the fingers.	Arco <i>arco</i>  Perform the notes by using the bow.	Tremolo  Continuously play the note with the bow rapidly to produce a trembling effect.	Slides Glissando – a dramatic slide between a wide range of notes. For example, running the fingers along the strings of a harp. Portamento – a smooth slide between two notes. Used frequently by singers.
Sforzando  A sforzando is a type of accent. The note should be played with a sudden, strong emphasis.			Slides Glissando – a dramatic slide between a wide range of notes. For example, running the fingers along the strings of a harp. Portamento – a smooth slide between two notes. Used frequently by singers.

Structure and Form – Knowledge Organiser

STRUCTURE – the different sections of a piece or music and how they are ordered.

Typical Pop Song Structure

Intro – Verse 1 – Verse 2 – Chorus – Verse 3 – Middle 8/Bridge – Verse 4 – Chorus – Outro

Intro	Binary Form	Ternary Form	Rondo Form
The introduction sets the mood of a song. It is often instrumental but can occasionally start with lyrics.	Music that has two sections. These are labelled A and B. A B	Music that has three sections. The A section is heard again after B. A B A	A recurring theme (A) contrasted by different sections. A B A C A D A E

Theme & Variation

A composition can be developed using the **VARIATION** technique.
A main theme is composed then the following sections vary this theme in some way, by altering for example:

MELODY – RHYTHMS – CHORDS – TEMPO – INSTRUMENTATION – KEY

Instrumental Solo

Solos are designed to show off an instrumentalists skills.
Rock, jazz and blues often feature solos on instruments such as piano, sax, guitar and drums

Strophic Form

When all of the verses are sung to the same music.

Through Composed

When each section has different music. No section is repeated.

Time Signature – Knowledge Organiser

A **TIME SIGNATURE** gives you information on how the beats are arranged in a piece of music. It is also known as **METRE**

Simple Metre	Compound Metre

There are two main types of metre: **SIMPLE** and **COMPOUND**

Simple time signatures have beats that can be broken down into two notes

Compound time signatures have beats that can be broken down into three notes.

In compound time signatures each beat is represented by a dotted crotchet which can be broken down into three quavers

The vast majority of music is written with a 4/4 time signature.

This is so common it is known as **COMMON TIME** and can be denoted using a letter C instead of using numbers

IRREGULAR METRE

Sometimes music is written in a metre containing odd numbers of beats in each bar



Rhythm – Knowledge Organiser

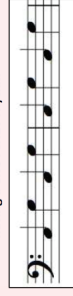
When you combine any two or more notes or rests you create a **RHYTHM**.

Basic Note and Rest Lengths

Semibreve 4 Beats	Minim 2 Beats	Crotchet 1 Beat	Quaver ½ Beat	Semiquaver ¼ Beat	Dotted Notes and Rests
					A dot placed after a note or rest tells you to increase the note or rest by HALF ITS ORIGINAL VALUE
Note	Note	Note	Note	Note	1 Beat
Rest	Rest	Rest	Rest	Rest	1 and a half beats
					2 Beats
					3 Beats

Types of Rhythms

This bass line would be described as having a **CROTCHET** rhythm



POLYRHYTHM

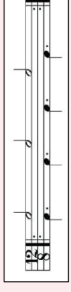
Two or more different rhythms with the same **METRE** played at the same time

This bass line would be described as having a **DOTTED MINIM** and **SEMIQUAVER** rhythm



CROSS RHYTHM

Two or more rhythms played at the same time but with conflicting **ACCENTS** often in different **METRES**



Ties

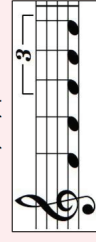
A **TIE** joins two notes of different values



Here you would play the first note and hold it for 3 beats (2+1)

Triplets

A **TRIPLET** is 3 notes played where there is usually only space for 2



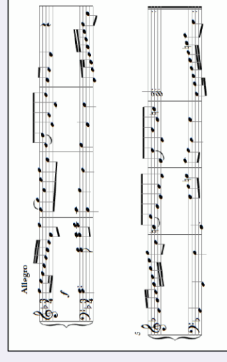
Tempo – Knowledge Organiser

TEMPO means how fast or slow a piece of music is – it is the speed of music

The **TEMPO** of a piece of music is most commonly indicated in two ways – an Italian word and beats per minute (**B.P.M.**)

Italian term	English meaning	B.P.M.
Largo	Slowly and broadly	40 - 60
Adagio	Slowly (but not as slow as largo)	60 - 75
Andante	At a walking pace	75 - 105
Moderato	At a moderate pace	105 - 120
Allegro	Quite fast	120 - 155
Vivace	Quick and lively	155 - 175
Presto	Very fast	175 - 200

Tempo markings are placed at the start of the score above the staff



There are also some terms which indicate a change in tempo during a piece

Italian term	English meaning
Accelerando	Gradually speeding up
Ritardando/Rallentando	Gradually slowing down
Ritenuito	A sudden slowing down
Rubato	A highly expressive technique where a performer plays with flexible tempo

Instrumentation (Rock and Pop) – Knowledge Organiser

Electric Guitar	Acoustic Guitar	Bass Guitar	Drum Kit	Lead Vocals	Backing Vocals
Bass Section	String Section	Piano	Electric Piano	Organ	
Technology					
Synthesizer	Guitar Effects	MIDI Sequencing/Recording Software	Effects Processors	Amplifier	

Texture – Knowledge Organiser

TEXTURE is what we call the different layers and parts of a musical piece and how they fit together.	
Counterpoint Two or more different melodies playing together.	
	Unison
When two or more voices or instruments sing/play exactly the same thing at the same time	
	Parallel Motion Notes moving in the same direction keeping the same interval.
	Contrary motion Notes moving in opposite directions; one up, the other down.
	Monophonic A single melodic voice or instrument
	Polyphonic Different musical lines that interweave with each other
	Homophonic A texture based on chords
Examples of THIN texture	Examples of THICK texture
Solo instrument Acoustic guitar and vocal Piano and cello	An orchestra A rock band A samba ensemble

BTec Level 1/2 Music: Unit 1: The Music Industry Knowledge Organiser

Venues & Live Performances

Small venue: pub, bar, club

Large venue: O2 Academy, Wembley Arena

These host a wide range of music from small niche genres to pop and club band/singers

Multi-use space: arena, sports venue, outdoor space

These host touring productions e.g. comedy, circuses, festivals

Health, Safety & Security

Prime importance of a venue. If H&S law is not followed fines and prison could face the manager of the venue. Venue needs to be safe for general public and also for working staff.

Things to consider and the organisation required for safety:

Fire exits/extinguishers- Fire Service

First Aid- St John's Ambulance

Security- hire in trained security personnel e.g. bag searches on way into venue/ X-Ray machines

Roadies/set up- secure loose cables clearly to floor

Stairs clearly lit/attention drawn to them with illuminated tape

Food/drink: need to ensure cleanliness of

serving/preparation space. Label food & drink/keep up to date records of produce

Unions

Unions provide support to those in the music industry on: employment conditions, contracts, advice on working freelance, tax and National Insurance (NI) advice. They also enable members to network and get information about pensions and insurance. They also inform members about updates and changes to legislation (laws) that will affect their job role.

Musicians' Union (MU): for musicians, composers, instrumental teachers.

Equity: union for actors, dancers, and other performers

Broadcasting Entertainment Cinematograph Theatre Union (BECTU): for those working in production/technical roles

Production & Promotion

Recording Companies:

Major label: EMI/ Sony Music/ BMG

Independent label: Fat Cat Records

Music Publishing:

'Getting the music to the masses'. Music Publishing promotes the music to anyone who may need a song/track for whatever reason (advertising, movie, promotional campaign, etc)

e.g. printed (Hal Leonard, Universal Music Publishing Ltd)

Copyrights owned by record publishers e.g. Song, BMG, Warner/Chappell

Promoters

- promoters match acts to venue, e.g. location and type of venue, size and scale of performance area, facilities, technical equipment/support available, audience capacity, type and intention of performance, timing and availability, financial considerations
 - the importance of effective communication between those working in the industry- if communication is poor, the music product will show this
 - how promoters and musicians evaluate the advantages and disadvantages of hiring and buying equipment- wear and tear and maintaining of personal equipment vs the cost of hiring
 - Promoters help musicians find and select transport companies for touring (e.g. tour bus/tour route)
- o how promoters secure funding (e.g. Crowd Funding from fans, Youth Music (depends on act and age) for and market events (how to get an audience)).

Broadcasting

Tv, Radio, Internet

Marketing: getting fans/target audience interested in their music. Remember, different demographics (target audiences) can be targeted in different manners. E.g. online/in a specific magazine/TVchat show

Distribution: How will the music 'get to the masses'? E.g. online (iTunes/Spotify/YouTube/Soundcloud/ artist website); high street stores (CD- in shop e.g. HMV, Tesco/Sainsburys/supermarket); social media- Facebook, Soundcloud, Twitter, Instagram, Snapchat (could be a small snippet to entice the fans!)

Services for Artists

royalty collection agencies:

- PRS for Music (formerly the Performing Rights Society- pays royalties every time the musician's work is: broadcast on TV/radio; performed or played in public by recording; streamed/downloaded), MCPS (formerly the Mechanical Copyright Protection Society- pays royalties every time the musician's work is: copied as physical product e.g. CD/DVD; streamed/downloaded or used in TV, Film or Radio)

the importance of adhering to legal requirements in terms of licensing:

- PPL licensing- if you do not follow licensing laws you risk a hefty fine or in some cases imprisonment

artists' representation:

- management, public relations (PR), agents (they will source the auditions, work on your behalf- however, you will pay them a fee to do this for you), stylists

hire companies:

- hire of sound and lighting equipment, rehearsal and studio space

transport companies:

- to transport equipment and materials for touring. E.g. tour bus for the band; van/lorry for equipment/merchandise to be transported between venues

Trade Bodies

Music Producers Guild (MPG): The Music Producers Guild was conceived and is supported by producers, mixers, recording engineers, re-mixers and programmers who are passionate about all aspects of making and recording music

Association of Professional Recording Services (APRS): work on behalf of their members for the best environment possible to be working in. Their members are involved in all aspects of the audio field, including recording studios, post-production houses, and providers of education and training, as well as record producers, audio engineers and manufacturers

PRS for Music: Licenses the composer's copyright (royalties) for public performances of your songs (broadcast, live, recorded).

PLASA: for those who work in the entertainment industry; offers networking opportunities, training, advise on the safe production of events

Jobs (roles) in the Music Industry

Musician: Orchestral player, Conductor (musical director), Backing vocalist

Composer/songwriter: Creates new music material e.g. might have a brief to compose for an advert/film

Producer: 1.(Also known as Record producer) Oversee & manage the recording of an artist's music; 2.Gather ideas for the project & select songs 3.Hire (session!) musicians for the project; 4.Coach the artist in the studio; 5.Control the recording session; 6.Supervise the entire process through mixing to mastering

Musical Director: Schedule and run rehearsals; oversee the performance; might have to write additional parts for performers; chooses the music

Live Sound Technician: 1.Choose suitable microphones & equipment 2.Position & rig-up microphones; 3.Do sound-checks; 4.Operate the sound desk during shows/recording; 5.Look after the equipment

Roadie: assisting with 'get-in' (getting equipment unloaded and into venue); set up (rigging); de-rig and loading equipment back into transport after event; driving to next venue

Instrumental support: specialists in drum kit, guitar- will set up instruments and mend if broken

Management and Promotion Jobs (roles)

Artistic Management: advice and guidance; works along side record companies, arranges tours and will negotiate the performers fee with the client

Venue Management: books the artists; ensures correct licensing is in place; manages staff; ensures venue is safe for general public and staff (health & safety); organizes security for the venue

Studio Management: books sessions in the studio; maintains the equipment

Promoter: identifies performance opportunities; secures finance for events

PR (Public Relations)/Marketing: manages marketing materials e.g. social media/TV Campaigns/ radio interviews

A& R (Artist and Repertoire) scouts for talent online or at live performances

Getting Paid

Contract- an agreement between employee (person doing job) and the client (person/organisation) expecting completion of the work/job. Contract legally means that the job has to be done and payment paid

Full Time- set amount of hours usually 37 per week; on a contract; usually a long term contract

Part Time - working for a few days/hours per week; on a contract; usually long term contract

Freelance – work for yourself; can be your 'own boss'; work may be busy but at other times quiet; no guaranteed income each month as you need to find the work yourself

Permanent – job is secure, guaranteed payment after completion of work

Casual – working on an on and off basis; gives flexibility in organising your time

Self-employed – (same as freelance); you work for yourself and have to find the work; you need to also do your own accounts as you are not on 'pay roll' at a larger organisation who would do this for you.

Tax – a compulsory payment from your earnings to government; funds things such as NHS, education, fire service, etc

National Insurance (NI) - you pay contributions towards State Pension and other benefits

Negotiating a fee – coming to an agreement on how much you will be paid for employment

Recording Roles

Studio Management- ensures all H&S is up to date; organises the booking schedule; promotes and markets the studio for bookings

Technical manager – ensures all equipment is working; will maintain/repair equipment

Producer – has artistic overview of whole project; liaises with artist and studio personnel; controls the finances and makes sure the final sample is to the artist's wishes (oversees the quality of the recording)

Session Musician – will perform the music given; likely to be on a freelance contract as not always needed to be used in recordings by studio (booked when needed); will provide their own equipment (instruments); could perform as ensemble (group) or soloist

Mastering Engineer- completes the final audio for the recording; prepares & transfers the audio to the correct format for distribution; refines the sound quality and makes changes so the final track is of the highest professional standard

Media and other roles

Music journalist/blogger- will write articles, writes reviews, biographies (for event programs); these will be published in print or on web

Broadcaster – TV/Radio- selects music for broadcast; carefully considered the demographic (target audience); will interview artists/edit interviews; present a music show/discuss hot topics and trends

Software programmer/ app developer – creates software for composing e.g. Logic Pro/Sibelius (notation software); will update the software regularly; create apps/software which will aid musicians in developing their musical skills

Distribution- how the music product gets to the consumer (audience); distributor will sign deals with record label that gives them the right to sell that label's product; takes cut (%) of the profit made for completing this job

Retail – where can you purchase the record e.g. shop(Record shop e.g. HMV, Supermarket) online e.g. iTunes/Spotify/Amazon

8 Mark Essay Tips

Discuss

Evaluate

Compare

Question **keywords** are basically asking you to examine the advantages/disadvantages of the scenario (the positives and negatives).

Good Exam Technique

1. BUG the question
2. Re-read the scenario- highlight key ideas/make notes
3. Quick plan- advantages/disadvantages
4. Write!

RELATIONSHIPS



Peer approval is the degree to which you're accepted by peers.



A **romantic relationship** is any relationship between people with the desire to become intimate with each other.

NSPCC

Grooming is when someone builds an emotional connection with a child to gain their trust for the purpose of sexual abuse, sexual exploitation or trafficking.



Coercive control is an act or a pattern of acts of assault, threats, humiliation and intimidation or other abuse that is used to harm, punish, or frighten their victim. Gaslighting is also a form of coercive control.

PREJUDICE AND DISCRIMINATION

Under the Equality Act 2010 there are 4 ways you can be discriminated against:

1. **Direct discrimination** is when you're treated differently and worse than someone else for certain reasons.
2. **Indirect discrimination** happens when there is a policy that applies in the same way for everybody but disadvantages a group of people who share a protected characteristic.
3. **Harassment** is where behaviour is meant to or has the effect of either: violating your dignity, creating an intimidating, hostile, degrading or humiliating environment.
4. **Victimisation** is treating someone badly because they are going to make a claim or complaint about discrimination

RISK AND IDENTITY



Self-identity is your awareness of who you are. Whereas identity is about who an individual is.



A **risk** is a situation involving something potentially dangerous.



Influences are things that have an effect on the character, development or behaviour. **They can be good or bad.**

One element that can have both a bad and good impact on self-identity are the groups we're a part of. **Groups** tend to have rules that help them function but some are more structured than others:

Formal

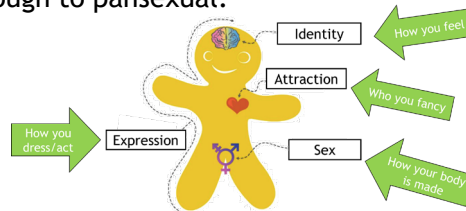
School Timetable
School Uniform
Tutor Groups

Informal

Agreed ways of working
Friendships groups
Teams (self-selected)

LGBTQ+ BULLYING

- **Lesbians** are women who are attracted to women.
- **Gay men** are attracted to men but gay can also be used to describe lesbians.
- **Bi people** are attracted to more than one gender.
- **Trans** means that the gender you were given as a baby doesn't match the gender you feel yourself to be.
- **Questioning** means you're questioning your sexual orientation or gender identity.
- **Plus** catches all those people that don't fall under the above categories, from gender fluid through to pansexual.



CONSENT

PD

Consent is when a person freely gives their permission or agrees to something, after having carefully thought about whether or not they want to do something. This decision should have been made without that person being:

- Pressured or bullied
- Encouraged to use drugs or alcohol
- Manipulated or made to feel stupid.



The age you can have sex is called 'the age of consent'. **In the UK it is 16 years old.** This means that according to the law, only those who are aged 16 or over are able to freely agree to any sexual activity, in full understanding of the consequences. This applies to sexual activity between people of the opposite sex, or the same sex.

THE LAW AND THE JUSTICE SYSTEM

The **judiciary** is a 'system of judges' used in UK legal system.

There are two types of law...

Civil: when there is a dispute between two people. Usually civil cases are brought when someone feels damage has been done to them























Criminal: when someone breaks a law. Crimes against society as a whole, e.g. theft, murder



Types of courts in the UK:

- County Court.
- Youth Court.
- The Supreme Court.
- Magistrates' Court.
- Crown Court.
- Royal Courts of Justice.

Concept	Remember	Definition	Example related to topic
Components of fitness 			
Aerobic endurance	Athletes	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	Build	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	Muscles	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	For	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	Speed	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.
Strength	Strength	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.
Power	And Power	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.
Fitness testing   			
Normative data		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,
Reliability		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+
Cooper's 12m Run	Aerobic endurance	The repeatability of results	If the test is repeated in exactly the same way, the same results should be achieved
One Minute Sit Up Tests	Muscular 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.
Hand grip dynamometer test	Strength	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.
Sit and Reach Test	Flexibility	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.
Sargent Jump Test	Power	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.
30- metre sprint test	Speed	Protocol: The Sargent 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.
		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.	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.	People may find it boring. Injury risk running on a hard surface.
 Fartlek training	Good for sports with varied intensity (running + sprinting)	Cross-country running Mountain biking	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 control your own pace so can change intensity as needed and to reduce tedium	There is no rest period in this type of training		Takes at least 30mins so some people may find it difficult to make time regularly.
 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		Heat can increase fatigue. Cold and wet weather may put people off training.	
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 is 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	

The FITT principles	Remember	Definition	Example related to topic
Frequency	F	The number of training sessions completed over here this time, usually per week.	This is based upon current fitness levels and considering progression/overload. Unfit person may start with only 2 or 3 sessions per week increasing sessions as fitness improves
Intensity	I	How hard and individual train; this is usually expressed as a percentage of maximum intensity. Maximum heart rate= 220 – age	Heart rate, in beats per minute, is measured at radial (wrist) pulse, carotid (neck) pulse or with technology such as a smart watch, heart rate monitor or app. Rating of perceived exertion (RPE) Scale 6x20, RPE X 10 = Heart rate in beats per minute. Eg RPE of 11 would be 110 beats per minute.
Time	T	How long the individual train for each session.	High intensity - short duration, cardiovascular activities – 20 mins. Fat burning activities – 28 mins, strength/endurance activities based on sets and reps
Type	T	The exercise and training method the person takes part in to improve a specific component of fitness.	Variety used to prevent tedium; gym-based activities, outdoor fitness activities and sport specific activities.
Principles of training	Remember	Definition	Example related to topic
Participant differences and needs	Participant	Choosing a component of fitness based on fitness test data and relating the chosen method(s) to their sport or activity.	Training programmes should be designed to meet a person's specific training goals and their needs and include variety to reduce boredom. They are also determined from personal goals and competition schedule of the individual.
Specificity	S	Choosing a training method that develops a specific component of fitness which benefits participation in sport or activity	Different types of training will bring about different results eg if you are training for a long distance bike ride your training should include lots of cycling, swimming will not improve your cycling.
Progressive overload	P	Increasing participant work load over a period of time to encourage fitness improvement for their sport or activity	Training needs to be demanding enough to cause the body to adapt in order to improve performance. Eg increase frequency, intensity, time relative to training
Overtraining	O	Being aware of the risk of injury due to fatigue caused by increasing training workload too quickly	This can be the result of a rapid increase in volume or intensity to the programme or a sudden change to the type of training.
Reversibility	R	Participants not being able to train and therefore decreasing in fitness and having to restart the programme at an appropriate level and having time away from their sport or activity.	'Use it or lose it', this means if training stops or if the intensity of training is not enough the training effects will be reversed and body will return to it's previous fitness level.
Training zones	T	A training zone is the correct intensity at which a person should exercise to experience fitness improvement.	They are given as a range of heart rate values an individual should work within. RPE can also be used. Maintenance of fitness/warm up – 50-60% of max HR Fat-burning zone. – 60-70% of max HR Aerobic training zone. – 70-80% of max HR Anaerobic training zone. – 80-100% of max HR

Understanding fitness programmes		
Importance of a person-centred approach	Personal information to aid training programme design (health-screening questionnaire, activity likes and dislikes, time available to exercise)	
Aims	Overall aim that meets the participant's main fitness, sport or activity goal	
Objectives	How the participant will achieve their main goal	
Selection of appropriate components of fitness for training	Using the correct training method: flexibility, strength, muscular endurance and power, aerobic endurance and speed	
Safe design	Appropriate training method selection and activities to meet the main fitness goal	
Components of the participant's session plan	Warm-up - to increase the heart rate and increase mobility in the joints; main activities – selection of training methods that will meet the main fitness goal; cool down – to gradually decrease the heart rate; encourage the removal of waste products, including lactic acid; reduce muscle soreness after training.	

Nutrition for sport and activity

Key terms

Macro means large – macronutrients should be in large quantities

Micro mean small – micronutrients should be in small quantities

Macronutrients are nutrients that I needed in large amounts of contain energy

Micronutrients on even smaller amounts and contain no energy

Macronutrients

Carbohydrates

Structure – simple and complex carbohydrates

Function – to provide energy for; the brain functions, liver functions and muscle contractions

Sources – complex (pasta, rice, potatoes, oats, bread), simple (fruit, chocolate, sweets, glucose drinks), fibre (whole-grain breakfast cereals, wholewheat pasta, whole-grain bread and oats, vegetables).

Protein

Structure – amino acids (essential and non-essential)

Function – building blocks that make up the structure of our body and allow us to grow and repair after exercise

Sources, to include chicken, turkey, fish, lean beef, meat substitute, beans, nuts and seeds

Fat

Structure – saturated and unsaturated fats

Function – roll of saturated fat in increasing total cholesterol and link with coronary heart disease, role of unsaturated fat as an energy source

Sources – saturated fats (animal fats and dairy products), unsaturated fats (oily fish, pumpkin seeds, almonds,, walnuts and avocados).

Calories: a measure of energy in food and drink

Recommended daily allowance of calories – man 2500 calories (kcal) and women 2000 calories (kcal)

Benefits of macronutrients to participation in sport or activity:

Carbohydrates – role of complex carbohydrates and their importance in the release of energy in aerobic activities; role of simple carbohydrates in boosting energy before, during and after exercise

Protein – role in promoting muscle growth, promotes increases in strength for sport or activity, role in repair of tissue/micro tears after sport or activity to allow further training/reduce risk of injury

Fats – roll of unsaturated fats as the second energy source

Micronutrients

Vitamins and their uses in exercise:

Vitamin A:

Function and benefit to performance in sport and exercise – maintains normal eye sight to assist hand eye coordination and positional awareness

Natural source – liver, mackerel and milk products

Vitamin B1:

Function and benefit to performance in sport and exercise – Least ability to convert food into energy for exercise by metabolising the macronutrients

Natural source – rice, brown, pork, beef, peas, beans, soya beans

Vitamin C:

Function and benefit to performance in sport and exercise – maintains an affective immune system to prevent illness firefighting bacterial infections, so the performer can train on a regular basis

Natural source – most fresh fruit and vegetables

Vitamin D:

Function and benefit to performance in sport and exercise – to keep bones, teeth and muscles healthy

Natural source – oily fish, red meat, liver, egg yolks, fortified foods

Minerals and their use in exercise:

Potassium

Function and benefit to performance in sport and exercise - regulate fluid and electrolyte balance levels to ensure the performer is hydrated during exercise and can regulate their temperature

Natural source – bananas, yoghurt, sunflower seeds, potatoes

Iron

Function and benefit to performance in sport and exercise – Increases the growth of red blood cells which therefore enhances the bodies oxygen carrying capacity to improve aerobic performance by delivering oxygen to working muscles

Natural source – liver, lean meat, eggs, kidney beans, spinach

Calcium

Function and benefit to performance in sport and exercise – provides increased bone strength, which reduces the risk of injury in contact activities

Natural source – Milk and dairy products, whole grains, green vegetables

Hydration

Dehydration – a harmful reduction in the amount of fluid in the body

Recommended daily intake (RDI) – 2 Litres

Increased intake: additional 1 L of fluid per hour of exercise participation, in response to hot conditions.

Negatives of poor hydration: poor fluid choices lead to dehydration, which is when the blood plasma volume reduces (gets thicker) and reduces the bodies ability to sweat.

Benefits of hydration for sport and activity:

Maintaining a normal body temperature (37 degrees) through sweating so that participants do not overheat when training or competing

Lubrication for the joints so they can move more freely during sporting activity

Blood plasma is thinner so it can work effectively and transport oxygen and nutrients to the muscles during sports activity

Improving nutrition and sports and activities

Features of a healthy diet

Recognising the positive features of a healthy diet – eating the right percentage of macronutrients to stay healthy (carbohydrates at 50–60%, that at 30% and protein at 12 to 15%); the inclusion of micronutrients; good hydration levels; eating at least three meals a day Improving nutrition support and activity

Recognising areas for improvement to enhance the diet

Methods to enhance sporting activity through nutritional change:

Carbohydrate loading – the process of using carbohydrates before a competition or event to provide lasting energy stores

Timing of food intake – before, during and after training to maximise energy for training and competition

Types of food consumption before, during and after sport or activity – complex carbohydrates the night before; simple carbohydrates before the activity to maximise glucose availability; protein consumption after the activity to repair muscle tears and promote growth

Bowel emptying – consuming foods high in fibre (whole grains) and time and the food consumption to a digestion and empty bowel before exercise

Legal supplements – types of supplement, vitamin di and vitamin di, protein supplements, pre-workout supplements, glucose – based isotonic drinks, caffeine drinks:

Advantages – enhanced performance, increased training time, increased intensity of physical activity, improved bone health, reduced recovery, increased energy, increased alertness and concentration

Disadvantages – increased bowel movements, energy peaks and troughs, weight gain.

The psychological influence that motivation, self-confidence and anxiety have on participation in sport and activity

The impact of motivation and participation in sport and activity

Definition of motivation: the internal mechanisms and external stimuli that arose and direct behaviour.

Types of behaviour:

Intrinsic motivation – motivation that comes from internal factors

Extrinsic motivation – where external forces provide the motivation to take part in fitness activity, tangible and intangible rewards

Benefits of increased motivation on fitness participation levels:

Intensity of effort during participation is higher

Continuing to take part on a regular basis

Overcoming adversity

Higher enjoyment levels

Increased intrinsic and extrinsic rewards

The impact self-confidence can have on participation in sport and activity

Definition of self-confidence: the belief that a desired behaviour can be performed

Benefits of self-confidence:

Increased intrinsic motivation, leading to increased participation levels

Positive attitude to fitness, sport or activity, increased belief that participants can reach their goal

Improve performance

Improve concentration and effort

Methods to increase self-confidence:

Leaders of sporting activity can provide extrinsic motivation through positive reinforcement

Create a positive environment so that participants feel comfortable exercising

Working with a training partner of similar ability

Goal-setting – setting realistic goals for the fitness session

Self talk – positive self encouragement during the fitness session

The impact of anxiety on participation in sport and activity

Definition of anxiety: the level of worry or nervousness a participant experiences

Types of anxiety:

State – anxiety refers to the particular situation, may arise when there is a high pressure situation and the participant must perform

Trait – the participant is tense and apprehensive as a character of their personality and therefore anxiety is a consistent feeling for them (the nervous system is continually activated in a number of situations)

Effects of anxiety on participation in sport and activity:

Somatic anxiety – physical effects of anxiety that are brought on by State or trait anxiety – butterflies in the stomach, muscle tension, increased heart rate, increased sweat rate

Cognitive anxiety psychological effects of anxiety that are brought on by state or trait anxiety – feeling worried, poor concentration levels, lack of sleep due to overthinking.

Methods of controlling anxiety in a sport or activity environment:

Fitness induction to familiarise the participant with the facilities and equipment

Use of music – participants can choose music that lowers anxiety levels and motivates them to participate




Fitness classes, outdoor activities and sports training are based on ability levels and therefore participants feel comfortable participating at the right level for them



Pre-match team talk to reassure players and reduce worry

AQA Religious Studies A – Islamic Beliefs

Key Words			
Tawhid	The basic Muslim belief in the oneness of God.	Ummah	Refers to the worldwide community of Muslims who share a common religious identity.
Prophethood (Risalah)	The term used of the messengers of God, beginning with Adam and ending with the Prophet Muhammad.	Islam	submission or peace
Halal (permitted)	Actions or things which are permitted within Islam, such as eating permitted foods.	Qur'an	Revealed to Prophet Muhammad as a 'living sound' and it must be spoken to reveal its beauty and truth.
Haram (forbidden)	Any actions of things which are forbidden within Islam, such as eating forbidden foods.	Sunnah	The record of all Muhammad said and did; which helps guide Muslims today to live Allah pleasing life.
Mosque (Masjid)	A 'place of prostration' for Muslims, it is a communal place of worship for a Muslim community.	Hadith	Collections of the recorded sayings of the Prophet Muhammad.
Sharia'h law	A way of life; Muslims believe God has set out a clear path in Qur'an/Hadith for how Muslims should live.	Sunni	one who follows the Sunnah. Muslims who make of 90% of the total religion
Shi'a	from the house of Ali'. Ali – 4 th Caliph and relative of Prophet. Muslims who make up roughly 10% of the total religion	Imam	for Sunnis – leader of a congregation in mosque. For Shi'a – 12 Imams – holy figures, divinely appointed descendants of Muhammad.
Allah	Arabic word meaning God. Muslims believe they worship the same God that spoke through Musa (Moses) and Isa (Jesus).	Revelation	A message sent by God and revealed or shown to the human mind. E.g. Quran.
Ka'aba	House of God, black covered cube building in centre of holiest mosque in Mecca.	Barzakh	a place of waiting, after death until the day of judgement
Al Qadr	destiny, nothing takes place purely by chance. God knows and wills all future events.	Transcendent	beyond human understanding (e.g. God is transcendent)
Immanent	God is all around, close by, in everything	(omni)benificent	loving/all loving
Merciful	Fair and kind	omniscient	All knowing

Key Ideas	
The nature of God	<ul style="list-style-type: none"> - Nature of God - Immanent (close by), transcendent (beyond all things), omniscient (all-knowing), beneficent (always kind), merciful (God is always fair), Judge, creator. - Allah described as 'Lord of Lords', 'Merciful', 'Sovereign', a 'Guide.' <p>99 Names</p> <ul style="list-style-type: none"> - Allah is beyond all humans and things so can't be pictured as a physical being. God is beyond human understanding (transcendent). Humans know God through 99 names. E.g. King, Protector, Wise, Light etc. 99 - Tawhid = unity and oneness of Allah. God has no children and he is not anyone's child. - Revelation = One perfect God reveals himself through one perfect book (Qur'an). No direct communication but through prophets/angels.

<p> Key beliefs of Sunni and Shi'a Muslims</p>	<ul style="list-style-type: none"> - The Ummah is the worldwide community of Muslims. All Muslims are equal, whatever, language, race or nationality. 'All people are equal as the teeth of a comb.' Hadith. - The largest two groups are Sunni and Shi'a. 90% of Muslims are Sunni. 10% are Shi'a (mostly Iran). Sunnis & Shi'a share most beliefs but have some significant differences in understanding, laws and practices. - Split - Shias believe first Caliph (leader) should have been Ali but Sunnis believe it should have been Abu Bakr. Sunnis believe Muhammad said Abu Bakr should be Caliph but Shi'a dispute that since Ali was a relative it should be inherited. Husayn, Ali's Son, should have been next in line but was murdered by Sunni ruler at Battle of Karbala. - Husayn was beheaded and is mourned by the Shi'a. - Sunnis have Six Articles of faith - the most important things to their religion - Shi'a Muslims have Five Roots of 'Usul as-Din
<p> Angels (Malaikah)</p>	<ul style="list-style-type: none"> - Angels are heavenly immortal beings, God's first creation. Formed from clay, made from light. God's messengers and servants – no free will. Without sin so can enter God's presence. Invisible but exist everywhere, no physical bodies but spiritual beings. Described as male. - Jibril (Gabriel) – revealed Qur'an to Muhammad, spoke to Maryam (Mary). - Mika'il (Michael) – archangel responsible for keeping devil out of heaven, maintains earth- brings rain, nourishment to humans - Israfil (Raphael) – archangel will blow trumpet at end of time for judgement. - Azrail – Archangel of death - Munkar and Nakir – judging angels – question humans. - Raqib & Atid – Angels on each shoulder – 'noble recorders' of good/bad deeds.
<p> Predestination and life after death</p>	<ul style="list-style-type: none"> - God has a master plan and everything that happens is part of his design. - 'God knows the innermost secrets of our hearts.' Hadith. God is omniscient (all-knowing). God knows what humans can't know. - Everything is part of a larger plan. - Only God knows the larger plan and the reasons for certain events and situations. - If God is willing (Insha'Allah) - Some Sunnis believe God has already planned what is going to happen - Some Shi'a's believe God knows what is going to happen but we can still choose how we act - Free Will – Humans have free will so are responsible for actions for day of Judgement. - Life is a test and so humans need free will. - Day of Judgment 'On the Day of Judgement the Book of Deeds will be read.' - All resurrected and judged on their individual deeds which are weighed. - Heaven (Janna) – state of joy, happiness and peace. Reached by bridge of As-Sirat – narrow. Paradise – reward for living good life – perfect version of earth and realisation of desires. - Hell (Jahannam) – state of torment and suffering. Fall off bridge into hell. Place of terror, boiling water and scorching fire. - Muslims disagree with whether hell is eternal. Q says some will be sent to hell forever for certain actions. Muslims disagree if a God of mercy can eternally punish man. Some follow Shariah out of fear others out of choice. Muslims believe life is a test

<p> Prophethood (Risalah)</p>	<ul style="list-style-type: none"> - Muhammad Seal of the prophets. Last and Greatest of the prophets. Only miracle that he performed was receiving Qur'an. - Mecca Muhammad born in Mecca in 570CE. Age 6 became an orphan. Worked as a shepherd. Twenties – met Khadijah whilst working for her. Khadijah proposed to him. Had 4 daughters and 2 sons. Prophet became troubled by corruption and polytheism of Mecca. - Laylat-ul-Qadr – Night of Power Muhammad spent time alone in prayer and one night in 610CE –he was praying in a cave near Makkah – had an experience that would change his life. Angel Jibril appeared to him and ordered him to recite. 1st revelation of the Qur'an, revelations would continue for next 23 years until Muhammad's death. - The message Muhammad brought to Mecca was that there was only one God who needed to be worshipped because of judgement. Message was not received well and he was ridiculed. Faced a lot of opposition. - Medina - Hijrah Muhammad and the early Muslims moved to Medina in a migration called the Hijrah. - Muhammad fought many battles versus Meccans including Battle of Uhud/Trench. - Return to Mecca Muhammad returned to Mecca to conquer it as they continued to oppose his movement. When Prophet marched on Mecca with 10,000 men, they surrendered with no further bloodshed. Muhammad destroyed idols in Ka'ba. Islam established as permanent religion. - Adam Father of the human race. Formed from handfuls of different colour soil. Represents diversity of humanity. Adam disobeyed God by being tempted by devil to eat fruit. Banished to earth but Adam confessed, was forgiven, made prophet. Adam was 1st man to build the Ka'ba. - Ibrahim (Abraham) A hanif and one of the greatest prophets. Born to family of polytheist but rejected it and became a Muslim. Two sons – Ishma'il – ancestor of Prophet M – and Ishaq (Isaac) - Musa (Moses) Teachings of Ibrahim were lost so new prophet had to be sent. Musa led Israelites out of slavery in Egypt. - Dawud (David) One of Israel's greatest Kings, made Jerusalem a holy place for Muslims. He received God's word (Zabur) as hymns of praise. - Isa (Jesus) 2nd most important prophet. Miracle of virgin birth accepted. Miracles of Jesus recognised and holy book of Injil recognised. Isa not Son of God and Muslims reject Trinity, Jesus didn't die.
<p> Holy Books</p>	<ul style="list-style-type: none"> - Most important source of authority for Muslims. Complete and perfect book of guidance for all humans. - Revealed by God to Prophet Muhammad through Angel Jibril. Written in Arabic and final compilation by Caliph Uthman shortly after Prophet's death (632AD). Unchanged and literal word of God. Qur'an is known as Umm-ul-Kitab 'Mother of Books'. - Qur'an is a sacred and holy text which is free from distortion unlike other holy books. Qur'an has always existed and was written in Arabic on tablet of stone in heaven. Qur'an is guide for life, teaches everything, learn by heart in Arabic. - Kutub – four other holy books from Jewish and Christian traditions. Originally true revelations from God but have been corrupted over time because not properly written down. Can't be trusted, nothing like Qur'an in terms of authority. <ul style="list-style-type: none"> a) Sahifah (Scrolls of Ibrahim) lost b) Tawrat (Torah) c) Zabur (Psalms) d) Injil (Gospels)

Year 11 Spanish GCSE Theme 2

Model answer Local area and environmental issues

Vivo desde hace siete años en Sevilla que está en el sur de España. Es una ciudad grande e histórica y hay muchos lugares de interés. Sevilla es una ciudad agradable y bonita, especialmente en el centro. En verano hace calor, pero en invierno hace viento.

Aunque Sevilla es bonita, también hay problemas ecológicos. Creo que el tráfico es un gran problema porque siempre hay atascos en el centro. Tenemos muchos espacios verdes donde podemos pasear, pero hay un problema con la basura. La gente que tira basura en la calle no se preocupa por el impacto que tiene ... A pesar de estos problemas, me encanta vivir en Sevilla.

Ayudo mucho en casa y mi familia es muy ecológico. Reciclamos todos los días y yo separo la basura antes de reciclarla. Normalmente tomo una ducha en lugar de un baño para no malgastar el agua. Nunca dejo correr el grifo cuando me lavo los dientes y trato de apagar las luces para ahorrar energía.

En lo que respecta al medio ambiente, creo que el mayor problema mundial es el efecto invernadero. Hay demasiados coches en las calles y muchas fábricas emitiendo gases de escape. Estos gases contribuyen al calentamiento de la tierra y son peligrosos para nuestro planeta.

El fin de semana pasado fui al parque para jugar fútbol con mis amigos. Fui en bicicleta en lugar de en coche porque es bueno para el medio ambiente. En casa, reciclé y trabajé en el jardín con mi padre.

En el futuro, tengo la intención de cambiar mi estilo de vida. Tomaré el autobús o el tren en vez de usar el coche. Además espero de cultivar mis propias frutas y verduras para ser más ecológico.

Model answer Travel and tourism

Generalmente voy de vacaciones con mi familia, pero preferiría ir con mis amigos porque son menos aburridos. Vamos a España o a Francia. Me encanta nadar y tomar el sol porque lo encuentro muy relajante.

El año pasado fui a Torremolinos con mi familia y lo pasamos muy bien porque hizo un tiempo mucho mejor que en Inglaterra. La zona me pareció interesante y pintoresca porque había montañas, playas hermosas donde nadé, buenos restaurantes y muchas tiendas de ropa. ¡Me encanta ir de compras y encontré muchas cosas bonitas! Además, pasé mucho tiempo practicando windsurf porque me fascina y me encanta el mar.

El verano próximo, voy a ir a Barcelona con mis amigos. Siempre he soñado de visitar esta ciudad para ver los lugares de interés como la Sagrada Familia. Además espero practicar mi español y comer la comida española. ¡Me lo pasaré genial!

Para mis vacaciones ideales iría a las islas Galápagos porque me interesa la naturaleza. En mi opinión, el turismo es muy importante para un país porque ayuda la economía y crea empleos. Sin embargo hay muchas desventajas también.

<i>reciclar</i>	<i>do recycling</i>
<i>separar la basura antes de reciclarla</i>	<i>sort the rubbish before recycling</i>
<i>tomar una ducha en lugar de un baño</i>	<i>have a shower instead of a bath</i>
<i>apagar las luces</i>	<i>turn off the lights</i>
<i>ir en bicicleta en lugar de en coche</i>	<i>go by bike instead of by car</i>
<i>ser más ecológico</i>	<i>be more green</i>
<i>tomar el autobús en vez de usar el coche</i>	<i>take the bus instead of using the car</i>

Ambition – developing higher level structures

Instead of this...	Use this...
...es... (is) <i>mi pueblo es ruidoso</i>	...puede ser... (can be) <i>mi pueblo puede ser ruidoso</i>
me gusta... (I like) <i>me gusta mi pueblo</i>	siempre me ha gustado... (I've always liked) <i>siempre me ha gustado mi pueblo</i>
no me gusta... (I don't like) <i>no me gusta el fútbol</i>	no aguanto... (I can't stand) <i>no aguanto el fútbol</i>
...porque es divertido (because it's fun) <i>me gusta ir al cine porque es divertido</i>	...porque me hace reír (because it makes me laugh) <i>me gusta ir al cine porque me hace reír</i>
...porque es aburrido (because it's boring) <i>nunca hago natación porque es aburrido</i>	...porque me aburre (because it bores me) <i>nunca hago natación porque me aburre</i>
...porque es relajante (because it's relaxing) <i>me gusta hacer deporte porque es relajante</i>	...porque me relaja (because it relaxes me) <i>me gusta hacer deporte porque me relaja</i>
Normalmente... (Normally...) <i>Normalmente voy al centro</i>	Suelo...+ infinitive (I usually...) <i>Suelo ir al centro</i>
Fuimos a... (We went to...) <i>Fuimos a Italia</i>	Decidimos ir a... (We decided to go to...) <i>Decidimos ir a Italia</i>
Me gustaría... (I would like...) <i>Me gustaría ir a Barcelona</i>	Tengo ganas de...+ infinitive (I want to...) <i>Tengo ganas de ir a Barcelona</i>
Creo que... (I believe that...) <i>Creo que mi casa es bonita</i>	Diría que... (I would say that...) <i>Diría que mi casa es bonita</i>
En el futuro... (in the future...) <i>En el futuro quiero ser ingeniero</i>	Cuando sea mayor... (When I'm older...) <i>Cuando sea mayor quiero ser ingeniero</i>
No hay... (There isn't...) <i>No hay piscina</i>	No hay ni...ni... (There is neither...nor....) <i>No hay ni piscina ni cine</i>
Durante mi tiempo libre... (During my free time..) <i>Durante mi tiempo libre leo</i>	Cuando tengo tiempo... (When I have time,...) <i>Cuando tengo tiempo leo</i>
Me gustaría... (I would like...) <i>Me gustaría trabajar al extranjero</i>	Si pudiera, me gustaría (If I could, I would like...) <i>Si pudiera me gustaría trabajar al extranjero</i>

Key verbs and tenses

	Present	Past (preterite)	Future
hacer to do	yo hago tú haces él /ella hace nosotros hacemos vosotros hacéis ellos/ellas hacen	yo hice tú hiciste él / ella hizo nosotros/as hicimos vosotros hicisteis ellos/ellas hicieron	yo haré tú harás él / ella hará nosotros/as haremos vosotros haréis ellos/ellas harán
ir to go	yo voy tú vas él /ella va nosotros vamos vosotros vais ellos/ellas van	yo fui tú fuiste él / ella fue nosotros/as fuimos vosotros fuisteis ellos/ellas fueron	yo iré tú irás él / ella irá nosotros/as iremos vosotros iréis ellos/ellas irán
ser to be	yo soy tú eres él /ella es nosotros somos vosotros sois ellos/ellas son	yo fui tú fuiste él / ella fue nosotros/as fuimos vosotros fuisteis ellos/ellas fueron	yo seré tú serás él / ella será nosotros/as seremos vosotros seréis ellos/ellas serán
estar to be	yo estoy tú estás él /ella está nosotros estamos vosotros estáis ellos/ellas están	yo estuve tú estuviste él / ella estuvo nosotros/as estuvimos vosotros estuvisteis ellos/ellas estuvieron	yo estaré tú estarás él / ella será nosotros/as estaremos vosotros estaréis ellos/ellas estarán
tener to have	yo tengo tú tienes él /ella tiene nosotros tenemos vosotros tenéis ellos/ellas tienen	yo tuve tú tuviste él / ella tuvo nosotros/as tuvimos vosotros tuvisteis ellos/ellas tuvieron	yo tendré tú tendrás él / ella tendrá nosotros/as tendremos vosotros tendréis ellos/ellas tendrán

Key Vocabulary Education Post 16						Home town, neighbourhood and region	
Spanish	English	Spanish	English	Spanish	English	Spanish	English
a tiempo completo	full time	el ejecutivo	executive	el policía	police officer	las afueras	outskirts
a tiempo parcial	part time	el electricista	electrician	pronto	ready	ahorrar	to save
el aprendiz	apprentice	el empleado	employee	el sello	stamp	el anuncio	advert
el aprendizaje	apprenticeship	el empleo	job, employment	el sobre	envelope	el aparcamiento	parking
calificado	skilled, qualified	la empresa	company	el soldado	soldier	el árbol	tree
la carrera	career, profession	encontrar	to find	el teletrabajo	work from home	el ayuntamiento	town hall
el comienzo	beginning, start	el enfermero	nurse	el título	university degree	bajar	to go down
los conocimientos	knowledge	la entrevista	interview	el trabajador	worker	el barrio	neighbourhood
conseguir	to get to, achieve	el escritor	writer	trabajar	to work	la biblioteca	library
dejar	to leave	estar en paro	to be unemployed	el traductor	translator	la bolera	bowling alley
esperar	to hope, expect	ganar	to earn	triunfar	to succeed, triumph	el bosque	forest, woods
la experiencia laboral	work experience	el hombre de negocios	businessman	el veterinario	vet	la calefacción	heating
tomar un año libre	to take a gap year	las horas de trabajo	flexitime	Additional higher tier vocabulary		la calle	street
un año sabático	a gap year	flexibles		el abogado	lawyer	el campo	countryside, grounds
útil	useful	el ingeniero	engineer	el albañil	brick-layer	la cancha de tenis	tennis court
Additional higher tier vocabulary		el jardinero	gardener	el azafata	flight attendant	la camicería	butcher's
la academia	school post 16	el jefe	boss	el bombero	firefighter	la casa adosada	semi-detached house
el derecho	law (at university)	laboral	working	el camionero	lorry driver	el céntimo	cent
la formación profesional	vocational training	la línea	line	el carpintero	joiner, carpenter	el centro comercial	shopping centre
lograr	to achieve	la llamada	call	el cartero	postmen	el centro	centre
la perspectiva	prospects, outlook	llamar por teléfono	to telephone	el contable	accountant	el césped	lawn
Jobs, career choices and ambitions		llegar a ser	to become	el ejército	army	el chalet	bungalow
el ama de casa	housewife	el militar	soldier,	el encargado	person in charge	el cine	cinema
el bombero	firefighter	el objetivo	objective, aim	encargarse de	to be in charge of	la ciudad	city
el cajero	bank cashier	el obrero	workman	estar en huelga	to be on strike	el club de jóvenes	youth club
el camarero	waiter	obtener	to get, obtain	la expectativa	hope, prospect	la comisaría	police station
el carnicero	butcher	el panadero	Baker	el gerente	manager	cómodo	comfortable handy
la carta	letter	parado	unemployed	el granjero	farmer	compartir	to share
la cita	appointment	el paro	unemployment	probar	to have a go, try	las compras	shopping
el cocinero	cook	el peluquero	hairdresser	rellenar	to fill in	construir	to build
el contrato	contract	el periodismo	journalism	solicitar	to apply	contar	to count, tell
el correo	post	el periodista	journalist	la solicitud	job application	Correos	post office
el dependiente	shop assistant	el pintor	painter, artist	el sueldo	wages, salary	la cosa	thing

Home town, neighbourhood and region							
Spanish	English	Spanish	English	Spanish	English	Spanish	English
dar a	to look onto	el pasillo	corridor	el negocio	shop	inquietante	worrying
el dinero	money	la pastelería	pastry shop	el paisaje	scenery	inquietar(se)	to worry
la dirección	address	la peluquería	hairdresser's	las persianas	shutters, blinds	justo	just, fair
el edificio	building	la pescadería	fish monger's	el semáforo	traffic lights	el ladrón	thief
la entrada	entrance	pintado	painted	la vivienda	housing	la ley	law
entrar	to go in, enter	el piso	flat, floor	Global issues		la libertad	liberty, freedom
la escalera	stairs	la planta baja	ground floor	aumentar	To increase	luchar	to fight, struggle
el espacio	space	la planta	plant, floor	la basura	Rubbish	malgastar	to waste, misuse
el estanco	tobacconist's	la plaza de toros	bull ring	la belleza	beauty	matar	to kill
la fábrica	factory	la plaza	square	beneficiar	To benefit	el medio ambiente	environment
la flor	flower	la población	population	el cambio climático	Climate change	medioambiental	environmental
los grandes almacenes	department store	el polideportivo	sports centre	la campaña	Campaign	mundial	world-wide, global
la granja	farm	proprio	own	el cartón	Cardboard	el mundo	world
la habitación	room	el pueblo	village, town,	el combustible	Fuel	la naturaleza	nature
el habitante	inhabitant	el puente	bridge	el contenedor	container	los necesitados	needy people
hacer cola	to queue	la puerta	door	la culpa	fault, blame	el pájaro	bird
hacer la(s) compra(s)	to do the shopping	el puerto	port, harbour	cultivar	to grow	el peligro	danger
la iglesia	church	repartir	to deliver	el cultivo	crop	peligroso	dangerous
la joyería	jeweller's	el río	river	dañar	to harm, damage	el petróleo	oil
la juguetería	toy shop	el ruido	noise	el daño	harm, damage	la pila	battery
el lado	side	ruidoso	noisy	los derechos	rights	pobre	poor
el lago	lake	el teatro	theatre	desparecer	to disappear	la pobreza	poverty
limpio	clean	la terraza	terrace	el desarrollo	development	la preocupación	worry, anxiety
la máquina	machine	la tienda	shop	ducharse	to have a shower	preocupado	worried, anxious
el mercado	market	la zona peatonal	pedestrian zone	encender	to turn on (TV..)	preocupante	worrying
la mezquita	mosque	Additional higher tier vocabulary		la encuesta	poll, survey	los productos químicos	chemicals
mostrar	to show	la aldea	village	escaso	scarce	[proteger	to protect
el museo	museum	la comunidad	community	el extranjero	foreigner	químico	chemical
la panadería	bakery	concurrido	busy, crowded	la falta	lack	recargable	rechargeable
la papelera	wastepaper basket	de lujo	luxury	el fuego	to be missing	el reciclaje	recycling
el papelería	stationery shop	el domicilio	address, home	el gobierno	government	reciclar	to recycle
la pared	wall	enseñar	to show	grave	serious	recoger	to collect
el parque	park	la esquina	corner	injusto	unjust, unfair	el recurso	resource

Global issues

French	English	Spanish	English
renovable	renewable	el envase	wrapping,
reutilizar	to reuse	la escasez	shortage, lack
robar	to steal	estropear	to ruin, spoil
el robo	theft	el gamberro	hooligan, lout
salvar	to save	los gases de escape	exhaust fumes
solucionar	to solve, resolve	el huracán	hurricane
sucio	dirty	la igualdad	equality
la Tierra	Earth	el incendio	fire
tirar	to throw (away)	la inundación	flood
utilizar	to use	la lluvia ácida	acid rain
la ventaja	advantage	la marea negra	oil spill
la violencia	violence	la multa	fine
Additional higher tier vocabulary		nocivo	harmful
agotar	to exhaust, use up	el petrolero	oil tanker
el agujero	hole	el prejuicio	prejudice
amenazar	to threaten	los residuos	refuse, waste
apagar	to turn off (lights etc)	la selva	tropical forest
arruinar	to ruin	la sequia	drought
el atasco	traffic jam	los 'sin techo'	homeless people
el aumento	increase	el testigo	witness
el beneficio	benefit	el vertedero	rubbish dump, tip
el calentamiento global	global warming		
la capa de ozono	ozone layer		
combatir	to fight, combat		
cometer	to commit		
el consume	consumption		
los desechos	rubbish, waste		
la desigualdad	inequality		
el desperdicio	waste, rubbish		
echar la culpa	to blame		
el efecto invernadero	greenhouse effect		
ensuciar	to dirty, soil, make a mess		

Days of the week

lunes	Monday
martes	Tuesday
miércoles	Wednesday
jueves	Thursday
viernes	Friday
sábado	Saturday
domingo	Sunday

Months of the year

enero	January
febrero	February
marzo	March
abril	April
mayo	May
junio	June
julio	July
agosto	August
septiembre	September
octubre	October
noviembre	November
diciembre	December

Question words

¿Adónde?	To where?
¿A qué hora?	At what time...?
¿Cómo?	How/ what like?
¿Cuál?	Which?
¿Cuándo?	When?
¿Cuánto/cuántos?	How many?
¿Dónde?	Where?
¿Por qué?	Why?
¿Qué?	What?
¿Quién?	Who?

Numbers

uno	1	dieciséis	16
dos	2	diecisiete	17
tres	3	dieciocho	18
cuatro	4	diecinueve	19
cinco	5	veinte	20
seis	6	veintiuno	21
siete	7	veintidós	22
ocho	8	treinta	30
nueve	9	cuarenta	40
diez	10	cincuenta	50
once	11	sesenta	60
doce	12	setenta	70
trece	13	ochenta	80
catorce	14	noventa	90
quince	15	cien	100

Useful structures

- Intensifiers and modifiers e.g. bastante (*quite*), más bien (*rather*), un poco (*a little*), completamente (*completely*), tan (*so*), totalmente (*totally*), muy (*very*), realmente (*really*)
- Conjunctions e.g. porque (*because*), sin embargo (*however*), pero (*but*), ya que (*as, because*), cuando (*when*).
- Comparisons e.g. Un hotel es más cómodo que un camping. (*more...than*)
- Opinions e.g. en mi opinión (*in my opinion*), yo pienso que (*I think that*), para mi (*for me*), según yo (*in my opinion*)
- Reasons e.g. es (*it is*), divertido (*fun*) aburrido (*boring*), genial (*great*), interesante (*interesting*), emocionante (*exciting*)