Knowledge Organiser

Year 10 - CORE

Cycle 1

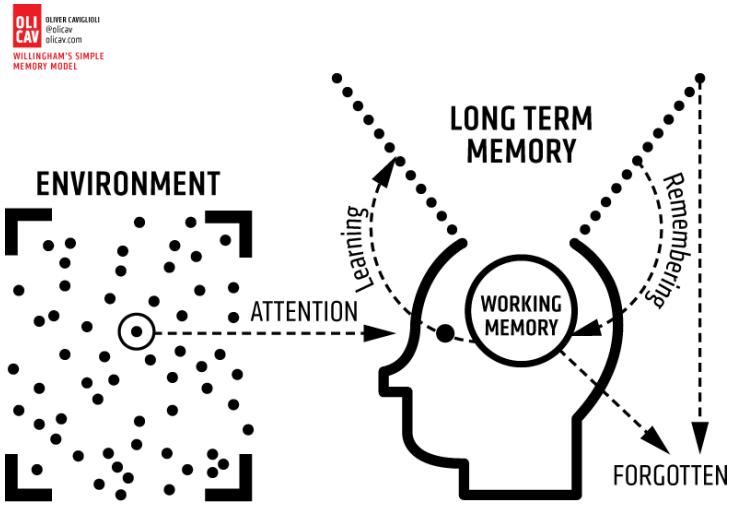
Name:

Inspiring Excellence

Using your Knowledge Organiser for homework

- Your Knowledge Organiser contains the essential knowledge that every student must know.
- Regular use of the Knowledge Organiser helps you to recap, revise and revisit what you have learnt in lessons.
- The aim is to help remember this knowledge in the long term and to help strengthen your memory
- You will use the Knowledge Organiser to help learn during homework.
- You will be assessed on the knowledge from your Knowledge Organiser; the more you revisit information the more likely it will be remembered for lessons, assessments and exams.

- For each homework you will be asked to look at a particular section of your Knowledge Organiser.
- Make sure you follow the homework timetable below so that you do the right homework for the right subjects each day.
- Each day (Monday to Friday) you will study 2 subjects for 30 minutes each.
- All Knowledge Organiser homework is completed in your blue Knowledge Workbooks
- All Maths and English homework is completed on SPARX and must be 100% completed each week.



Homework Timetable Year 10

	Monday	Tuesday	Wednesday	Thursday	Friday
Subject 1	Science	Geog/History	Maths	Option Block F	Maths
Subject 2	English	Option Block E	English	Science	Option Block G

How to use your Knowledge Organiser

In your blue knowledge book you will always write the date, subject heading and ensure that they are underlined with a ruler.

Task 1: Questions

Where a subject includes questions to answer, you must answer these in your blue book. This is the main task to do as a minimum. If you have additional time, or where there are no questions, then do the following Tasks 2-4

Task 2: The Cover – Write – Check method

1. Study the relevant section of your Knowledge Organiser for several minutes.
2. Cover the Knowledge Organiser.
3. In your blue book, write out what you can remember.
4. Check the Knowledge Organiser to see if you got it right.
5. Correct any mistakes in purple pen.
6. Repeat the process – even if you got it 100% correct.
7. Complete sections that you have previously studied using the same process.

Task 3: Free recall

1. Pick a section of the Knowledge Organiser you have studied recently.
2. Without looking at the Knowledge Organiser write down everything you can remember about the topic.
3. Check the Knowledge Organiser to see how much you got right.
4. Correct any mistakes and add any missing parts in purple pen.

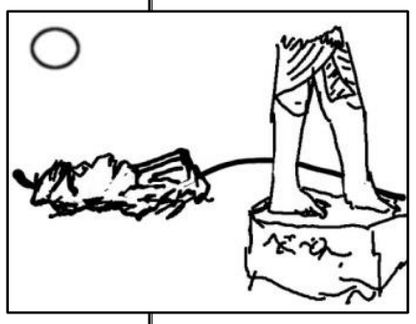
Task 4: Elaboration

1. Once you have completed the Cover – Write – Check method, add any additional details you can to your notes.
2. Remember your Knowledge Organiser only contains the core knowledge, there is much to learn beyond it so practise adding more detail when you can.

Year 10 Core Cycle 1

Knowledge Organiser Contents Page

Subject	Page Number
English	5-19
Geography	20-29
History	30-42
Life Skills	43-44
Maths	45-49
Religion Philosophy and Ethics	50
Science	51-64

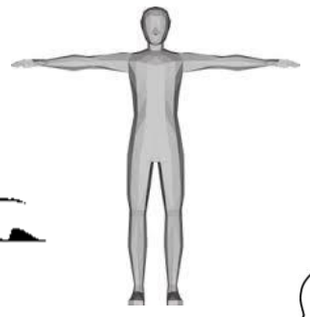


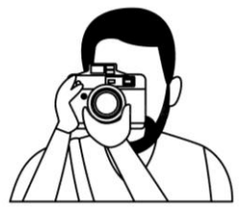
English Learning Area
GCSE English Literature
AQA Power and Conflict Poetry

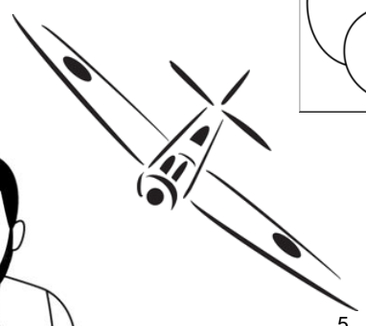
AO1: Read, understand and respond to texts. Students should be able to: maintain a critical style and develop an informed personal response, use textual references, including quotations, to support and illustrate interpretations.

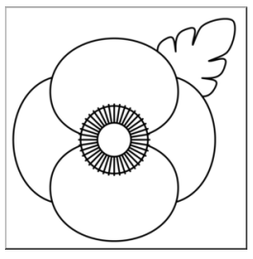
AO2: Analyse the language, form and structure used by a writer to create meanings and effects, using relevant subject terminology where appropriate.

AO3: Show understanding of the relationships between texts and the contexts in which they were written.









What to expect:

- In the exam, you will be asked to compare, by theme, a named and printed poem that you have studied, to another poem of your choice from the anthology.

- We have modelled thesis statements which you can use and adapt to structure and focus your comparisons. You should aim to make 3-4 clear points between the poems, and support these with evidence and detailed analysis of the language- remembering to link back to the keyword in the questions, themes and bigger ideas explored through the poems.

- To support this, we have selected key quotes from our lessons and collated them here with prompts for the method and the effect, along with a summary of the poem. You can supplement this with your class learning, independent research and personal interpretations of the poems. There are lots of resources, guides, videos and models available on the internet.

Mark/ Level	A0	Typical Features	✓
<u>Level 6</u> *Convincing critical analysis and exploration* **26 – 30 marks**	A01	▪ Critical, exploratory comparison ▪ Judicious use of precise references to support interpretation(s)	
	A02	▪ Analysis of writer's methods with subject terminology used judiciously ▪ Exploration of effects of writer's methods to create meanings	
	A03	▪ Exploration of ideas/perspectives/contextual factors shown by specific, detailed links between context/text/task	
<u>Level 5</u> *Thoughtful, developed consideration* **21 – 25 marks**	A01	▪ Thoughtful, developed comparison ▪ Apt references integrated into interpretation(s)	
	A02	▪ Examination of writer's methods with subject terminology used effectively to support consideration of methods ▪ Examination of effects of writer's methods to create meanings	
	A03	▪ Thoughtful consideration of ideas/perspectives/contextual factors shown by examination of detailed links between context/text/task	
<u>Level 4</u> *Clear understanding* **16 - 20 marks**	A01	▪ Clear comparison ▪ Effective use of references to support explanation	
	A02	▪ Clear explanation of writer's methods with appropriate use of relevant subject terminology ▪ Understanding of effects of writer's methods to create meanings	
	A03	▪ Clear understanding of ideas/perspectives/ contextual factors shown by specific links between context/text/task	
<u>Level 3</u> *Explained, structured comments* **11 - 15 marks**	A01	▪ Some explained comparison ▪ References used to support a range of relevant comments	
	A02	▪ Explained/relevant comments on writer's methods with some relevant use of subject terminology ▪ Identification of effects of writer's methods to create meanings	
	A03	▪ Some understanding of implicit ideas/ perspectives/contextual factors shown by links between context/text/task	
<u>Level 2</u> *Supported, relevant comments* **6 – 10 marks**	A01	▪ Supported comparison ▪ Comments on references	
	A02	▪ Identification of writers' methods ▪ Some reference to subject terminology	
	A03	▪ Some awareness of implicit ideas/contextual factors	
<u>Level 1</u> *Simple, explicit comments* **1 – 5 marks**	A01	▪ Simple comments relevant to comparison ▪ Reference to relevant details	
	A02	▪ Awareness of writer making deliberate choices ▪ Possible reference to subject terminology	
	A03	▪ Simple comments on explicit ideas/ contextual factors	
0 marks	Nothing worthy of credit/ nothing written		

Storm on the Island

Week 1

Method	Evidence	Effect	Summary -–**Storm on the Island – Seamus Heaney**
Statement / plural pronoun	We are prepared	Confident/ familiarity / community /	"Storm on the Island" is a poem Irish writers, Seamus Heaney. In the poem, an unspecified narrator talks about an isolated island community. These islanders live in fear of a coming storm, and have no trees for shelter. On the surface level, the poem appears to be about nature's ultimate power over humankind. The anticipation of disaster, however, can also be interpreted as a comment on humankind's own capacity for violence, perhaps in relation to the political tensions in Northern Ireland during the 20th century (which became, soon after the poem's publication in 1966, what's now known as the Troubles).
Oxymoron /personification Simile	The sea is 'exploding comfortably' and then it becomes 'like a tamed cat turned savage'	Familiarity Threatening / danger	
Closing statement Oxymoron / metaphor	Strange, it is a huge nothing that we fear	Repeats 'we' Ambiguous conclusion	
* Internal Conflict * Reality of War *			

Storm on the Island and The Prelude both explore the relationship between man and nature. However, whilst nature is shown to be more powerful than man in both poems, Heaney presents its power as an enemy that attacks whilst Wordsworth shows that its power is largely in his mind.

The Prelude

Method	Evidence	Effect	Summary -– ***The Prelude*** **- William Wordsworth**
Verbs start Repetition end pace	I dipped my oars I struck and struck again 'Upreared its head'	Calm/ confidence Scared/ alarmed /fast	*The Prelude* is an extract from an autobiographical poem by William Wordsworth. It focuses on Wordsworth's spiritual development, which is often spurred on in the poem by the surrounding natural environment. In this early passage from *The Prelude*, the speaker recalls a night when he, as a young boy, steals a boat and rows out into the middle of a lake. Eventually, the boy becomes scared of a huge mountain and rows back to shore. The image of the mountain haunts him from then on, planting the seeds for a more complex relationship with nature.
Semantic field of light Semantic field of isolation	'glittering', 'moon', ' sparkling light' 'darkness', 'solitude', 'desertion'		
Contrast start Repetition end	Craggy ridge A huge peak, black and huge	Respect/ beauty Petrified/ inexpressible	
Closing statement	Huge and might forms ... we a trouble to my dreams	Nightmare / long term / innocence /	
* Internal Conflict * Power of Nature *			

Storm on the Island

Week2

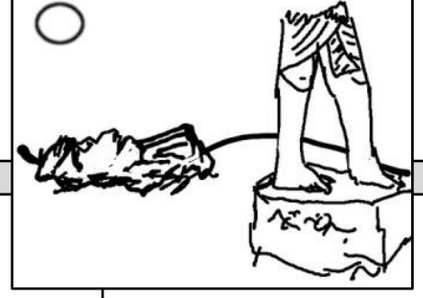
Method	Evidence	Effect	Summary -**–Storm on the Island – Seamus Heaney**
Statement / plural pronoun	We are prepared	Confident/ familiarity / community /	"Storm on the Island" is a poem Irish writers, Seamus Heaney. In the poem, an unspecified narrator talks about an isolated island community. These islanders live in fear of a coming storm, and have no trees for shelter. On the surface level, the poem appears to be about nature's ultimate power over humankind. The anticipation of disaster, however, can also be interpreted as a comment on humankind's own capacity for violence, perhaps in relation to the political tensions in Northern Ireland during the 20th century (which became, soon after the poem's publication in 1966, what's now known as the Troubles).
Oxymoron /personification Simile	The sea is 'exploding comfortably' and then it becomes 'like a tamed cat turned savage'	Familiarity Threatening / danger	
Closing statement Oxymoron / metaphor	Strange, it is a huge nothing that we fear	Repeats 'we' Ambiguous conclusion	
* Internal Conflict * Reality of War *			

Exposure

THESIS STATEMENT: Both poems explore the idea that nature is more powerful than man and, in fact, nature can sometimes be the enemy. However, Heaney shows that nature can be helpful to man whilst, for Owen, it is always the foe.

Method	Evidence	Effect	Summary -**–Exposure – Wilfred Owen**
personification	The merciless iced east winds that knife us	Power of nature/ Danger/ pain/ suffering	"Exposure" is a poem written by the English poet and soldier Wilfred Owen. Owen wrote "Exposure" in 1918, but it wasn't published until 1920, after Owen's death in World War I. "Exposure" focuses on the sheer monotony of daily life for many soldiers, as well as the harsh conditions they must endure (that is, be "exposed" to) even when not on the battlefield. This suffering is made all the more devastating given the fact that, in the speaker's mind, war seems to accomplish nothing on a larger scale.
Repetition	But nothing happens	Slow pace/ Reality/futility of war	
Verb/ lexical choice	We cringe in holes.	Despair / anguish	
Adverb/ noun/ metaphor	Slowly our ghosts drag home	misery – they are changed men	
* Conflict * Reality of War * Nature *			

Ozymandias



Week3

Method	Evidence	
Perspective/ third person	I met a traveller from a distant land	dissociated
Noun phrase	My name is Ozymandias King of Kings	Arrogance / conceit / egotism
Alliteration / metaphor	Boundless and bare, / The lone and level sands stretch far away	Echoes/ power of nature / longevity / endurance
* Power * Nature *		

Summary –**Ozymandias – Percy Bysshe Shelley**

"Ozymandias" is a sonnet written by the English Romantic poet Percy Bysshe Shelley. The title of "Ozymandias" refers to an alternate name of the ancient Egyptian pharaoh Ramses II. In "Ozymandias," Shelley describes a crumbling statue of Ozymandias as a way to portray the transience of political power and to praise art's power of preserving the past. Although the poem is a 14-line sonnet, it breaks from the typical sonnet tradition in both its form and rhyme scheme, a tactic that reveals Shelley's interest in challenging conventions, both political and poetic.

The Prelude

Both Ozymandias and The Prelude explore the power of Nature. Initially, both believe they are more powerful than nature, although ultimately, Nature has more power and outlasts man.

Method		Evidence	Effect
Verbs Repetition pace	start end	I dipped my oars I struck and struck again	Calm/ confidence Scared/ alarmed /fast
Contrast Repetition	start end	Craggy ridge A huge peak, black and huge	Respect/ beauty Petrified/ inexpressible
Closing statement		Huge and might forms ... we a trouble to my dreams	Nightmare / long term / innocence /
* Internal Conflict * Power of Nature *			

Summary –*The Prelude* - **William Wordsworth**

The Prelude is an extract from an autobiographical poem by William Wordsworth. It focuses on Wordsworth's spiritual development, which is often spurred on in the poem by the surrounding natural environment. In this early passage from *The Prelude*, the speaker recalls a night when he, as a young boy, steals a boat and rows out into the middle of a lake. Eventually, the boy becomes scared of a huge mountain and rows back to shore. The image of the mountain haunts him from then on, planting the seeds for a more complex relationship with nature.

Charge of the Light Brigade

Week4

Method	Evidence	Effect	Summary - **Charge of the Light Brigade –**
Repetition that changes at the end of each stanza *At the end	**‘Rode the six hundred’** **‘Not the six hundred’** **‘Noble Six Hundred’** ***‘When can their glory fade?’**	Chorus Celebratory tone Rhythm of the horses	The Charge of the Light Brigade” was written by the English poet Alfred Lord Tennyson in response to a battle during the Crimean War (1853-1855). In this battle, a British cavalry unit—the “Light Brigade”—was commanded to charge against a Russian artillery unit. The order was almost suicidal, and the brigade was decimated in the charge. “The Charge of the Light Brigade” celebrates the self-sacrifice and heroism of the cavalrymen, suggesting that bravery consists of doing one's duty even when it leads to almost certain death.
Biblical imagery	**‘Into the valley of Death’** **‘Into the mouth of hell’**	Undaunted bravery of the soldiers	
Semantic field of patriotism – aural imagery	**‘heroic’, ‘valour’, ‘splendour’, ‘noble’**	Contrasts to the newspaper reports of the battle	
* Conflict * Battlefield * Heroism *			

Exposure

In ‘Exposure’ Owen explores the futility of war in a poignant poem about suffering. He explores ideas about the purpose of conflict. On the other hand, ‘Charge of the Light Brigade’ highlights a clear purpose and conflict: patriotism. Tennyson glorifies the soldiers’ efforts in the Crimean war.

Method	Evidence	Effect	Summary -–**Exposure – Wilfred Owen**
personification	The merciless iced east winds that knife us	Power of nature/ Danger/ pain/ suffering	"Exposure" is a poem written by the English poet and soldier Wilfred Owen. Owen wrote "Exposure" in 1918, but it wasn't published until 1920, after Owen's death in World War I. "Exposure" focuses on the sheer monotony of daily life for many soldiers, as well as the harsh conditions they must endure (that is, be "exposed" to) even when not on the battlefield. This suffering is made all the more devastating given the fact that, in the speaker's mind, war seems to accomplish nothing on a larger scale.
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Verb/ lexical choice	We cringe in holes.	Despair / anguish	
Adverb/ noun/ metaphor	Slowly our ghosts drag home	misery – they are changed men	
* Conflict * Reality of War * Nature *			

Bayonet Charge

Week5

Method	Evidence	Effect	Summary - **Bayonet Charge – Ted Hughes**
Adverb / metaphor/ medias res (in the middle of the action)	**‘Suddenly, he awoke and was running’**	Fast pace / shock / reality of war / danger	Set in the heat of battle, the poem focuses on the thoughts and behaviour of a soldier in **World War I**. This soldier is depicted mid-charge, his bayonet (that is, the blade attached to this end of his gun) primed to attack the enemy. However, he has an **epiphany** during his charge and suddenly questions why he's there in the first place. Old notions like **patriotism and honour seem to fade away** as the soldier confronts the absurd reality of war—and of the likelihood of his **own death.**
Lexical set (listing)	**‘King, honour, human dignity etc’**	Anger / frustration / despair / realisation	
Alliteration symbolism	**His terrors touchy dynamite**	Solider reduce to a weapon / danger / fear	
* Conflict * Battlefield * Reality of War * Solider *			

Remain

Both poems explore the horrors of being in a conflict zone or battle field. However, they also both consider the longer, lasting effects of war.

Method	Evidence	Effect	Summary --**–Remains – Simon Armitage**
Literal and metaphorical	**Remains**	Physical and emotional remnant of the killing	" Remains" was published by the British poet Simon Armitage in 2008 as part of his collection *The Not Dead*, a series of war poems based on the testimonies of ex-soldiers. Instead of detailing conflict, however, these poems confront the *aftermath* of war and the traumatic memories that ex-service people might struggle to cope with. "Remains" specifically focuses on a soldier who was involved with killing a man caught looting a bank during conflict in what is implied to be the Middle East.
Repetition Start and End	**Probably armed, possibly not**	Uncertainty / doubt / guilt / internal conflict	
metaphor	**Blood shadow**	Inescapable guilt	
Turning point. Revisits events mentally once he’s home.	**End of story, except not really**	Long term consequence of war Contrast chatty tone to reality	
* Internal Conflict * Reality of War *			

War Photographer

Week6

Method	Evidence	Effect	Summary -– **War Photographer" - Carol Ann Duffy**
Literal and metaphor	Solutions slop in trays Spools of suffering	Processing emotions Internal conflict memories	"War Photographer" is a poem by Carol Ann Duffy, the UK's poet laureate from 2009 to 2019. "War Photographer" depicts the experiences of a photographer who returns home to England to develop the hundreds of photos he has taken in an unspecified war zone. The photographer wrestles with the trauma of what he has seen and his bitterness that the people who view his images are unable to empathize fully with the victims of catastrophic violence abroad. The poem references a number of major historical air strikes and clearly draws imagery from Nick Ut's famous Vietnam War photograph of children fleeing the devastation of a napalm bomb.
Light and dark imagery Metaphor / noun	A hundred agonies in black and white	Reality and horror of war is more complicated than B&W	
Change to address the audience/ reader	Reader's eyeballs prick with tears between the bath and pre-lunch beers	Judgmental tone Rhythm and Rhyme contrast to message	
* Internal Conflict * Consequences of War *			

Remains

Both Armitage and Duffy show that conflict negatively impacts individuals involved in conflict – they experience trauma, guilt and powerful memories all relating to and caused by their experience in conflict zones.

Method	Evidence	Effect	Summary -–**Remains – Simon Armitage**
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* Internal Conflict * Reality of War *			

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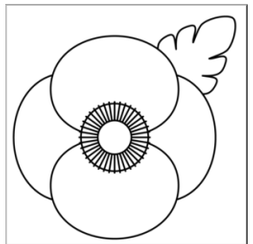
* Internal Conflict * Consequences of War *			



Poppies

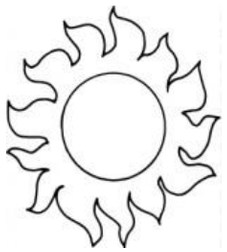
Both Duffy and Weir explore the effects of conflict on individuals who experience conflict in differing ways (a mother and a war photographer) with differing responses. Weir shows these effects to be long-lasting, whereas Duffy shows how quickly people move on.

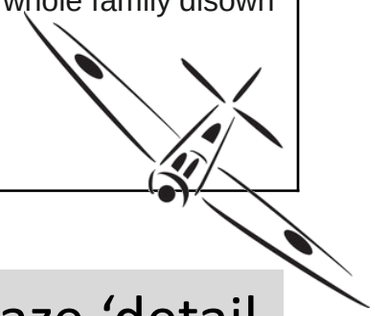
Method	Evidence	Effect	Summary -–**Poppies Jane Weir**
Structure start v end Symbolic imagery /	Individual war grave War memorial	Change from individual experience to universal	"Poppies" is a poem by the English poet Jane Weir, first published in 2005 as part of her collection *The Way I Dressed*. Weir's poem imagines the trials and difficulties of war from the perspective of a mother who sends her child off to fight. The poem investigates this grief by comparing it, through an extended metaphor, to the more general feeling of anxiety that all parents face as their children prepare to enter a frightening and often violent world.
Part of a military semantic field Metaphor / sibilance Juxtaposition	*Steeled* the softening of my face 'blockade' 'bandage' reinforcements'	Holding back emotions Restraint / Repressing Links through time and memory	
Metaphor / symbolism / imagery of peace	The dove pulled freely against the sky / Released a songbird from its cage	Comfort / freedom / internal peace/acceptance	
* Internal Conflict * Consequences of War * * Power of Memory * Mother's Perspective *			

Kamikaze

Week8

Method	Evidence	Effect	Summary -**–Kamikaze – Beatrice Garland**
Perspective Pathetic fallacy	'Her father embarked at sunrise' 'A shaven head full of powerful incantations'	Contrast optimism and reality of death Influenced by society	"Kamikaze" was written by contemporary British poet Beatrice Garland. The title refers to Japanese pilots during World War II tasked with flying a suicide mission. With planes full of explosives and just enough fuel to make it to their target, kamikaze pilots had to fly directly at American warships to inflict maximum damage—killing themselves in the process. The poem tells the story of one particular pilot who decides to turn back, prompted by a childhood memory of his brother and father by the sea. Upon his return, however, his whole family disown him—including the poem's main speaker, his daughter.
Juxtaposition Symbolism Nature / memory	In a figure of eight, the dark shoals of fish flashing silver	Eternity/ power of nature dark v light / beauty sword – violence	
Implied rhetorical question Verbs Cultural contrast	'We children still **chattered and laughed** till gradually we **too learned to be silent'** 'He must have wondered which had been the better way to die'	Memory / Regret / remorse / guilt / family	
* Conflict * Consequences of War * Family * Memory * Nature *			



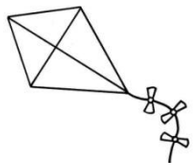


THESES STATEMENT: Both 'The Emigree' and 'Kamikaze 'detail perspectives of people who find themselves as social outcasts. However, the speaker in 'The Emigree' has been displace by force, while the pilot in 'Kamikaze' made a choice, the result of which he had to live by.

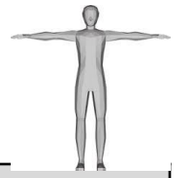
The Emigree

Method	Evidence	Effect	Summary -**–The Emigree**
Childish tone	There once was a country	Narrative perspective	"The Emigrée" was written by the British poet Carol Rumens. A first-person speaker describes how as a child she was forced to flee her homeland and emigrate to another country because of war and tyranny. Though the speaker can never return to her home, it still occupies an important place in her heart. She keeps it alive through memory, which is compared to sunlight throughout the poem—suggesting warmth and vitality. The poem deliberately avoids tying itself to a particular context, instead looking more generally at the emigrant experience—with all its trauma and nostalgic longing for home.
Personification Metaphor	It may be sick with tyrants The bright filled paperweight	Bond with the country Hope for change – (health/ peace)	
Changing repetition	I am branded by an impression of sunlight' 'It tastes of sunlight' 'My shadow falls as evidence of sunlight'	Grows in confidence Identify / optimism	
* Internal Conflict * consequences of conflict * identity *			

Tissue



Week9



Method	Evidence	Effect	Summary -– **Tissue - Imtiaz Dharker**
Nature v Society	Maps too. The sun shines through their boarder lines	Power of nature is greater than man and history	"Tissue" was written by Pakistan-born British poet Imtiaz Dharker and published in her 2006 collection, *The Terrorist at My Table*. The poem is an impressionistic meditation about paper, focusing on the way that it represents both human fragility and power. The poem shifts its focus throughout, first looking at a Koran and information that has been written in the back about people's births and deaths. Later, the speaker imagines what it would be like if buildings were made out of paper, before finally relating it back to the "tissue" of human skin.
simile	Fly our lives like paper kites	Freedom	
Extended metaphor	Paper smoothed and stroked and thinned to be transparent turned into your skin.	Closing image Returns to the reader/ individual	
* Internal Conflict * Power of Society * Nature *			

The Emigree

Both ‘The Emigree’ and ‘Tissue’ explore what is combined within identity. However, Rumens explore identity from an individual and personal perspective. In contrast, Dhaker questions how humans form identities specifically, whether regarding things on paper is necessary to prove our existence.

Method	Evidence	Effect	Summary -–**The Emigree**
Childish tone	There once was a country	Narrative perspective	"The Emigrée" was written by the British poet Carol Rumens. A first-person speaker describes how as a child she was forced to flee her homeland and emigrate to another country because of war and tyranny. Though the speaker can never return to her home, it still occupies an important place in her heart. She keeps it alive through memory, which is compared to sunlight throughout the poem—suggesting warmth and vitality. The poem deliberately avoids tying itself to a particular context, instead looking more generally at the emigrant experience—with all its trauma and nostalgic longing for home.
Personification Metaphor	It may be sick with tyrants The bright filled paperweight	Bond with the country Hope for change – (health/ peace)	
Changing repetition	I am branded by an impression of sunlight’ ‘It tastes of sunlight’ ‘My shadow falls as evidence of sunlight’	Grows in confidence Identify / optimism	
* Internal Conflict * consequences of conflict * identity *			

My Last Duchess

Week10

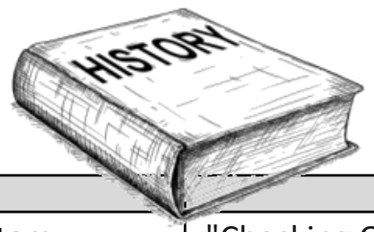
Method	Evidence	Effect	Summary -– **My Last Duchess - Robert Browning**
Noun phrase Possessive pronoun	My Last Duchess My gift of a nine-hundred-years-old name	Controlling / power / reputation	"My Last Duchess" is a dramatic monologue written by Victorian poet Robert Browning in 1842. In the poem, the Duke of Ferrara uses a painting of his former wife as a conversation piece. The Duke speaks about his former wife's perceived inadequacies to a representative of the family of his bride-to-be, revealing his obsession with controlling others in the process. Browning uses this compelling psychological portrait of a despicable character to critique the objectification of women and abuses of power.
Diagloue	A heart-how shall I say? - too soon made glad	Attributes blame	
Metaphor foreshadow	The faint half flush that dies along her throat	Joy v suffering	
statement	I gave commands;	Misuse of power / pace is dismissive	
* Internal Conflict * Reality of War *			

London

Both Blake and Browning explore how powerful authorities cause suffering to less powerful members of society in 'London' and 'My Last Duchess'. However, Blake criticises this abuse of power across a whole city whereas Browning focuses on this kind of power imbalance within an oppressive relationship.

Method	Evidence	Effect	Summary -– **London - William Blake**
First person perspective repetition	I wander thro' each charter'd street, Near where the charter'd Thames does flow.	Familiar with location personal Control /	"London" is among the best known writings by visionary English poet William Blake. The poem describes a walk through London, which is presented as a pained, oppressive, and impoverished city in which all the speaker can find is misery. It places particular emphasis on the sounds of London, with cries coming from men, women, and children throughout the poem. The poem is in part a response to the Industrial Revolution, but more than anything is a fierce critique of humankind's failure to build a society based on love, joy, freedom, and communion with God.
Metaphor	'The mind-forg'd manacles I hear'	Individual belief and freedom is influence by society	
Symbolisms of society Metaphor / adjective onomatopoeia	'the youthful Hrlots curse blasts the new born infants tear and blights with plagues the Marriage hearse.'	Sympathy / responsibility / dismay	
* Internal Conflict * Power of Society*			

Checking out me history



Week11

Method	Evidence	Effect	Summary –– **Checking Out Me History - John Agard**
Dramatic monologue Phonetic spelling	Dem tell me Dick Whittington and his cat/ Touissaint L'Ouverture	Education system Contrasts characters	"Checking Out Me History" was written by the British Guyanese poet John Agard. The poem focuses on the holes in the British colonial education system—particularly that system's omission of important figures from African, Caribbean, and indigenous history. It discusses how colonized people were forced to learned about '*British*' history—which had little to do with their actual lives—at the expense of their '*own*' history. Not only does the poem call attention to the oppressive nature of colonial education, but it also praises important figures who were left out—figures such as Touissaint L'Ouverture, the leader of the Haitian revolution. The poem suggests the colonial syllabus deliberately blinded colonized people to their own histories, and argues that only by re-learning their history can these people can fully understand and embrace their identities.
Metaphor Semantic field	Bandage up me eye with me own history Blind me to my own identity	Ironic reflection on the reality of the education system	
Active verbs metaphor	But now I checking out me own history I carving out me identity	Proactive and positive Lack of punctuation = continuity of discovery	
* Internal Conflict * Power of Society * Identity *			

Both Agard and Blake use their poems to express their anger towards the misuse of power by those with authority. However, while Agard expresses a positive resolution, Blake implies that society won't change.

London

Method	Evidence	Effect	Summary –– **London - William Blake**
First person perspective repetition	I wander thro' each charter'd street, Near where the charter'd Thames does flow.	Familiar with location personal Control /	"London" is among the best known writings by visionary English poet William Blake. The poem describes a walk through London, which is presented as a pained, oppressive, and impoverished city in which all the speaker can find is misery. It places particular emphasis on the sounds of London, with cries coming from men, women, and children throughout the poem. The poem is in part a response to the Industrial Revolution, but more than anything is a fierce critique of humankind's failure to build a society based on love, joy, freedom, and communion with God.
Metaphor	'The mind-forg'd manacles I hear'	Individual belief and freedom is influence by society	
Symbolisms of society Metaphor / adjective onomatopoeia	'the youthful Hrlots curse blasts the new born infants tear and blights with plagues the Marriage hearse.'	Sympathy / responsibility / dismay	
* Internal Conflict * Power of Society*			

Question stem: Explore how the poet use language to present **theme/ idea/ concept** in **named poem** and a poem on your choice from the Power and Conflict anthology.

Thesis statement: - Provide a brief explanation how the poems are link and what bigger ideas you are going to compare in your essay

Initial idea about named poem	Comparative point	Link to second poem
Development of your point	Comparative point	Compare or contrast to second poem
Final comment on the ideas explored	Comparative point	Compare or contrast to second poem

Conclusion: - Return to the ideas raised in your thesis statement, which you then covered in detail in your essay. Comment on the overall links and bigger ideas explored through both poems.

Year 10 Cycle 1 Geography Knowledge Organiser – The Challenge of Natural Hazards

<table>
<tr><th colspan="3">Week 1 – Tuesday 10th September 2024</th></tr>
<tr><th>Lesson 1 – Introduction to Natural Hazards</th><th>Lesson 2 – Factors that affect risk</th><th>Lesson 3 – Plate Tectonics</th></tr>
<tr>
<td>Key Terms:
Natural Hazard: Extreme natural event that threatens life and/or property. They are either climatic or tectonic.

For example, a remote volcanic eruption or earthquake that pose no threat to people or property should not be considered as hazard events.</td>
<td>Key Terms:
Hazard: Something that has the potential to harm you.
Risk: The likelihood of hazard causing harm.
Hazard Risk: The probability or chance that a natural hazard will take place.
Vulnerable: The possibility or chance of being damaged or disrupted.
Capacity to cope: The ability of people or a community, using available skills and resources, to manage conditions, risks, or disasters.</td>
<td>Key Terms:
Plates: The Earth’s crust is divided into 12 major plates.

Plate Tectonics: Theory that explains how landforms are created through the movements of Earth’s plates.

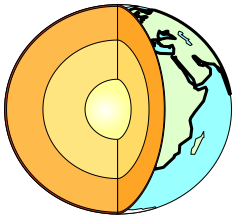
Convection currents: The rising and falling of magma in a circular motion due to heating (from the core) and cooling (at the crust)</td>
</tr>
<tr>
<td>Content:
Different types of Natural Hazards:
• Earthquakes
• Tropical Storms
• Volcanic eruptions
• Drought
• Flood

Why are more people at risk from natural hazards?
Urbanisation: 50% of the world’s population live in cities and most are densely populated.

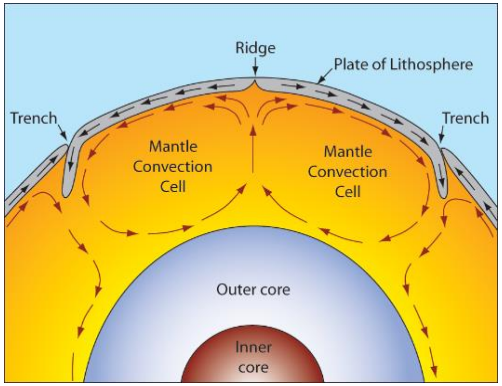
Poverty: May force people to live in unsafe areas and unsafe houses.

Climate Change: A warmer atmosphere has more energy/more intense. Rainfall can change when the atmosphere changes temperature.

Farming: People are living in areas with fertile soil and flat land, usually next to a river or volcanic land.</td>
<td>Content:
Factors that affect risk:
Natural Factors: The rock type and relief of an area.
Magnitude: The size of the event massively affects the impacts.
Population density & distribution: The number of people in and area and where they are. Greater number of people in an area, the greater potential for disaster.
Management (3Ps): Predict a hazard, prepare for the hazard and if possible, try and prevent or minimise the impact.
Frequency: How often the hazard occurs. The more often it occurs, generally the more likely they are to be prepared.
Education: The level people are educated about hazards and what to do when one strikes.
Level of development: Determines how much money is available to prepare for the event in advance and how the country responds.
Time: The amount of time since the last hazard can leave people unprepared. Also, the time the hazards occurs, for example are people awake or asleep.</td>
<td>Content:
Structure of the Earth: The Earth has 4 main layers:
Crust: Rocky surface between 10-100km thick.
Mantle: Largest layers. Properties of a solid but flows like a liquid.
Outer Core: This part is liquid and reaches around 3000°c.
Inner Core: Solid and made of iron. Reaches 5000°c

Convection currents: Core heats the magma; it becomes lighter and rises. It cools at the curst, becomes heavy and sinks.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<tr>
<td>Questions:
1. What is a natural hazard?
2. State 5 different types of natural hazards
3. List the 4 reasons why people are at risk from natural hazards.
4. Which reason do you think puts more people at risk?</td>
<td>5. What is a hazard risk?
6. What is meant by capacity to cope?
7. Name the 8 factors that affect risk
8. Which factor do you think puts most people at risk from a natural hazard?</td>
<td>9. Name the 4 layers of the Earth
10. What are plate tectonics?
11. What is a convection current?
12. What causes the magma to rise and fall in convection currents?</td>
</tr>
</table>

Year 10 Cycle 1 Geography Knowledge Organiser – The Challenge of Natural Hazards

Week 2 – Tuesday 17th September 2024

Lesson 4 – Plate Boundaries

Key Terms:

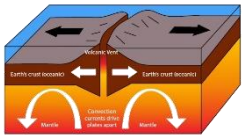
Oceanic Plate: Relatively thin part of the earth's crust which underlies the ocean. It is the heaviest type of crust.

Continental Plate: The relatively thick part of the earth's crust which forms the large land masses. It is generally older than oceanic crust.

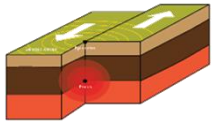
Plate boundary: The point at which two or more plates meet.

Content:

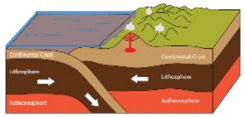
Constructive: Continents begin to crack and split apart causing earthquakes. Gaps fill with water and become small seas, then oceans. Mid ocean ridge continues to form new crust though volcanic eruptions.



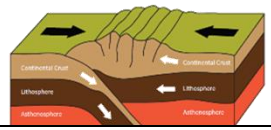
Conservative: Plates are parallel to each other and move in the same or opposite directions, but at different speeds, causing earthquakes.



Destructive: Oceanic and continental plate meet and the oceanic plates subducts under the continental, causing earthquakes. The subducted plate melts in the mantle and pressure creates a volcanic eruption.



Collisional: Two continental plates meet. Neither is forced under to they are forced upwards, creating fold mountains. The movement causes earthquakes.



Questions:

1. What is a plate boundary?
2. Draw a simple diagram for each of the plate boundaries.
3. Which plate boundaries cause earthquakes?
4. Which plate boundaries cause volcanoes?

Lesson 5 – New Zealand Earthquake 2011 (1)

Key Terms:

Earthquake: An intense shaking of Earth's surface caused by movements within and in between plates.

Focus: The point within the Earth where energy is released from the build-up of tension.

Epicentre: The point in the Earth's surface directly above where the energy was released.

Fault Line: Boundary where two plates meet.

Seismic Waves: The energy when tension is released between 2 plates.

Content:

Cause of an earthquake:

1. Two plates begin to move and slide past each other
2. As they move, they become locked
3. Tension starts to build up
4. Tension is suddenly released as one plate gives in
5. Tension is released as waves of energy (seismic waves)
6. Seismic waves travel in all directs
7. Rocks slowly settle in their new positions

Earthquakes in New Zealand

Sits on 2 different plate boundaries

- Destructive boundary in the north
- Conservative boundary in the south

Christchurch Earthquake 2011:

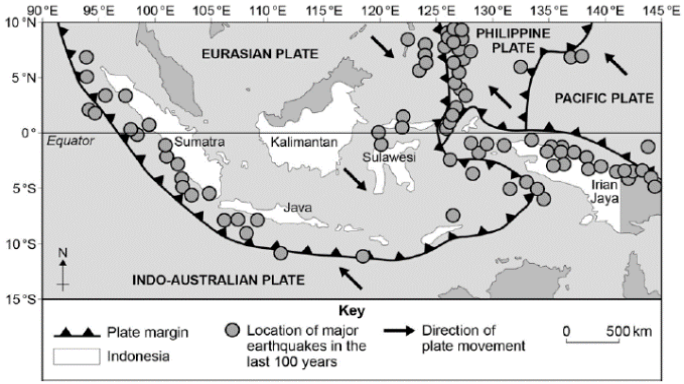
- Conservative plate boundary
- 6.3 on the Richter scale
- Epicentre 10km from Christchurch
- Shallow focus of 5km
- Earthquake lasted 12 seconds

5. What is an earthquake?
6. What causes an earthquake?
7. What 2 plate boundaries does New Zealand sit on?
8. Give 3 facts about the Christchurch earthquake

Seneca and Exam Question Practice

SENECA **AQA Geography: 1.1.1 – 1.1.4, 1.2.1 – 1.2.3 & 1.2.6 – 1.2.7**

Study the figure, a map showing the distribution of major earthquakes in part of southeast Asia



1. Describe the distribution of major earthquakes shown in the figure (2 marks)

2. Outline one reason for the distribution of earthquakes in the figure (2 marks)

Year 10 Cycle 1 Geography Knowledge Organiser – The Challenge of Natural Hazards

Week 3 – Tuesday 24th September 2024		
Lesson 6 – New Zealand Earthquake 2011 (2)	**Lesson 7 – Haiti Earthquake 2010 (1)**	**Lesson 8 – Haiti Earthquake 2010 (2)**
Key Terms: **Primary Effects:** The initial and direct result of an action/event. **Secondary Effects:** The indirect/knock-on effects caused by an action/event. **Short term responses:** A reaction in the days and weeks to an action/event **Long term responses:** A reaction to an action/event that can go on for months or years afterwards.	**Key Terms:** **P Waves:** A type of seismic wave released during an earthquake. They are strong and the first waves felt. Can travel though liquid and solid rock. **S Waves:** Another type of seismic wave released during an earthquake. They are weaker and slower and can only move through solid rock. **Haiti:** 3rd largest country in the Caribbean, borders the Dominican Republic and as an estimated population of 11.4 million. Poorest country in the Western Hemisphere.	**Key Terms:** **Wealth:** The value of all resources an individual or society owns. For a country it is measured in terms of GDP and individuals use net worth.
Content: **Primary effects of the Christchurch Earthquake:** • 181 people killed and 2,000 injured. • 10,000 homes damaged. **Secondary effects of the Christchurch Earthquake:** • Cars and buses damaged by falling debris. • Could not hold the Rugby World Cup the following year. **Short term responses to the Christchurch Earthquake:** • 27,000 chemical toilets flown in. • New Zealand defence force provided aid to 1000 homeless people. **Long term responses to the Christchurch Earthquake:** • $898 million paid in building insurance claims. • Water and sewage were completely restored within 6 months.	**Content:** **Haiti earthquake 2010:** • Conservative plate boundary. • Magnitude of 7.0. **Primary effects of the Haiti Earthquake:** • 316,000 people died. • 250,00 houses destroyed leaving over 1 million homeless. **Secondary effects of the Haiti Earthquake:** • 1 in 5 were left unemployed. • Cholera took hold due to bodies in the streets. **Short term responses of the Haiti Earthquake:** • $1 billion collected from 23 charities. • 4.3 million people provided with food rations. **Long term responses of the Haiti Earthquake:** • Cash/food for work programmes set up. • Temporary schools created and new teachers trained.	**Content:** **Why people continue to live in Haiti?** • People have always lived there and don't want to leave their family. • They are employed and don't want to/can't find another job. • Earthquakes don't happen very often and may not happen again. • Can't afford to leave due to level of poverty/lack of education. **Why do effects and responses differ between areas?** • Magnitude • Distance from epicentre/depth of focus • Day and time of the week • Level of development/wealth • Building quality and density • Education • Emergency services and medical care • Population density
Questions: 1. What is are primary and secondary effects? 2. State 4 effects of the Christchurch earthquake 3. What are short term and long-term responses? 4. State 4 different responses to the Christchurch earthquake	5. What is the difference between P and S waves? 6. Where is Haiti? 7. State 4 effects of the Haiti earthquake 8. State 4 responses to the Haiti earthquake	9. What does the term 'wealth' mean? 10. Give 2 reasons why people continue to live in Haiti 11. Give 2 physical reasons why effects and responses differ 12. Give 2 human reasons why effects and responses differ

Year 10 Cycle 1 Geography Knowledge Organiser – The Challenge of Natural Hazards

Week 4 – Tuesday 1st October 2024

Lesson 9 – Earthquake Management

Key Terms:

Monitoring and Prediction: Experts attempt to forecast when earthquakes will occur.

Protection: Different measures to reduce the risk.

Planning: Measures people do beforehand to reduce the risk.

Content:

Monitoring & Prediction:

- Earthquake locations and times can be mapped to see if there is a pattern.
- Tiltmeter can check any movements within the rock.

Protection:

Make buildings more earthquake resistant:

- Steel frames that sway
- Rubber shock absorbers at the base
- Open areas for people to gather

Planning:

- People educated so they know what to do (earthquake drills).
- Emergency services train and prepare for disaster.
- Emergency supplies (blankets, clean water, food) can be stockpiled.

People can prepare their homes by:

- Tall furniture and bookcases attached to the wall
- Fire extinguishers

Questions:

1. What are the 3 Ps of earthquake management?
2. Give 2 examples of prediction & monitoring
3. Give 2 examples of building protection
4. Give 2 examples of planning

Lesson 10 – Living with Hazards

Key Terms:

Geothermal Energy: Made from the heat of the Earth. Water is filtered down through cracks in the Earth's Crust and becomes heated by the rocks

Perceived Safety: When people feel safe due to design of buildings, evacuation plans or general low chance of injury or loss.

Content:

Reasons people continue living in tectonically active areas:

Geothermal energy: Provides cheap energy for local people and the hot water can be used for washing, cooking, and heating.

Fertile soils: Volcanic areas contain mineral rich soils and is ideal for farming.

Minerals: Lava contains minerals (diamonds, copper, zinc) that can be mined once cooled, and provides jobs for locals.

Poverty: Housing is cheaper and the very poor many have to live in unsafe locations. Many unable to afford to move.

Rarity: Lived in the area for years with very little tectonic activity. Believe there is a very low chance of something happening.

Family & lifestyle: People don't want to leave their family and friends.

Tourism: People travel to see volcanoes, and this provides money for locals.

Perceived safety: People feel safe in the buildings and that adequate measures are in place, so they won't be harmed.

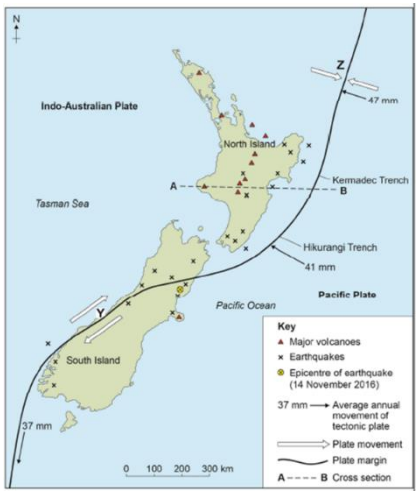
5. What is perceived safety?
6. What is geothermal energy?

7-8. Explain 2 reasons why people continue to live in tectonically active areas.

Exam Question Practice

SENECA **AQA Geography: 1.2.8 & 1.2.12**

Study the map below and answer the questions:



1. Name the type of plate margin at Y (1 mark)

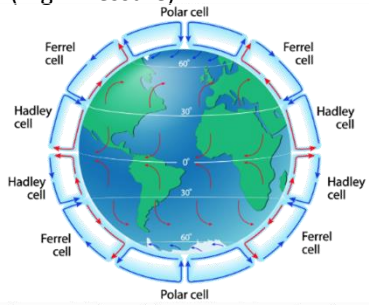
2. Which **one** of the following statements is true? (1 mark)

A. All earthquakes are found along a plate margin.
B. Earthquakes and volcanoes are evenly spread across New Zealand.
C. Volcanoes and earthquakes only take place on land.
D. The majority of volcanoes occur in a line through the central part of North Island

3. How much movement will there be along plate margin **Z** in 100 years? (1 mark)

A. 47 millimetres
B. 47 centimetres
C. 4.7 meters
D. 47 meters

Year 10 Cycle 1 Geography Knowledge Organiser – The Challenge of Natural Hazards

Week 5 – Tuesday 8th October 2024		
Lesson 11 – Global Atmospheric Circulation (1)	**Lesson 12 – Global Atmospheric Circulation (2)**	**Lesson 13 – Formation of Tropical Storms**
Key Terms: **Global atmospheric circulation:** Describes how air moves across the planet in a specific pattern. **High Pressure:** Air falling from the atmosphere to the Earth's surface. **Low Pressure:** Air rising from the Earth's surface to the atmosphere.	**Key Terms:** **Pressure belts:** A region on the earth that is dominated by a band of either high pressure or low pressure. **Surface Winds:** Wind blowing near the Earth's surface.	**Key Terms:** **Tropical Storm:** A very powerful low-pressure weather systems that has strong winds and heavy rainfall. They rotate anti-clockwise in the northern hemisphere and clockwise in the southern hemisphere
Content: **Heating the Earth:** **Concentration of Sun's energy:** The same amount of energy from the suns hit all over the earth BUT because the earth is curved, in some places like the North and South, the energy is spread out. The more spread out it is, the colder it will be. **Tricellular Model:** **Hadley Cell:** Warm moist air rises at 0°, travels north and south to 30°, becomes cool and dry then sinks. **Ferrel Cell:** Between 30° and 60° north and south of the equator. Warm moist air rises at 60°, travels towards 30°, becomes cool and dry and sinks. **Polar Cell:** Between 60° and 90° north and south of the equator. Warm moist air rises at 60°, then travels towards 90°, becomes cool and dry and then sinks at 90°.	**Content:** **Pressure Belts:** Winds are created as air moves between areas of high and low pressure. 0° - Intertropical convergence zone (ITCZ) (Low Pressure) 30° - Horse Latitudes (High Pressure) 60° - Polar Front (Low Pressure) 90° - Polar High (High Pressure)  **Surface Winds:** Wind travels from areas of high pressure to areas of low pressure 30° → 0° - Trade winds 30 → 60° - Westerlies 90° → 60° - Polar Easterlies	**Content:** Tropical storms form when ocean surface temperature is above 27°c. This is usually between the Tropic of Cancer (23.5° North) and the Tropic of Capricorn (23.5° South). **Formation of a Tropical Storm:** 1. Sun heats the ocean surface to a critical 27°c or above. 2. This causes warm moist air to rise creating low pressure. 3. Air cools as it rises at 1°c per 100m causing condensation and cloud formation 4. Some cooled air sinks back down creating the Eye of the storm 5. Air rushes in from higher pressure areas around the storm to the lower pressure areas at the centre of the storm, creating winds. 6. The whole storm starts to rotate because of the Earth's spin. Tropical storms can be anywhere between 500-2000km across and around 12km high.
Questions: 1. What is global atmospheric circulation? 2. What is the difference between high and low pressure? 3. Why are parts of the world hot and cold? 4. Name the 3 cells of the Tricellular model and their location	5. What are pressure belts? 6. Give 4 examples of pressure belts 7. What are surface winds? 8. Give 4 examples of surface winds	9. What is a tropical storm? 10. Which area of the world do tropical storms form? 11. How does a tropical storm form? 12. How wide and how high can a tropical storm get?

Year 10 Cycle 1 Geography Knowledge Organiser – The Challenge of Natural Hazards

Week 6 – Tuesday 15th October 2024

Lesson 14 – Features of a Tropical Storm

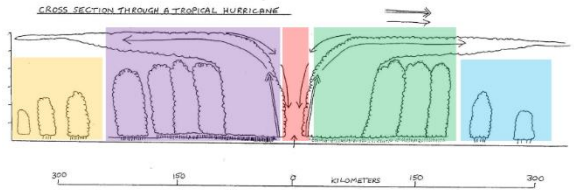
Key Terms:

Eye: A region of mostly calm weather in the centre of a tropical storm. Usually between 32-48km wide.

Eyewall: A ring of tall thunderstorms that produce the most intense rainfall and the strongest most damaging winds.

Content:

Cross section of a tropical storm:



Weather conditions across a tropical storm:

Light cloud over, wind speeds start to increase as the eye wall approaches along with very heavy rainfall, eye of the storm lands and there are light winds and fair weather. Sudden increase in wind and rain then cloud becomes thinner and rain decreases as the storm moves away.

Why do tropical storms disappear?

Friction: Moving over land slows their movement.

Cooling effect: Cooler waters means there is less energy.

Tropical storms and climate change:

Warmer air temperature and warmer oceans means the tropical storm season extends and they travel further.

Questions:

1. What is the eye and eye wall?
2. What are the weather conditions across a tropical storm?
3. Give 2 reasons why tropical storms disappear
4. How will climate change affect tropical storms?

Lesson 15 – Typhoon Haiyan – Where and what happened?

Key Terms:

Low Pressure System: An area of low pressure that draws air in and forms a storm.

Typhoon: The name given to a tropical storm that forms above the Pacific Ocean.

Content:

Location of the Philippines: A series of large islands off the coast of South east Asia, in the Pacific Ocean.

Timeline of Typhoon Haiyan:

2nd November 2013: A low pressure system develops east of Micronesia.

4th November 2013: Low pressure system upgraded to tropical storm and named Haiyan and forecasted to travel towards the Philippines.

7th November 2013: Storm enters the Philippines area of responsibility.

8th November 2013: Typhoon Haiyan makes landfall at 4.40am local time with winds of up to 306km/h (190mph).

9th November 2013: Typhoon Haiyan leaves the Philippines heading towards Vietnam.

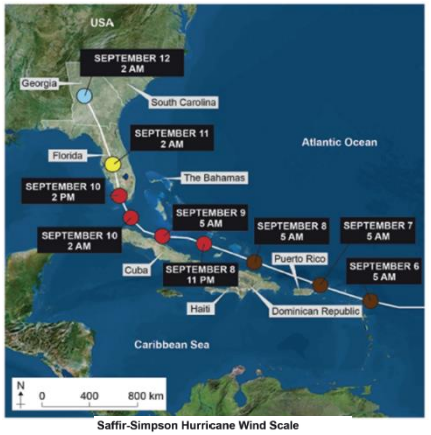
5. What is a low pressure system?
6. What is a typhoon?
7. Where is the Philippines?
8. Create a timeline of events for Typhoon Haiyan

Exam Question Practice

SENECA

AQA Geography: 1.3.1, 1.3.3 – 1.3.5 & 1.3.7

Study the map showing the path of Hurricane Irma



Saffir-Simpson Hurricane Wind Scale

Category	Wind speed (km/hour)	
1	119–153	
2	154–177	
3	178–208	
4	209–251	
5	252 or higher	

1. Describe the track of Hurricane Irma between 6 September 2017 and 12 September 2017 (2 marks)

2. What happens to the wind speed of Hurricane Irma between 8 and 12 September 2017? (1 mark)

3. Give **one** reason why the wind speed of a tropical storm (hurricane) may change as it reaches land (1 mark)

Year 10 Cycle 1 Geography Knowledge Organiser – The Challenge of Natural Hazards

Week 7 – Tuesday 22nd October 2024		
Lesson 16 – Impacts of and responses to Typhoon Haiyan	**17 – Reducing the effects of tropical storms**	**18 – Weather in the UK**
Key Terms: **Tacloban:** A city located in the Eastern Visayas area of the Philippines, 360miles from the capital Manila. It is highly urbanised with a population of 251,000. **Stagnant:** Water that has no current or flow and often having an unpleasant smell. **Malaria:** A serious and sometimes fatal disease caused by a parasite carried by certain types of mosquitos.	**Monitoring and Prediction:** Experts attempt to forecast when earthquakes will occur. **Protection:** Different measures to reduce the risk. **Planning:** Measures people do beforehand to reduce the risk.	**Key Terms:** **Climate:** The average weather conditions over a longer time period and over large areas. **Weather:** The day-to-day conditions of the atmosphere. It can change quickly. **Extreme Weather:** When the weather is significantly different from the usual weather pattern.
Content: **Primary effects of Typhoon Haiyan:** • Over 6,000 people died. • Over 1 million homes damaged or destroyed. • 90% of Tacloban destroyed. **Secondary effects of Typhoon Haiyan:** • Stagnant water attracted mosquitos and more people contracted malaria. • $20 billion cost of repair to Philippines (5% of GNP) **Short term responses to Typhoon Haiyan:** • 1200 evacuation centres • Aid agencies quick to respond with food, water and temporary shelters **Long term responses to Typhoon Haiyan:** • 'Cash for work' programmes set up – people paid to clear debris and rebuild the city. • Homes rebuilt away from areas of flooding.	**Monitoring & Prediction:** • Satellites, radar and weather charts used to monitor storms and calculate predicted path. • Predict where they will happen gives people live to evacuate and protect homes and businesses. **Protection:** • Windows, doors and roofs reinforced to strengthen buildings to withstand strong winds. • Build on stilts so they are safe above the floodwater. • Mangroves being planted as a natural defence. **Planning:** • Governments plan evacuation routes • Emergency services can prepare for disasters by practicing rescuing people. Educate people about potential dangers and create their own plans.  	**Content:** **Examples of extreme weather events in the UK:** **2013-14:** Flooding over December-February. Heavy rainfall led to the flooding of the Somerset Levels and the Thames valley. Damage also caused to the coast and the railway line at Dawlish. **2015-16:** Flooding in the north of the UK between December and January. Storm Desmond, Eva and Frank affected areas of Cumbria and caused £1.5 billion in damages. **2018:** Snow and low temperatures across the UK between February to March caused by the 'Beast from the East'. **2019:** Heatwave across UK and Europe in July. Temperatures reached 38.7°c. For 4 days, temperatures were 14°c above the average for August. **Is the UK weather becoming more extreme?** • Average temperature up by 1°c since 1980 which is linked to hotter summers and winter rains are becoming more intense.
Questions: 1. Where is Tacloban? 2. What is malaria? 3. State 4 effects of Typhoon Haiyan 4. State 4 responses of Typhoon Haiyan	5. What are the 3 Ps of tropical storm management? 6. Give 2 examples of prediction & monitoring 7. Give 2 examples of protection 8. Give 2 examples of planning	9. What is the difference between weather and climate? 10. What is extreme weather? 11. Give 3 examples of where the UK has had extreme weather 12. Is the UK weather becoming more extreme?

Year 10 Cycle 1 Geography Knowledge Organiser – The Challenge of Natural Hazards

Week 8 – Tuesday 5th November 2024

Lesson 19 – Somerset Floods 2014

Key Terms:

Somerset: A county in the southwest of England that boarders Gloucestershire and Bristol to the north, Wiltshire to the east, Dorset to the south east and Devon to the south west.

Somerset Levels: An area of coastal plain and wetland in central Somerset around 650km2. It is flat land lying close to sea level. It has 2 main rivers flowing through: River Tone and River Parret.

Content:

Effects of the Somerset Floods:

Social:

- 600 homes affected and many evacuated
- Villages cut off

Economic:

- Local businesses lost trade
- Farmers has to evacuate or sell their animals as no land for grazing

Environmental:

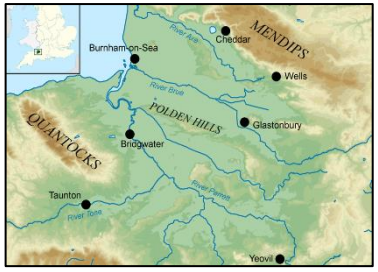
- Floodwater become contaminated with pesticides and then contaminated the land.

Management strategy:

£20 million Flood Action plan drawn up:

- More dredging
- Building higher embankments

Installation of permanent pumps



Questions:

1. Where is Somerset?
2. What are the Somerset Levels?
3. Give 3 effects of the floods.
4. What management strategy was put in place?

Lesson 20 – Evidence of Climate Change

Key Terms:

Climate Change: Lasting change in long term weather patterns over a significant period of time.

Quaternary Period: A period of time that began about 2.6 million years ago and continues today.

Content:

Evidence of climate change: There are different pieces of evidence to show recent and ancient climate change.

Weather recordings: Thermometers are more accurate not and can be recorded remotely. Easy to tell if the climate has changed and be able to compare places.

Ice cores: Air gets trapped within the ice. This happens every year. Small changes in temperature and air composition can be measured.

Rocks and fossils: Certain animals only live in certain areas and in certain climate conditions. This can be used to determine the climate was like when they were living.

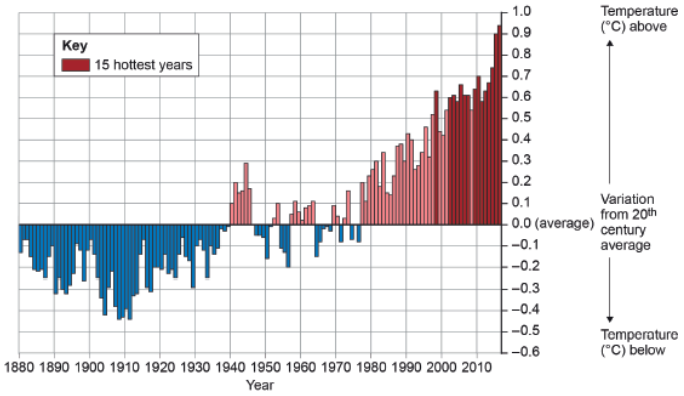
Analysis of pollen and trees: If there is more pollen, then this would suggest a warmer climate, and if there is less pollen, then a cooler climate. Tree rings can show climate change. In a warm and wet year, the rings are wider. In a cool and dry year, the rings are thinner.

5. What is climate change?
6. What Is the quaternary period?
7. How does ice cores show evidence of climate change?
8. How do tree rings show evidence of climate change?

Exam Question Practice

SENECA **AQA Geography: 1.3.2, 1.3.8 & 1.4.1 – 1.4.2**

Study the graph below showing variation in average global temperatures, 1880-2017



1. Describe the changes in average global temperature between 1880 and 2017 (3 marks)

2. Which **one** of the following statements is true? (1 mark)

A. In the early 1940s global temperatures were below the 20th century average.

B. Global temperatures showed a steady increase between 1940 and 1980.

C. The 15 hottest years were all recorded between 1995 and 2017.

D. Global temperatures have been above the 20th century average every year since 1960.

3. Give **one** natural cause of changes in global temperatures (1 mark)

Year 10 Cycle 1 Geography Knowledge Organiser – The Challenge of Natural Hazards

Week 9 – Tuesday 12th November 2024

Lesson 21 – Natural causes of Climate Change

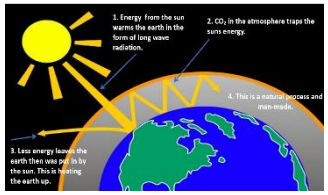
Key Terms:

Global Warming: Gradual increase in the overall temperature of the earth's atmosphere.

Greenhouse effect: Trapping of the sun's warmth in the planet's lower atmosphere.

Content:

The greenhouse effect:



Energy from the sun warms the earth, carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) traps some of the sun's energy, heating up the earth.

Natural Causes of Climate Change:

Orbital Changes: Changes in how the Earth moves around the sun changes. Every 100,000 years the Earth's orbit changes from circular to elliptical (egg shape). This changes how much sunlight we receive.

Sunspots: Sun's output is not consistent. Sunspots is the sun releasing more energy. When there are more sunspots, temperatures increase. Lasts around 11 years.

Volcanic Activity: Volcanic eruptions leads to periods of cooling. Ash and dust being ejected into the atmosphere reduces the amount of sunlight by 10%.

Questions:

1. What is the greenhouse effect?
2. How do orbital changes change the earth's temperature?
3. How do sunspots change the earth's temperature?
4. How do volcanic eruptions change the earth's temperature?

Lesson 22 – Human Causes of Climate Change

Key Terms:

Enhanced greenhouse effect (EGHE): The natural greenhouse process is being enhanced by increasing atmospheric concentrations of certain gases through human activity.

Fossil Fuels: A natural fuel such as coal or gas, formed in the geological past from the remains of living organisms.

Agriculture: Practice of farming, including cultivation of the soil for growing crops and rearing animals.

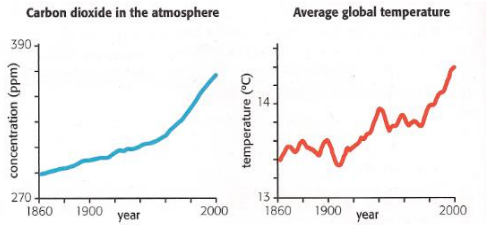
Content:

The 3 main causes of the enhanced greenhouse effect:

Burning fossil fuels: When fossil fuels (coal, oil and gas) are burned, they release CO_2 into the atmosphere. The amount of CO_2 is slowly increasing as more fossil fuels are used.

Deforestation: When trees are cut down, they can no longer absorb CO_2 through photosynthesis, meaning more CO_2 is left in the atmosphere. CO_2 stored in the trees is also slowly released back into the atmosphere.

- **Agriculture:** Farming contributes greenhouse gases through their land use. Methane is released from rice cultivation and nitrous oxide is released from the use of fertiliser.



Questions:

5. What is the enhanced greenhouse effect (EGHE)?
6. How does burning fossil fuels contribute to the EGHE?
7. How does deforestation contribute to the EGHE?
8. How does agriculture contribute to the EGHE?

Lesson 23 – Effects of Climate Change

Key Terms:

Effect: A change which is the result or consequence of an action.

Social effect: A consequence of an action which impacts people or a community.

Environmental effect: A consequence of an action which impacts the surrounding area, both natural and built.

Content:

Positive effects of climate change:

- In the Arctic, warmer temperatures will make sailing and fishing easier, as well as reducing heating costs.
- Increased crop yields in North America, east and southeast Asia by 20%
- Areas of western and southern New Zealand may experience a longer growing season due to less frost and increased rainfall.

Negative effects of climate change:

- Warmer climate means diseases such as malaria will spread putting 60% of Africa at risk.
- European ski resorts will suffer loss of tourism due to lack of snow.
- Increased pressure on water resources for drinking and farming in southern Europe.
- Fresh water supplies in Asia likely to decrease and affect more than 1 billion people by 2050.

By 2050, savannah will start to replace rainforests in South America leading to huge biodiversity loss.

Questions:

9. What is a social effect?
10. What is an environmental effect?
11. Give 2 positive effects of climate change
12. Give 2 negative effects of climate change

Year 10 Cycle 1 Geography Knowledge Organiser – The Challenge of Natural Hazards

Week 10 – Tuesday 19th November 2024

Lesson 24 – Mitigation of Climate Change

Key Terms:

Mitigation: The actions that addresses the root causes and reduce the severity or seriousness of something.

Renewable energy: Energy from a source that is not depleted when used.

Content:

Alternative Energy: Using sources of energy that do not release CO_2, do not run out as they replenish themselves. For example, solar, wind, wave, tidal, HEP and geothermal.

Carbon Capture and Storage (CCS): Emissions from power plants are captured and pumped underground, so not released into the atmosphere. USA has enough space to store 1-4 trillion times of CO_2. They emit 6 billion tonnes a year.

Replant Trees: Trees absorb CO_2 through photosynthesis. More trees there are planted, the more CO_2 will be absorbed. Woodlands trust have planted millions of trees over the last 40 years.

- **International Agreements:** Aims for countries to reduce greenhouse gas contributions. It sets countries a limit on how many emissions they can emit. The main agreement was the Kyoto Protocol in 1997. The most recent one is the Paris Agreement in 2015.

Questions:

1. What is mitigation?
2. How does alternative energy reduce CO_2 emissions?
3. How does replanting trees reduce CO_2 emissions?
4. How does international agreements reduce CO_2 emissions?

Lesson 25 – Adaptation to Climate Change

Key Terms:

Adaptation: The action of lowering or reducing the risks posed by the impacts of a change.

Content:

Agricultural change:

- Change type of crop grown.
- Bioengineer crops to handle changes in the climate.
- Shade trees can be planted to protect land from strong sunshine.

Managing water supply:

- Increase storage capacity by building reservoirs and dams.
- Improve rainwater harvesting
- Economic incentives to encourage water conservation.

Reducing risk from sea level rise:

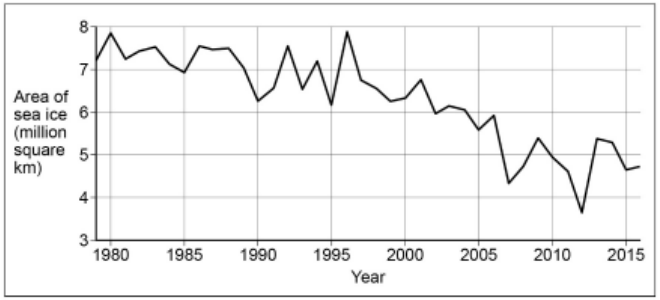
- Building houses off the ground/on stilts.
- Build sea defences such as sea walls.
  Restoration of coastal mangrove forests.

5. What is Adaptation?
6. Give 2 ways agriculture can adapt to climate change
7. Give 2 ways managing water supply
8. Give 2 ways to reduce the risk from rising sea levels.

Exam Question Practice

SENECA **AQA Geography: 1.4.2 – 1.4.4**

Study the graph below showing changes in the area covered by Arctic Sea ice.



1. Describe how the area of Arctic Sea ice has changed (2 marks)

2. Give **two** ways that human activity may have contributed to the changes shown in the graph (2 marks)

Buckland Abbey (Monastery) Knowledge Organiser

1	Who founded Buckland Abbey in 1273?	Amicia, Countess of Devon
2	What order of monks were at Buckland Abbey?	Cistercian
3	What was a 'lay brother'?	A monk who mostly did manual labour rather than mostly religious duties
4	Which end of a church is most holy?	East End – it faces Jerusalem
5	In what shape were churches built in medieval times?	A cross (Cruciform)
6	Name 5 buildings that existed in the monastic era.	The abbey, the Great Barn, an infirmary, dormitories, Cloisters, north and south transepts
7	What is the Rule of St Benedict?	Collection of religious texts read by the Choir monks
8	What would have been produced on site as a Monastery?	Beer, bread, agricultural produce, wool.
9	What feature dominated the abbey building?	The crossing tower
10	Name 2 reasons the monks picked such an isolated place in Dartmoor to build an abbey.	To avoid distractions (better for religious reflection). Good water supply. Building materials.
11	Why might an artist's modern day reconstruction of what Buckland looked like as a monastery not be accurate?	Lack of sources and lots of changes made over the years (particularly by Richard Grenville).
12	How might an artist overcome the problem of not knowing what Buckland used to look like?	There are some remains of the original monastery. Comparison to other monasteries like Fountains Abbey.
13	What are the architectural features of the monastic buildings?	Buttresses, slit windows, bar tracery (stonework that supports glass in a stained glass windows), arched windows, made of stone.
14	What is a bar tracery?	Stonework that supports glass in a stained glass window

Key Terms

Abbot	a man who is the head of an abbey of monks
Abbey	the building or buildings occupied by a community of monks or nuns, also known as a monastery
Dormitories	the building in which the monks sleep
Chapter House	the building where monks hold meetings and where a chapter of the Rule of St Benedict would be read to them every morning
Buttress	a structure of stone or brick built against a wall to strengthen or support it.

Buckland Abbey (Tudor Home) Knowledge Organiser

1	Which King dissolved the monasteries by 1539?	Henry VIII
2	Who bought Buckland from Henry VIII?	Richard Grenville the Elder
3	Why did Henry Break from Rome? (To leave the Catholic church and create the Church of England)	To get a divorce from Catherine of Aragon and to gain the wealth of England's monasteries.
4	In what decade does Richard Grenville (the grandson) make alterations?	1570s
5	What kind of changes did Richard Grenville the Grandson make?	Removed North and South transepts; demolished cloisters and dormitories; Created a second floor in the Nave; Changed the Chancel into a service wing for servants + kitchen.
6	Why did Grenville make the changes?	Changed the building to take away its Catholic roots. Complex and solid build of the abbey meant to was too difficult and costly to change much.
7	What did MOST Tudor gentlemen do when buying an old monastery?	Demolish it and build a new home from scratch.
8	What other general features of Buckland show that it was a Tudor manor?	Rectangle/square windows (a design popular in the Tudor era. These did not exist in the monastic era.
9	How can we prove that the Grenville family had the fireplaces built in Drake's Chamber?	They have the family device or logo on them.
10	Who did Grenville sell Buckland to in 1580?	Sir Francis Drake
11	When the Drakes took over Buckland, did they invest heavily in it between 1590-1740?	No because their main property became Nutwell Lodge in Exeter from 1699 onwards and Buckland became a second home, visited irregularly.

Key Terms

Break From Rome	When Henry VIII broke away from the Catholic Faith and replaced the Pope as the Head of the Church in England. This occurred in 1533-4 and he dissolved the Catholic monasteries in England by 1539.
Tudor Era	A period in History with Tudor monarchs (like Henry VIII and Elizabeth I)
Catholic	A Christian who follows the Catholic faith and who follows the words of the Pope
Protestant	A Christian who does not follow the words of the Pope. They are 'protesting' against Catholicism.
Dissolution	The process of closing (dissolving) the monasteries in England. It happened from 1536. Buckland was

Buckland Abbey (Agricultural Revolution) Knowledge Organiser

1	Name two ways that the Agricultural Revolution made farming more productive	Enclosure meant more food could be grown. New machinery like the Seed Drill. Selective breeding to improve the quality of sheep, cows, pigs.
2	Which agricultural reformer visited Buckland in the late 18th century (late 1700s)?	William Marshall
3	How was the Great Barn amended?	3 new doors added, allowing carts to be driven the whole length of the barn.
4	Who owned Buckland when changes were made during this era?	Lord Francis Augustus Heathfield
5	Which extra buildings were built during this time?	The Ox Sheds and The Linhay
6	What animal was used to plough the fields?	Oxen
7	A diary was kept by Marshall, telling us about daily life. How many days per week did agricultural labourers work?	6
8	Did just men work at Buckland?	No – oxen and children too.
9	Name different tradesmen named in Marshall's diary	Mason, wheelwright, blacksmith, miller, cooper, harness-maker and a Mole Catcher.
10	Name types of crops grown at Buckland	Wheat, barley, oats, turnips, potatoes, cabbages, peas, dairy produce, honey and cider.
11	What did the owner of Buckland do with the wealth generated by improved farming?	Built the impressive wooden Georgian staircase.
12	Did the Drake's live Permanently at Buckland Abbey?	No, they were based at Nutwell Lodge near Exeter
13	What did the area which is now the Education Centre used to be	The Milking yard for dairy cows.

Key Terms

Agricultural Revolution	a period of technological improvement and increased crop productivity that occurred during the 18th and early 19th centuries in England and Europe
Linhay	A type of farm building found in Devon and Somerset. It has two storeys – the hay loft at the top and bottom storey is for keeping cattle in during winter. The hay at the top acted as insulation for the cows to keep warm
An estate (noun)	an extensive area of land in the country, usually with a large house, owned by one person or family
Georgian period	The **Georgian era** is a period in British history from 1714 to c. 1830–37, named after the kings George I, George II, George III and George IV.

Buckland Abbey (National Trust) Knowledge Organiser

1	Which resident of Buckland does the National Trust celebrate the most?	Sir Francis Drake
2	Name ways in which Drake is commemorated	There is a sundial to commemorate 400th anniversary of his death. A Drake statue in the Lifetimes gallery. Drake's Drum on display. Paintings and artefacts. Stag horns in kitchen.
3	What have the Ox Sheds been converted into?	Shops, galleries, toilets, video presentation room..
4	Name some changes the National Trust has made to make it attractive for tourists	Access made easier (e.g. for wheelchair users); Information signs ; Restaurants, toilets to ensure people are relaxed; opportunity to spend money (e.g. Gift Shop)
5	What has been done to attract children to Buckland?	The upstairs of the main house is modelled as a ship with entertainment for children, like being able to dress up. Ice cream!
6	What is the Linhay now used for?	To display agricultural machinery such as different types of ploughs
7	What is the Great Barn used for now?	It has a Victorian Cider Press (simply because it is interesting to tourists) and sometimes art exhibitions
8	What is the Guest House now used for?	The building tourists walk into to pay for entry/present their membership card of the National Trust. Another part of the Guest House is the gift shop. The Restaurant/Café.
9	What is the significance of Education Room?	Provides a base for visiting schools – shows the National Trust care about education

Key Terms

National Trust	**UK conservation charity, protecting historic places and green spaces**
English Heritage	Another charity, founded by the government to preserve historic sites.

Buckland Abbey (Compared with Fountains Abbey) Knowledge Organiser

1	What was Fountains Abbey built from?	Sandstone
2	Was the abbey bigger or smaller than Buckland?	Bigger
3	How many people worked at Fountains when the abbey was at the height of its wealth?	200
4	What ornamentation was there on Fountains Abbey?	The Green Man (like a gargoyle) and carving of the Abbot's face.
5	How were choir monks and laybrothers kept separate in terms of the abbey buildings at Fountains?	Stairs and dormitories were separate
6	Name additional buildings at Fountains Abbey other than the abbey	Dormitories, Refectory, library, Chapter House, Kitchen
7	Name three ways Fountains abbey is DIFFERENT to Buckland Abbey	Had a library and separate place for lay brothers The burial ground at Fountains Abbey is much more understood – as there are gravestones which mark the burials of 19 Abbots The cloisters are on the south side of the monastery (like nearly all monasteries) whereas Buckland was on the North (due to draining issues).
8	Fountains Abbey was dissolved in 1539 like Buckland was. In the 1600s ,Stephen Proctor decided to make a Tudor Home on the site. Did he convert the abbey or use the stone from the Abbey ruins to build a new house?	Used the stone from the ruins to build a new house.
9	When was Fountains Abbey at its wealthiest?	1200s
10	Why did Fountains Abbey face financial troubles in the 1300s?	It experienced sheep disease. The Black Death killed many of its inhabitants. Famine in Scotland meant Scots came from the north to steal from Fountains Abbey

Key Terms

Fountains Abbey	The ruins of an Abbey in North Yorkshire

Medieval C&P Knowledge Organiser

Medieval Britain

Society: 'Hierarchical' with the king at the top and peasants at the bottom. Everyone knew their place in society

Food and famine: Farming was important for food and work - if the harvest failed there would be famine
1348 Black Death disrupted farming as millions died and the land was left unfarmed.

Life and leisure: Church calendar dictated way of life – Sundays were rest days, also Saints' days.
fairs and sports on feast days and holidays.
people drank beer as water unsafe.
most people were illiterate

Landownership: Land was the basis of power – provided food and wealth. England divided into 'counties' or 'shires' – each shire ruled by a sheriff – shires divided into 'hundreds' - hundreds then divided into parishes. communities were small and everyone knew each other, strangers were easily spotted

Technology: Most work done by hand with tools such as axes, hammers and spades. Communication by word of mouth - priest could read and write so kept records. 1476 – England's first printing press in London

War and rebellion: A peaceful society depended on each person or group showing loyalty to those above. Occasional rebellion from lords against king - 1381 Peasants' Revolt and 1455-1487 Wars of Roses meant people were familiar with bloodshed and violence.

The church: Catholic country and many churches were richly decorated Church taught that God cared about his people on earth - God would forgive people their sins if they followed honest lives - sinners would be punished in hell - not all priests led holy lives.

Homes and possessions: Peasants' houses were simple wooden structures with walls of hardened mud, no glass windows but wooden shutters - wealthier homes in the towns were similar - people had few belongings.

Crime

The majority of crimes in this period were non-violent, theft being the most common crime. 1315-1321 was the great famine, following a succession of bad harvests. The crime rate increased due to debt and hunger, this was reflected in the changing nature of crimes towards the end of the medieval period.

Serious Crime	Petty Crime
• Murder • Stealing expensive goods (12d.+) • Suicide – the church taught that only God could decide when a person's life should end	• Stealing goods worth less than 12d • Getting into debt • Limited harm to person or property

Treason	Crime of plotting against your monarch or country was defined, included a woman killing her husband. Counterfeiting coins.
Vagrancy	When people wandered from place to place in search of work.
Scolding	Using offensive or abusive speech in public - 1350 onwards became a crime applied mainly to women.
Outlaw gangs	Gangs of robbers were most feared, as travellers were ambushed, houses robbed and villages threatened with burning if valuables not given Gang members were often outlaws, on the run after being accused of committing crimes in own villages.
Heresy	Spreading beliefs not allowed by the church became a crime.
Immoral behaviour and beliefs	Laws passed against dice, football and other games, church believed they encouraged idleness. Moral crimes included shaving beards on Sundays and committing acts of homosexuality.

Medieval C&P Knowledge Organiser

Law Enforcement

King: in overall charge – kept the 'king's peace'

Sheriff: King's chief law enforcer in each county. Had an armed posse to help him. Often took a share of property of convicted.

Chief constable of the hundred: Supervised law and order in their area. Made sure every free man aged 15-60 was ready to take up arms to support the king.

Parish constable: Ensured his parish could supply armed men when needed. Powers to arrest suspicious strangers.

People/Hue and cry: Adult men were grouped into 'tithings.' If one broke the law the others had to bring him to court. Victims of crime called the 'hue and cry' – all those within earshot had to stop what they were doing and help.

Towns: Watchmen patrolled the town streets at night - suspicious individuals were arrested and handed over to constables, it was an unpopular job

Royal Courts: Heard the most serious criminal cases - overseen by a judge - jurors were drawn from criminal's own area

Justices of the Peace (JPs): Existed from 1361 and an important change as took over the hundred courts (courts run by the county sheriff) - appointed by the king (2 or 3 in each county) - 1388 onwards quarter sessions were held every 3 months (4 times a year)

Manor Courts: From 1250, took over work of the hundred courts - dealt with most crimes in England – petty crimes, thefts, land disputes, fights and debts - run by the lord or his steward and wealthy villagers made up the jury - each manor had their own local laws - began to lose influence 1500 onwards

Church Courts: Dealt with crimes that were considered un-Christian – immoral priests, homosexuality, swearing, gambling and failure to attend church - priests heard the evidence and passed judgement- no juries

Medieval Juries: Selected from the same parish or hundred - used prior knowledge of accused to reach their verdict - judge followed juries' verdicts - trials usually lasted about 20 minutes	**Verdicts:** 'Guilty' or 'Not Guilty' - many juries were lenient - often let the accused go free, especially women

Punishments

Serious Crimes	
Hanging	Rope placed around the neck and criminal slowly strangled Punishment for murder, rape, theft of goods 12d.+, burglary and robbery
Hanging, drawing and quartering	Criminal hanged then taken down whilst still alive - intestines cut out and/or genitals - quartered – body cut into pieces Punishment for high treason (plotting to kill the king) and counterfeiting
Burning	Criminal usually tied to a wooden post surrounded by wood - bonfire then lit Punishment for petty treason (wife killing husband or servant their master) and heresy

Petty Crimes	
Fines	Payment of money - those who oversaw each level of court kept the financial proceeds
Public humiliation	Cucking stool –forced to sit on a wooden seat in public Stocks (sitting) and pillories (standing) – criminals would have rotten fruit and vegetables thrown at them
Imprisonment	Those awaiting trial would be imprisoned - used to punish debtors and forgers

Avoiding punishment

1. Run away
2. Seek sanctuary in a church
3. Powerful friends
4. Refuse to plead
5. Hope for a friendly jury
6. Buy a pardon from the king
7. Join the king's army
8. Be pregnant (women)
9. Claim benefit of clergy
10. Become a king's approver

Early Modern C&P Knowledge Organiser

Early Modern Britain

Growing population and urbanisation: 1550-1650 population doubled from 2.4 million to 4.1 million. Most people continued to live and work in the countryside. 1750 – 20% of population lived in towns. London = largest and busiest city in Europe.

Growing inequalities between rich and poor: More prosperous but still inequality. Population growth: food prices increased, wages fell and unemployment.1590s = harvest failure so people moved to towns for work.

Travel: People began to move in search of work - drovers herded cattle and sheep - carriers to cloth to the towns. 1600s – start of road-building, used by stagecoaches to transport goods and people - normal for people to travel with valuables

Technological change – the printing press: transformed people's lives and multiple copies of books and pamphlets could be made quickly and cheaply. growth in literacy – people could read local and national news and be more informed. 1641 onwards – broadsheets first emerged 1750 = 4 daily newspapers in London and 30 in different towns across the country.

Religious changes and Puritans: 1530s onwards = Protestant Reformation brought religious change . people had to follow official state religion chosen by the monarch (Protestantism). late 1500s Puritans emerged – tried to enforce higher standards of behaviour sinful acts condemned - drinking, gambling, dancing, swearing.

Growing power of the state (government): Under Tudor monarchs (1485-1603) the power of the state grew - Henry VIII insisted on "Your Majesty". Parliament introduced new laws - people's lives more closely controlled by the government.

Power of the landowners in the countryside: Landowners played important part running the country - in each county landowners were MPs, JPs and enforced the law. 1660 onwards as king had limited power, large landowners more powerful.

Civil War 1642-1648 King vs Parliament: disagreement over ruling of England, King defeated and executed January 1649 people suffered as battles fought across the country – thousands killed. England a republic, Oliver Cromwell and Puritans governed

Crime

Crime dramatically increased mid-16th-mid 17th centuries, particularly amongst the poor. Vagrancy, witchcraft, smuggling and highway robbery emerged as new crimes. In Elizabethan England (1558-1603) printed pamphlets and leaflets sensationalised crime and gangs.

Vagrancy	Caused by failed harvests and fall in demand for cloth. Those living in poverty = no choice - leave their village and become vagrants. Sensationalised by printed press – accused of committing thefts, assaults and murders. Reality – few vagrants were criminals; many travelled alone or in twos or threes, desperate for work.
Moral Crime	Growing Puritan beliefs - moral crimes: drinking, swearing, sexual immorality, not attending church, scolding in public
Witchcraft	Medieval times = few cases of witchcraft. 1500-1650 widespread belief in magic and the devil giving powers to witches through familiars (spirits in the form of small animals which fed on witch's blood.) Usually single elderly women who quarrelled with a rich villager. Accusations of causing harm – death of animal or sickness of a child. C16th / 17th harsh new laws against witchcraft introduced. Witchcraft trials increased: famines of 1580's and 1590s; chaos of Civil War – Puritan areas. Early 18th century – witchcraft trials decreased - new scientific ideas about the world emerged.
Smuggling	Smugglers secretly brought goods into the country without paying high taxes. Smuggling gangs would bring these goods across the Channel and landers would bring them ashore on small boats - included respectable people who disliked paying taxes and poor people who could earn money through smuggling.
Highway Robbery	C17th / 18th roads were built and travel increased. Wealthy were targets as they often carried their money and jewellery with them as no banks. Highway robbers later portrayed as romantic gentlemen thieves, in reality they were often brutal thugs.

Early Modern C&P Knowledge Organiser

Law Enforcement

Continuity from the Medieval period	Change from the Medieval period
- No police force – communities continued to police themselves. - Prosecutions – decision to prosecute someone was made by individuals. - Hue and Cry – continued to be raised by the local constables and the people were expected to join in. - Law enforcement – administered by unpaid and amateur officials such as JPs, constables and churchwardens.	- Watchmen – patrolled the streets and arrested drunks, vagabonds and criminals. - JPs role extended – an important change – dealt with criminals at petty sessions. - Decline of office of sheriff, manorial courts and church courts.

	Type of offences	Organised/administered
Assizes	- Serious crimes/capital offences - murder, manslaughter, highways robbery, burglary, grand larceny (stealing goods 12d.+), witchcraft and rape.	- Country divided into 6 circuits - Each circuit visited by 2 judges twice a year. - Dealt with 'capital offences' which carried the death penalty
Quarter Sessions	- Less serious crimes – petty theft - Extra powers – licensing ale houses, regulating local sports and arresting vagrants.	- Administered by JPs - Visited each county every four times a year.
Petty Sessions	- Drunkenness and minor violence	- JPs met regularly in local areas to cope with the increased amount of work.
Manorial Courts	- Played an important role in controlling behaviour of tenants on individual manors: - Let their animals stray - Stole wood from the common - argued with neighbours	- 17th century = became less important as the Petty Sessions gradually took over their work.
Church Courts	- Played an important role monitoring Christian behaviour: - church attendance - sexual offences - drunk on Sunday - swearing at neighbours	- Survived the Reformation - Active late 16th and early 17th centuries.

Punishments

There was some continuity in the use of punishments between Medieval and Early Modern periods, such as execution. New types of punishment were introduced to deal with the changing nature of crime and the lack of police force.

Public Humiliation: Became widespread as crimes such a vagrancy increased.
Pillory: offender's head and arms were put in wooden frame and they were pelted with rotten food, stones and excrement - used for those who traded unfairly or committed sexual offences
Stocks: arms and feet were placed in heavy pieces of wood and locked in position - people were pelted with rotten food, spat on, insulted or kicked
Scold's bridle: a heavy iron frame locked onto a woman's head, a projecting spike pressed down on the tongue
Cucking stool: disorderly women, scolds and dishonest tradesmen were paraded around on a cucking stool
Ducking stool: offender tied to a chair and repeatedly lowered into a river or pond, used on suspected witches

Prisons: Less common form of punishment
Still mainly used to hold those in debt or awaiting execution
1531 Gaol Act – forced JPs to build prisons where needed
Bridewells (houses of correction) a new form of punishment - introduced to help tackle the vagrancy problem - prisoners were forced to work or were punished if they refused to do so
1609 Vagabond Act forced JPs in every county to build a bridewell

Bloody Code: Increased capital offences as people were hanged for minor crimes
Introduced 1688 to 1820 – the threat of hanging was intended to be a strong deterrent
No police force to protect property so MPs used their parliamentary power to pass to frighten people into obeying the law
1723 Black Act made poaching deer, rabbit and fish a capital offence
By 1820 = 200 capital offences (compared to 50 in 1688), most were for crimes against property
However, number of hanging decreased; assize judges often unwilling to pass a sentence of hanging for minor crimes

Industrial C&P Knowledge Organiser

Industrial Britain

Growing population and Industrialisation: From 1750, population rocketed: 1750 = 6 million 1850 = 21 million 1900 = 37 million. Mass migration of people from the countryside to towns in search of jobs

Urbanisation: Growth of cities – Birmingham, Bradford, Leeds and Manchester - by 1850, more people lived in towns and cities than rural areas - lodging houses provided temporary accommodation for families moving to cities

Growing inequalities between rich and poor: industrialisation brought wealth to some but poverty to others - upper and Middle classes moved out of town centres to suburbs - working classes crowded into terraced houses and back-to-backs near the factories

Poverty – rural and urban: life was grim for the urban poor; families lived in back-to-back houses that were overcrowded and insanitary - rural labourers continued to live in poverty; often forced to eat turnips from the fields, unemployment forced many to the towns in search of work - no government benefits at this time so people struggled to survive.

Railways: network of railways built across Britain during 1830s and 1840s. navvies (mostly Irish) blasted the tunnels, laid the lines and moved the earth. By 1850, most major towns and cities were connected by rail. People and goods were moved quickly and cheaply across the country. Coach and canals companies went into decline

Growing literacy: churches and charities schooled the poor. 1870 Forster's Education Act made schooling compulsory for all to age 10. Demand for newspapers grew as more people could read and write. Newspapers vital for growth of working class political consciousness - people demanded reform to living and working conditions

Growth of Democracy: until 1832, 5% of the population could vote. 1832 Great Reform Act enfranchised middle class men and larger towns had MPs. 1867 Second Reform Act enfranchised skilled working class men. 1884 Third Reform Act enfranchised more working class men; 2/3 could not vote

Alcohol: During the 19th century, pubs played a major part in the lives of the working class - scape from the despair of the slums - drunkenness led to violence and caused misery in many working class families. Temperance Movement formed to persuade people to stop drinking alcohol.

Crime

Industrial Revolution had a huge impact on types of crime – many of which were new. 1750-1850 – crime rates increased, 1850 onwards – crime rates fell. New ideas emerged about the causes of crime, such as poverty, bad moral habits or physical features.

Why did crime increase?	How did crime change?
- 1750 → effects of industrial revolution - increase in population, growth in trade and urbanisation led to a rise in crime - 1815 → end of Napoleonic Wars saw a sharp increase in crime as thousands of soldiers returned home to face rising prices. - Urbanisation - overcrowded lodging houses (often temporary accommodation) and crowded alleyways contributed to increasing crime rates. - Therefore, most crime was opportunistic (unplanned)	- Petty theft remained the most common crime – from factories and houses – much of this was opportunistic - Prostitution remained the most common crime for women New crimes: - Fare-dodging on the railways - Vandalism (on the railways) - Failing to send children to school 1870 - Stealing water from standpipes (in many cities, water was owned by private companies) - Violent crimes and murder rates remained low – around 10%

Causes of Crime

Radical thinkers	Conservative/traditional thinkers
- John Glyde – genuine concern for the poor - blamed poverty - poor environment the poor lived in - slum children had little education	- Blamed crime on the bad moral habits of the poor - drunkenness and gambling - dismayed at number of pubs and alehouses in working class areas
Biological/physical causes - New theories emerged in the 19th century: - Children born to criminal parents inherited criminal tendencies – that 'bad genes' were passed from parents to children. - Criminals had different physical features such a different shaped heads, hands, colour of skin	**Temperance Movement** Became popular at this time - favoured complete abstinence from drinking alcohol - belief that the pubs and alehouses left the poor without money or food - poverty led to gambling, violence and prostitution.

Industrial C&P Knowledge Organiser

Law Enforcement

John Fielding	Robert Peel
- First experiments in professional policing - 1754-1780 a magistrate at Bow Street Court, London - 1750s – organised groups of part-time constables who were paid to patrol London's main streets and roads until midnight. - 1800 – 68 Bow Street runners - 1773 - Hue and Cry published – weekly newspaper that detailed criminals and stolen property.	- Due to rising crime rates 1800 → Bow Street Runners, constables and watchmen couldn't cope. - 1829 Sir Robert Peel (Home Secretary) set up first Metropolitan Police force of 3000 men - 'Peelers' or 'bobbies' were armed with a truncheon and wore a uniform of dark blue tall hat and coat. - Initially, people were opposed to the idea of a police force paid for out of public money.

Developments in Policing after 1829

1835 Municipal Corporation Act - Allowed towns to set up a police force
- Slow to effect change as only 100/178 towns had a police force by 1838

1839 Rural Constabulary Act - Allowed county magistrates to set up a police force
- Slow progress because of the cost, 2/3 of counties had a police force by 1855

1856 County and Borough Police Act - Created a national police force
- 3 new Inspectors of Constabulary ensured local forces met national standards.
- Government met 25% of funding for forces

Changing role of Police Officers	Changing role of Courts
- Preventing crime – most important role: - Removing drunks, vagrants and prostitutes from the streets - Dealt with pubs that allowed Sunday drinking, gambling and illegal sports - Prevent theft and violence - CID (Criminal Investigation Department) founded 1878 - New technology helped crime detection: - photographing crime scenes 1880s - use of telegraph to relay information 1867 - use of fingerprinting 1897	- Small developments - Assizes and quarter sessions tried felons - Petty session and magistrates continued to deal with minor offences - Lawyers acted for both the prosecution and defence - Trials were longer and more formal

Punishments

Capital Punishment
- Changes meant more humane forms of hanging and fewer executions: 1800-1809 = 871 people : 1830-1839 = 297 people
- 1780s 'new drop' - execution by hanging brought inside the prison walls due to concern over rowdy behaviour prisoner died more quickly by being dropped through a trap door. However, hanging took place on the roof so people could still witness them.
- 1872 'long drop' calculated how much rope was needed to break the neck instantly, so death quick and painless

Peel's reforms:
Reduced the number of capital crimes; only murder and attempted murder punished by hanging.
1868 public executions made illegal

Transportation
- 1780s – Australia chosen: it was unknown - crime would be reduced - convicts provided labour
- May 1787 - first convicts transported

Who – thieves and political prisoners (Tolpuddle Martyrs who wanted to form a trade union)
Sentences = 7 or 14 years, or lifetime

The Convict Colony
harsh conditions – convicts shackled
hard labour – digging ditches, felling trees, planting crops, construction
harsh punishment – lashes with whip

Change – arguments against transportation
Harsh journey/working/living conditions
Taxpayers supported convict's family
resented by Australia
ended 1868

Prisons
After campaigns for change, the modern prison system was formed.

John Howard 'The State of Prisons'
prisons be built near water supply
prisoners have own cell
adequate food and 2 clean shirts a week
gaolers be paid

Elizabeth Fry
reformed Newgate prison for women:
education and readings from the Bible
encouraged sewing and knitting
1811 Millbank Prison built – failed
1823 Gaols Act – separate cells
1842 Pentonville Prison built

Separate system
prisoners kept apart from each other
led to loneliness and mental breakdown

Silent system
prisoners not allowed to speak
1865 Prisons Act – hard labour, fare and board

Since 1900 C&P Knowledge Organiser

Britain Since 1900

Continued growth of cities and towns: 20th century – the poor lived in large estates in town centres or conurbations (cities merging with outlying towns), the rich and middle classes lived in the suburbs. Few people live and work on the land. By 2011, over 80% of the population lived in cities or large towns.

Changing work and increased wealth: Following economic struggles of early 20th century, Britain prospered. Britain no longer a manufacturing society - making goods from scratch, but became a 'consumer society' – buying and selling goods. Many people own their own homes

Government control/intervention: Welfare State 1906-1914 – Liberal welfare reforms to tackle poverty – start of state intervention. 1928 – all men and women enfranchised. Governments had to care about social issues. 1945-1951 – welfare state fully established. More state intervention in people's lives

Society and family/migration and diversity: Educational changes – more people go to university, but still difficult for poor and poorly qualified young men to find jobs. Women have more rights – build own careers and not have to stay at home. Children of single/unmarried parents no longer stigmatised. Same sex relationships more accepted. Immigration led to greater diversity but increased tensions.

Transport and communication: Cars and aeroplanes allow people to travel further and more speedily. 1901 – first telegraph signal. 1985 – first mobile phones – now prolific use across society – mobile technology now allows people to communicate, take photos/videos, access e-mails etc. Computers and tablets – now widespread in the workplace and in homes

Science and technology: Developments in science and technology transformed many aspects of our lives. Research - antibiotics and DNA research eradicated fatal infections and diseases. 1950s – extension of national grid to provide electricity to people's homes.

Leisure and entertainment: 1930s = television broadcasting began, by the 1970s, most homes had a TV. Most homes can access films, programmes etc. via online streaming. Computer games became an enormous industry 1970s onwards.

Religion/beliefs and attitudes: Fewer people attended church as century progressed, only 10% of population by 2000. Less reliance on the Bible; psychologists and sociologists offer explanations for human behaviour.

Crime

Changing nature of crime

Crime was not always reported to the police: Before 1980, young troublemakers were dealt with by adults and some police constables by a 'clip round the ear'.

Spike in some crimes: The number of reported burglaries rose once insurance companies refused to pay out if the police had not been informed.

No longer crimes: 1961 → suicide; 1967 → abortion; 1967 → homosexual acts

New crimes have been created: 2007 smoking in enclosed spaced
2015 smoking in cars with young children

Recording crime: 1998-2002 changes made to the way police record crimes

Changes in crime rates 1900-1955

- 1920s and 1930s = severe economic problems and widespread poverty, so crime rose as the police had to deal with strikes and public protests.
- WW2 – as people sheltered during the Blitz, opportunistic thieves looted houses and even stole jewellery and cash from bodies.
- 1945-1954 – stolen goods often sold on the black market - rationing continued.

Changes in crime rates 1955-present day

Car crime	1967 → drink driving limits imposed, police used breathalysers 1983 → drivers had to wear seat belts 1992 → roadside speed cameras captured images of speeding cars
Football hooliganism	Reached a peak in the 1970s and 1980s 1985 - Liverpool fans rioted before the match with Juventus fans; a wall collapsed and 39, mostly Italians, died. CCTV within grounds to identify dangerous fans; stadiums are fitted with seats and fan movement is controlled.
Race, religion and hate crimes	1998 and 2003 'hate crime' became a new category of offence. Gave greater protection to victims of crime based on their race, gender, religion or disability with Race Relations Act of 1965, 1968 and 1976
Illegal drugs	1971 Misuse of Drugs act restricted availability of drugs. 1985 – supplying drugs carries a 14 year sentence.
Cyber crime	1990s emergence of internet led to new types of crime: illegal downloading, phishing (emails that trick people into revealing financial details) and cyber criminals who hack big businesses. 2015 – cyber crime included in Britain's national crime statistics

Medieval C&P Knowledge Organiser

Law Enforcement

POLICE

Changing attitudes -1900-1970 – police were respected
1970 → public trust eroded: Fewer police on foot/'the beat', resent punishment of traffic offences, criticised for using force in crowd control, police corruption
Recruitment, training and pay: 1900 –police were often poor, working class white males with little education
1939 only 226 female officers, 2008 there were 37,000
1947 → police receive specific training
Community policing: Police Liaison Officers visit schools; schemes such as Neighbourhood Watch are encouraged.
Weapons: 1900-2000 truncheons only
2000 → weapons, pepper sprays, tasers
Range of work: 1993 survey – only 18% calls were crime-related

NEW TECHNOLOGY

Identification of criminals: 1901 - discovery of blood groups allowed police to narrow down suspects.
1902 – fingerprints first used to identify suspects
1984 – discovery that each person's DNA is unique is used as key evidence in court
Communication and data storage: Mid 1960s → radios installed in patrol cars and portable radios used
Computers store huge amounts of data – DNA tests, fingerprinting and crime reports.
ANPR quickly checks a car's registration
Surveillance: CCTV and cameras are central to police investigations; cameras on streets, in patrol cars and on officers' uniforms.
Monitoring emails, text messages and internet searches has also increased.

COURTS

1971 Courts Act – the Crown Court replaced the assizes and quarter sessions.
Magistrates Courts try less serious cases
Ministry of Justice is in overall control of courts in England and Wales.
Crown Prosecution Service (CPS): From 1986, the CPS took on the responsibility of bringing trials to court, rather than the police.
Women's roles: 1919 → women allowed to serve on juries
1920 – Ada Summers became the first JP
Juvenile Courts: Introduced from 1908 – for criminal cases of children aged 7-16.
Juries: Since 1974, juries reflect breadth of society

Punishments

Corporal Punishment - continued alongside prisons, eventually abolished.
- 1900 – whipping and beating was widely used as it was a quick, cheap and effective deterrent - More liberal-minded people argued that it was preferable to a brutal prison sentence.
- 1933 – corporal punishment ended for young offenders
- 1948 – ended as a punishment for all offenders
- 1962 – ended as a punishment for prisoners who misbehaved whilst in prison.

Capital Punishment - was abolished, in stages, as ideas became more liberal.
- 1908- no one under the age of 16 could be executed
- 1953 – public outcry when 19 year old Derek Bentley, mental age 10, was hanged
- 1957- death penalty ended for all murders except where a police officer was the victim, a gun was used or the person was resisting arrest.
- 1965- Parliament passed the Abolition of the Death Penalty Act.
- 1969 – Parliament permanently abolished the death penalty for all murders.
- Debate over the death penalty continues, particularly when grim murders occur.

Prisons - By 1900, reformers believed rehabilitation and education were the keys to improving society.

Imprisonment of young offenders
- 1902 –borstals set up for young offenders under the age of 21; emphasis on education, and skills that might lead to jobs
- 1988 – borstals replaced with young offender institutions.
- 1908 – criminal age of responsibility set at 7; now 10 years and over.

Prison reform
- 1896 Broadmoor Hospital set up for prisoners who were mentally ill.
- 1922-1947 Alexander Paterson's reforms: relaxation of silent system, education, paid, meaningful work.

Prison problems
- Since 1940, prison population continues to rise, as many prisoners receive short sentences, can't pay fines or await trial.
- Prisons are overcrowded and many prisoners suffer with mental health issues.

Alternative to Prisons
- 1907 – Probation Service introduced for minor offenders
- 1967- parole system introduced to supervise prisoners released early
- 1972 - Community Service Orders introduced where offenders do a number of hours unpaid work for the community rather than go to prison.
- 1990 – digital tags introduced; these send signals to show where they are.

Victims
Since 1990, the government introduced direct support for victims.
- Victim's Charter sets out victim's rights on support they should receive.
- Victim's Personal Statement – victims now have the right to make a VPS explaining how the crime has affected them. Read aloud once a guilty victim has been reached.

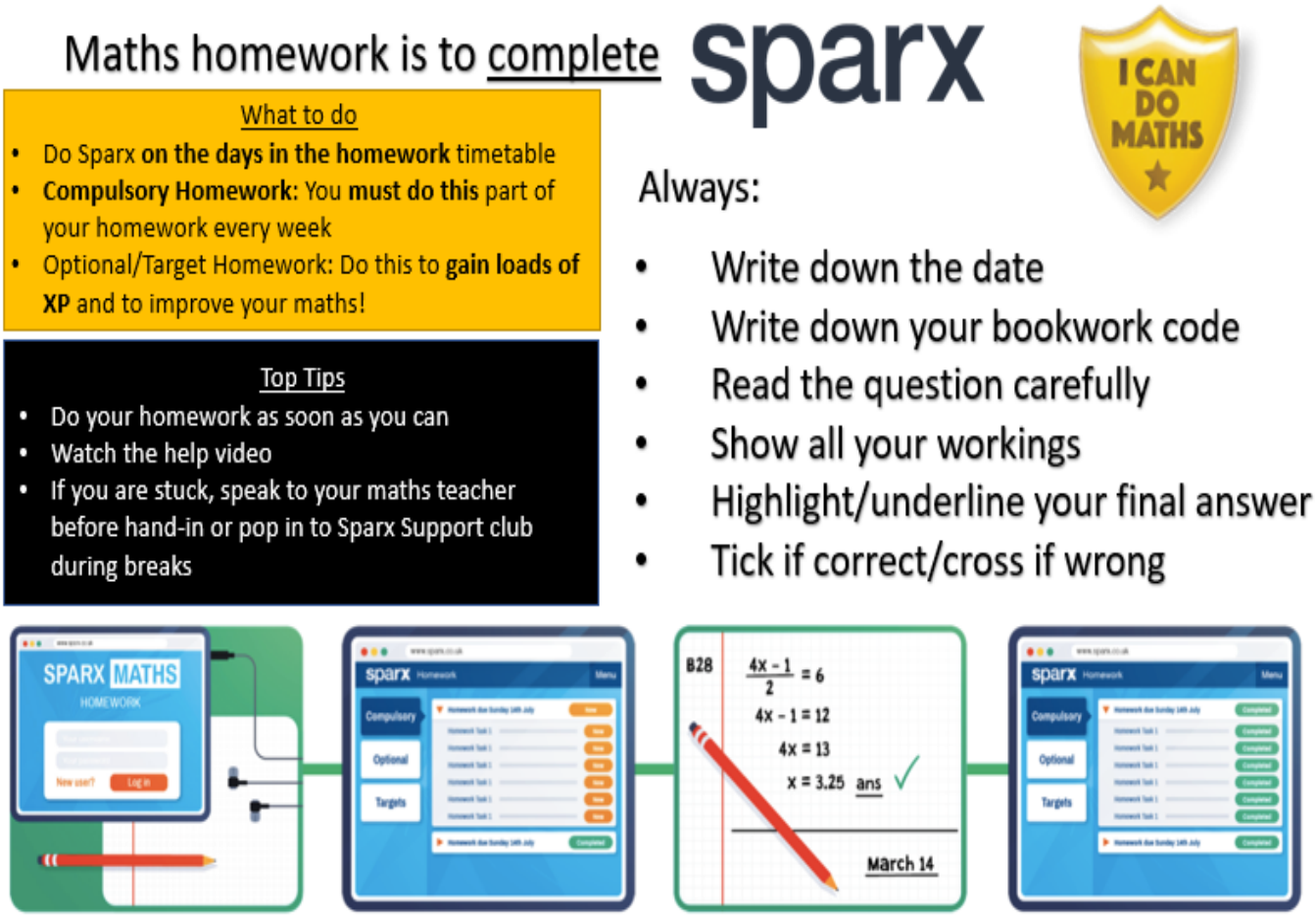
Year 10 Life Skills		
Lesson 1- Coping with change and building resilience	**Lesson 2- How our behaviour affects our mental health**	**Lesson 3- Intimate relationships**
Transition- the process or a period of changing from one state or condition to another. **Resilience-** the capacity to recover quickly from difficulties. **Anxiety**- a feeling of worry, nervousness, or unease about something with an uncertain outcome. **Building resilience:** - Staying connected to your friends and family, and talking about how you feel is a great way to help your emotional wellbeing - A healthy balanced diet can improve your mood and increase your energy levels. - Stay mentally active is also important; you can do this by completing any work set by your teachers and accessing online resources too - Exercise is important because your physical health has a big impact on how you are feeling - Getting enough sleep can help improve your mood **Websites:** Childline- Feelings and emotions YoungMinds- Feelings and symptoms Kooth https://www.healthforteens.co.uk/feelings/resilience/video-5-ways-to-build-resilience/	**Mental Health**- A person's condition with regard to their psychological and emotional well-being. **Stress**- A state of mental or emotional strain or tension resulting from adverse or demanding circumstances **Anxiety**- A feeling of worry, nervousness, or unease about something with an uncertain outcome. **Depression**- Depression is a constant feeling of sadness and loss of interest, which stops you doing your normal activities. Different types of depression exist, with symptoms ranging from relatively minor to severe. Generally, depression does not result from a single event, but from a mix of events and factors. **Emotional well-being** is the ability to produce positive emotions, moods, thoughts, and feelings, and adapt when confronted with adversity and stressful situations.	**Characteristics of a healthy one-to-one intimate relationship:** **Respect-** To feel admiration for someone/ something and to act in a way which shows that you are aware of someone's rights, wishes, etc. **Consent-** To give permission for something to happen or agreement to do something. **Loyalty-** The quality of being faithful to someone or something else. **Trust-** Trust is a feeling that somebody or something can be relied upon/ be truthful. **Shared interests-** Have the same tastes in hobbies/ interests/ sense of humour etc **Sex-** Sexual activity, including specifically sexual intercourse **Friendship-** People who are friends talk to each other and spend time together.

Lesson 4- Assertive Communication & Consent	Lesson 5- Changes and breakdown of relationships	Lesson 6-Sexual harassment and abuse
Peer Pressure- The pressure that you feel to behave in a certain way because your friends or people in your group expect it **Coercion**- The action or practice of persuading someone to do something they wouldn't normally do or something they don't want to do by using force or threats. **Assertiveness**- The quality of being confident and not frightened to say what you want or believe. **Sexual pressure** is when someone tries to make you feel like you should engage in sexual behaviour. **Sexual Consent- The giving of permission by a person to engage in any form of sexual activity including penetrative and oral sex.** **Sexting** is when someone sends or receives a sexually explicit text, image or video. This includes sending 'nude pics', 'rude pics', or 'nude selfies'. Taking, possessing or sharing a sexually explicit picture or video of someone under 18 is **against the law.**	**Emotions-** An emotion is a feeling such as happiness, love, fear, anger, or hatred, which can be caused by the situation that you are in or the people you are with. Your emotions are constantly changing all the time. You may feel different emotions at the start of a relationship, compared to at the end. **Grief-** Grief is a natural response to loss. The loss may be physical (such as a death), social (such as divorce), or occupational (such as a job). Emotional reactions of grief can include anger, guilt, anxiety, sadness, and despair. **Separation-** Separation means that you are living apart from your spouse but are still legally married until you get a judgment of divorce. Although a separation doesn't end your marriage, it does affect the financial responsibilities between you and your spouse before the divorce is final. **Divorce-** A divorce happens after a married couple decide not to live together anymore and that they no longer want to be married to each other. They agree to sign legal papers that make them each single again and allow them to marry other people if they want to.	**Sexual harassment-** Sexual harassment is any unwanted behaviour of a sexual nature that makes you feel distressed, intimidated or humiliated. **Sexual harassment can include:** - someone making sexually degrading comments or gestures your body being stared or leered at - being subjected to sexual jokes or propositions - e-mails or text messages with sexual content - physical behaviour, including unwelcome sexual advances and touching - someone displaying sexually explicit pictures in your space or a shared space, like at work - offers of rewards in return for sexual favours **Online harassment-** Internet harassment, also referred to as "cyberbullying", is the term used to describe the use of the Internet to bully, harass, threaten, or maliciously embarrass. **Challenging prejudice and discrimination:** The Equality Act (2010) provides a legal framework to protect the rights of individuals and advance equality of opportunity for all. It provides Britain with a discrimination law which protects individuals from unfair treatment and promotes a fair and more equal society. It makes all people equal in regard to sex, age, race, sexuality, religion, disability (this means the same laws apply to everyone).

Y10C1 Key Maths Knowledge

Your Maths Homework is to complete your sparx

Use this guide to make sure you know **what to do, when to do it and how to do it**:



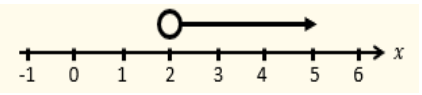
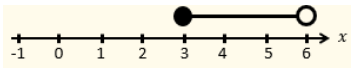
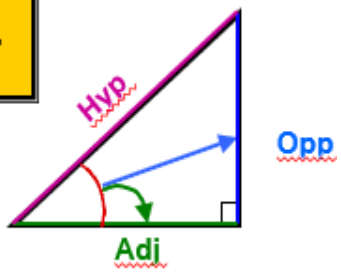
We want you to do well with your maths and doing Sparx will help.

If you've tried something, watched the video and are still not sure how to do something make sure you ask for help!

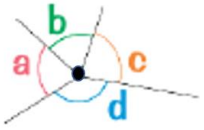
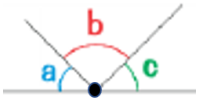
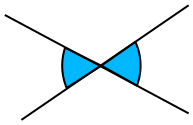
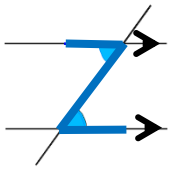
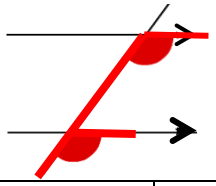
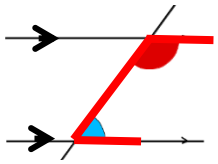
You're expected to complete it every week and catch up if you haven't.

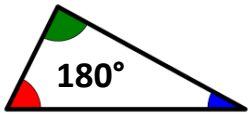
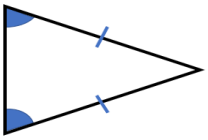
EDUCATION SOUTH WEST

Y10HC1 **Your Maths Homework is to complete your sparx**

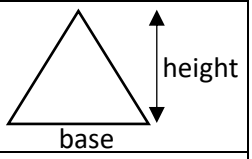
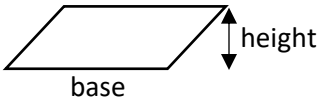
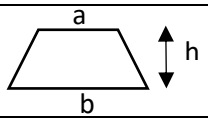
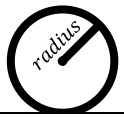
Item	Description
Proportion Use **unitary** method	Work out what **ONE** is worth. example: If a recipe for 8 buns needs 160g butter then 1 bun will need 20g.
Collect like terms	Add/subtract terms which are the same type example **5a** + 7b **+ 2a** - 6b + 11 = **7a** + b + 11
Simplify fractions	Make the values as small as possible $\frac{12}{18} = \frac{2}{3}$
Convert fractions	**mixed** number $2\frac{3}{4} = \frac{11}{4}$ top-heavy (**improper**) fraction
Add or Subtract fractions	The **denominators** must be the same example $\frac{2}{3} + \frac{4}{5} = \frac{10}{\mathbf{15}} + \frac{12}{\mathbf{15}} = \frac{22}{15} = 1\frac{7}{15}$
Multiply Fractions	Multiply the numerators and the denominators example $\frac{2}{3} \times \frac{4}{5} = \frac{2\times4}{3\times5} = \frac{8}{15}$
Solve an Equation	Use inverse (opposite) operations to both sides to find the value
Inequality on a number line	x > 2  3 ≤ x < 6 
Percentage % of an amount	To find 10% divide by 10 example 10% of 70 = 7 so 20% of 70 = 14
Trigonometry – finding lengths of sides and sizes of angles using sin cos tan	$\sin\theta = \frac{opp}{hyp}$ $\cos\theta = \frac{adj}{hyp}$ $\tan\theta = \frac{opp}{adj}$ **S O H C A H T O A**  **Remember : The hypotenuse is the longest side opposite the right angle**

Angle Facts

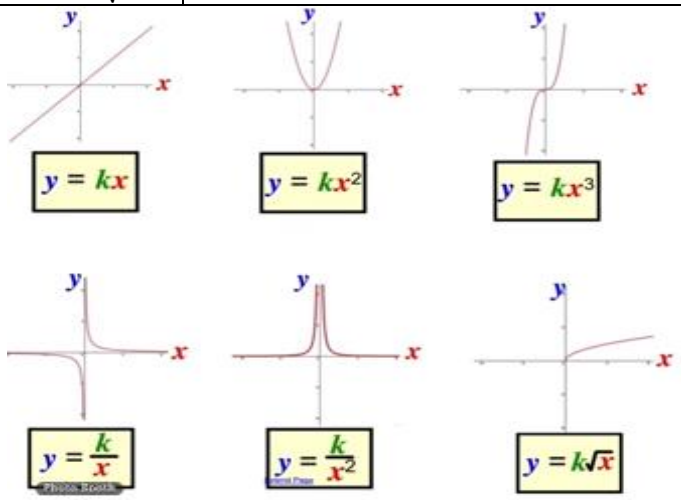
Angles together **around a point** add up to 360°	Angles together on a **straight line** add up to 180°	Vertically **opposite** angles are equal
		
Corresponding Angles on Parallel lines are equal	**Alternate** Angles on Parallel lines are equal	**Co-Interior Angles** on Parallel lines add up to 180°
		

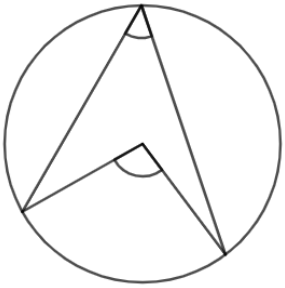
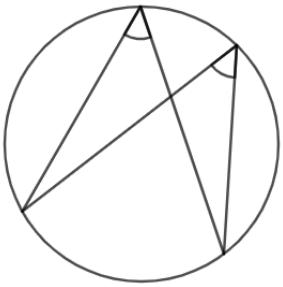
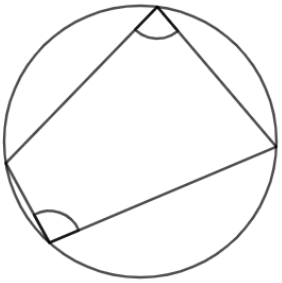
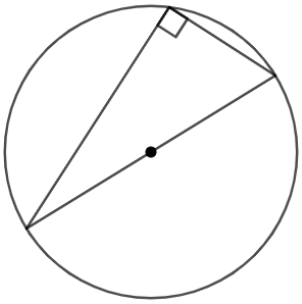
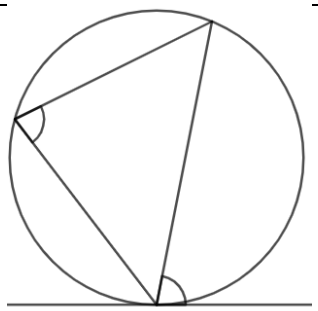
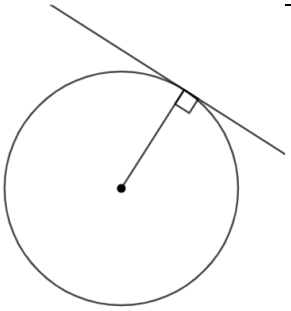
Angles in a **triangle** add up to 180°	**Base angles** of an **isosceles** triangle are equal
	

Area Formulas – Area is the space inside a shape

Area of a rectangle	$Area\ of\ rectangle = base \times height$
Area of a triangle	$Area\ of\ triangle = \frac{1}{2} base \times height$ 
Area of a parallelogram	$Area\ of\ parallelogram = base \times height$ 
Area of a trapezium	$Area\ of\ trapezium = \frac{1}{2}(a+b) \times h$ 
Area of a circle	$Area\ of\ circle = \pi \times radius^2$ 

Y10HC1 Key Maths Knowledge – Higher

Item	Description	
Direct proportion formulae	$y = kx$ $y = kx^2$ $y = kx^3$ $y = k\sqrt{x}$	y is proportional to x y is proportional to the **square** of x y is proportional to the **cube** of x y is proportional to the **square root** of x
Inverse proportion formulae	$y = \frac{k}{x}$ $y = \frac{k}{x^2}$ $y = \frac{k}{x^3}$ $y = \frac{k}{\sqrt{x}}$	y is **inversely** proportional to x y is **inversely** proportional to the **square** of x y is **inversely** proportional to the **cube** of x y is **inversely** proportional to the **square root** of x
Shapes of graphs		
Irrational number/Surd	A number that cannot be written as a fraction. Usually written as the square root of a number. Eg. $\sqrt{2}$ is irrational but $\sqrt{4}$ is not	

Circle theorems		
The angle at the centre is double the angle at the circumference	Angles subtended by the same chord are equal	The opposite angles of a cyclic quadrilateral sum to 180^o
		
The angle in a semicircle is 90^o	The angle between a tangent and a chord is equal to the angle in the alternate segment	The angle between a tangent and a radius is 90^o
		

Year 10 – Unit 1 – Extremism

Key Words			
Extremism	Holding extreme political or religious views.	Supremacy	A belief that someone or something is better than everyone else.
Terrorism	The unlawful use of violence and intimidation to bring about political or social change.	Radicalised	A process where someone comes to believe in extreme beliefs.
Fundamentalist	Where people stick very strictly to the rules/beliefs of religion.		

Key Information	
Islam key beliefs 	• The **six articles of faith** in Sunni Islam and **five roots of Usul ad-Din** in Shi'a Islam, including key similarities and differences. • The **oneness of God (Tawhid)**, Quran Surah 112 and the nature of God: **omnipotence, beneficence, mercy, fairness and justice** (Adalat in Shi'a Islam), including different ideas about God's relationship with the world: **immanence and transcendence.** • Angels, their nature and role including **Jibril** and **Mik'ail** and **predestination** and **human freedom** (free will) and its relationship to the **Day of Judgement**. • Life after Death (**Akhirah**), **human responsibility** and **accountability, resurrection, heaven and hell.** • Authority: Prophethood (**Risalah**) including the role and importance of **Adam, Ibrahim and Muhammad.** • Authority: The Holy Books – **Qur'an:** revelation and authority, **the Torah, the Psalms, the Gospel** and their authority. The **imamate** in Shi'a Islam: its role and significance.
Extremism 	• **Extremism** in its broadest sense is an individual or group of individuals who take an extreme position from that of the norm or take an extreme action. • Commonly, those with extremist perspectives have a particular perspective or belief 'in the sense that they take their opinions or beliefs to the limit and do not allow much room for the existence of any other views of life.'
Malala 	• **Malala Yousafzai** is an activist for female education. She was attacked by the **Taliban** (religious extremists). She is quoted as saying: ***'The extremists are afraid of books and pens. The power of education frightens them.'***
Radicalisation 	• It is important to remember that **radicalisation** does not just happen to Muslims. • A person who becomes involved with any **extremist group** can be said to be radicalised. • The UK government has been worried about the rise in extremism for some years. In 2014, it introduced a new responsibility to schools to teach about what the government has called **British Values**.

Science Homework

You are expected to complete **Biology, Chemistry** and **Physics** homework tasks on **Seneca** once **every 2 weeks.**

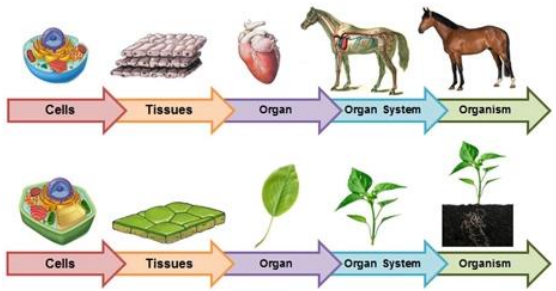
This will be monitored and checked by your teachers.

If you have any issues with Seneca you must speak to your teacher.

Failure to complete your homework could result in a detention.

Lessons 1 & 2 Homeostasis & Organisation of the Nervous System	Lessons 3 & 4 Neurones & Synapses	Lessons 5 & 6 Required Practical- Reaction Times & Reflex Actions
Homeostasis is **the maintenance of a constant internal environment to ensure optimal conditions for enzyme action and cell function.** Examples of factors we need to control are **blood sugar levels, blood water levels, body temperature** There are 3 parts to a homeostatic control system; Receptors, Co-ordination centre and Effectors. The **Central Nervous System (CNS)** is the brain & spinal cord. The **Peripheral Nervous System (PNS)** carries nerve impulses around the body. **Receptors** detect a **stimulus.** Examples are Eyes, Ears, Skin, Tongue, Nose **Effectors** carry out a **response**. There are 2 types of effector **Muscles** – contract **Glands** - produce a hormone	**Sensory** neurones take impulses from the receptor to the CNS. **Relay** neurones pass the impulse around the CNS. **Motor** neurones carry impulses from the CNS to an effector. The gap between 2 neurones is called a **Synapse**. A nerve impulse reaches the end of a neurone. **Neurotransmitters** are chemicals that pass across the gap. Once the chemicals reach receptors on the next neurone the impulse can continue on its way.	You will investigate the **Effect of Practice on Reaction Time.** **Independent variable**: the amount of practice **Dependent variable**: reaction time **Control variable**: partner, ruler, how the ruler is dropped, where the measurement is taken, the use of dominant hand, hand resting on the table. **Reflex actions** are automatic and very quick they **do not involve the conscious part of the brain** to save time eg… • coughing • sneezing • blinking • moving quickly to prevent injury Messages sent by the nervous system are **quicker** and **shorter lasting** than messages sent by hormones.

Lesson 1
Organisational Hierarchy



Cell:
The smallest unit of an organism

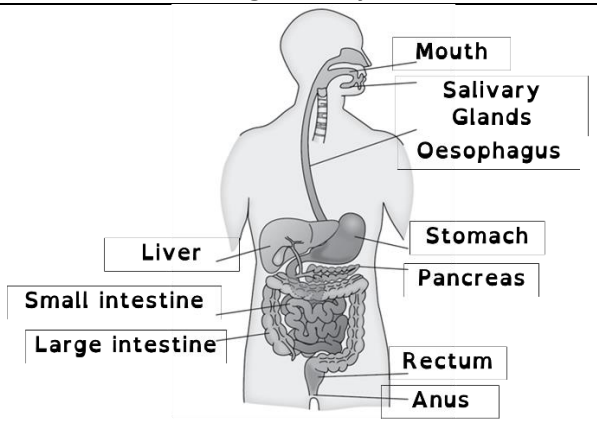
Tissue:
A group of cells with a similar structure and function, which all work together to do a particular job.

Organ:
Made from a group of different tissues, which all work together to do a particular job.

Organ system:
Made from a group of different organs, which all work together to do a particular job.

Organism:
An individual plant, animal, or single-celled organism.

Lessons 2 & 3
The Digestive System



Function:
Digestion: breaking down food so that it is small enough and soluble enough to pass through the wall of the small intestine.
Absorption: transporting digested food molecules from the lumen of the gut into the blood.

The small intestine is adapted to absorb food:
- Thousands of villi
- Large surface area – quicker absorption of food molecules
- Good blood supply

Lesson 4
Required Practical- Food Tests

1. Benedict's test for sugar

Add 10 drops of Benedict's solution to food sample.
Heat in a water bath at 80°C for 5 minutes.
Negative result – Blue
Positive result – Green/ orange/ brick red

2. Iodine test for starch

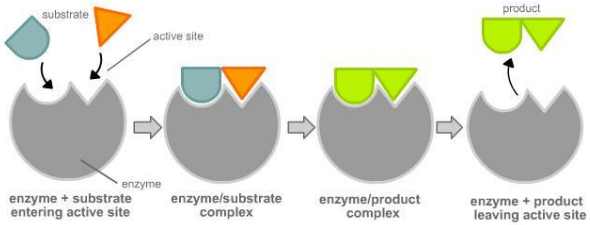
Add 5 drops of iodine solution to food sample.
Negative result – Orange
Positive result – Blue/black

3. Ethanol test for lipids (fats)

Add a few drops of distilled water and then a few drops of ethanol to food sample.
Positive result – white & cloudy emulsion forms

4. Biuret test for protein

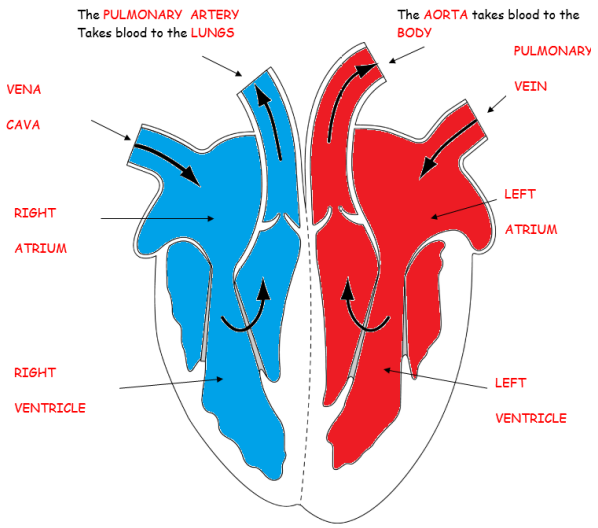
Add 5 drops of Biuret solution to food sample.
Negative result – Blue
Positive result – Purple

Lesson 5 Properties of Enzymes	Lesson 6 Required Practical - Enzymes	Lesson 7 Digestive Enzymes
Catalyst: A chemical which speeds up a reaction without being changed or used up. **Enzyme:** • A substance produced by a living organism that acts as a catalyst for chemical reactions. It is made up of amino acids. • Enzymes are **specific**, they can only catalyse one type of reaction. E.g. amylase in saliva only catalyses the reaction of breaking down starch. **Lock and Key Theory of Enzyme action:**  In the same way that a key fits into a lock, so a substrate is thought to fit into an enzyme's active site. The enzyme is the lock, and the substrate is the key.	**The effect of pH and temperature on enzymes:** • A low or high pH **denatures** enzymes. • At a low temperature enzyme and substrate molecules have low kinetic energy so rate of reaction is low. • At a high temperature the enzymes start to denature. **Denatured**: An enzyme's active site has changed shape, the substrate will no longer fit. The enzyme will no longer work. **Aim:** to find the optimum pH for the enzyme amylase to catalyse the reaction to break down starch. **Independent variable**: pH of the solution **Dependent variable**: time taken to break down starch in seconds **Control variables**: temperature, volume of starch solution, volume of buffer solution, time of intervals between testing, volume of amylase **Calculating rate of reaction:** Rate = $\frac{1000}{Time}$ Units = s^{-1}	Food molecules must be broken down before they can be absorbed into the blood because they are too **large** and **insoluble.** **Carbohydrate digestion** Carbohydrase enzymes e.g. amylase break down starch into sugar. **Protein digestion** Protease enzymes break down protein into amino acids. **Fat digestion** Bile emulsifies fats Lipase enzymes break down fat molecules into glycerol and fatty acid molecules.

Lesson 8
The Heart

- An organ that pumps blood around the body
- It is made of two pumps – **double circulation.**
- The walls of the heart are made up of **cardiac muscle**.
- The right side pumps blood to the lungs to pick up oxygen.
- The left side pumps blood around the rest of the body.

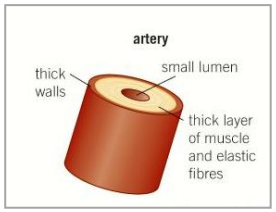
Oxygenated: Blood high in oxygen
Deoxygenated: Blood low in oxygen



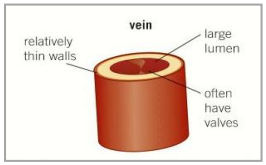
Lesson 9
Blood Vessels

There are 3 types of blood vessel:

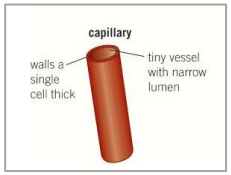
1. **Arteries**
   Carry blood away from the heart to the body.
   Usually hold oxygenated blood.
   Blood is under high pressure.
   Thick muscle walls and a small lumen.



2. **Veins**
   Carry blood back to the heart from the body.
   Carry deoxygenated blood.
   Blood is under low pressure.
   Thin muscle and elastic wall.
   Have valves to prevent back flow of blood.



3. **Capillaries**
   Carry blood to cells.
   Links arteries and veins
   Very thin walls – one cell thick
   Small vessel
   Narrow lumen



Lessons 10 & 11
Coronary Heart Disease (CHD)

Coronary arteries:
The blood vessels that supply oxygenated blood to the heart muscle.

Coronary heart disease (CHD):
When the heart's blood supply is blocked or interrupted by a build-up of fatty substances in the coronary arteries.

Stages of CHD:

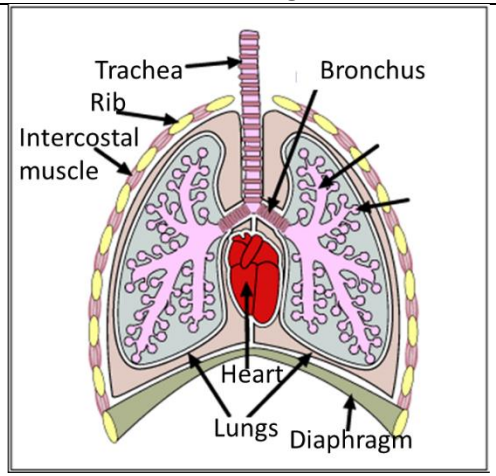
- Fatty cholesterol plaques develop over time
- Hard outer layer of plaque can crack
- Platelets form blood clots around the cracks
- Artery narrows even more
- Blood flow blocked – oxygen doesn't reach the heart muscle, so the muscle dies.

Treating CHD:

- **Stents** –a metal mesh placed in a blocked or partially blocked artery. They are used to open up the blood vessel by the inflation of a tiny balloon.
- **Statins** – drugs used to lower blood cholesterol levels and improve the balance of HDLs and LDLs in the blood.

Treating heart failure:

- Heart transplant
- Artificial heart
- Replacement valves

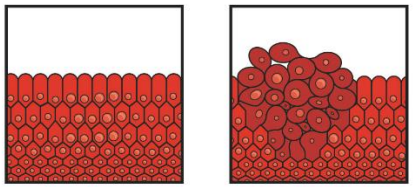
Lesson 12 Blood	Lesson 13 Lungs	Lesson 14 Non-Communicable Diseases
Functions of blood: • Transports oxygen and nutrients to cells • Transports carbon dioxide from cells back to lungs • Transports waste products from cells • Transports heat, water, slats, white blood cells and hormones around the body. **Components of blood:** **Red blood cells** • Carry oxygen. • Biconcave shape to absorb oxygen • No nucleus **White blood cells** • Fight disease • Some carry out phagocytosis • Some produce antibodies & anti-toxins **Platelets** • Cell fragments • Stick cells together around cuts to clot blood. **Plasma** • Liquid part of blood • Substances dissolve into plasma such as carbon dioxide, glucose and proteins	 The job of the breathing system is to move air in and out of the lungs. • Breathing air into the lungs= inhalation • Breathing air out of the lungs = exhalation **Gas Exchange:** • Gas exchange occurs in the alveoli of the lungs. • Here oxygen passes into the blood by diffusion. • At the same time carbon dioxide passes from the blood into the alveoli to be breathed out. • Alveoli are adapted for efficient gas exchange by having: a large surface area, thin, moist membranes and a good blood supply.	**Health:** A state of mental physical wellbeing **Non-communicable disease:** • A medical condition or disease that is non-infectious (cannot be passed on from one person to the next) • E.g. Cardiovascular disease, diabetes, asthma **Causes of non-communicable disease:** Combination of genetic and environmental factors. Lifestyle factors such as smoking, alcohol abuse, unhealthy diets and physical inactivity. **Risk factors for non-communicable diseases:** • Cardiovascular disease – Obesity, poor diet, smoking, physical inactivity. • Type 2 diabetes – Obesity, poor diet, physical inactivity. • Lung disease – smoking • Cancer – Poor diet, obesity, smoking, alcohol abuse, UV exposure, physical inactivity **Correlation:** A correlation shows a link between two variables, for example one may increase whilst the other also increases. **Causal mechanism:** A causal mechanism proves the link between the two variables through a biological process. For example, there is a causal link between smoking and getting lung cancer.

Lesson 15
Cancer

Risk factors for cancer:

- Genetics
- Carcinogens e.g. asbestos, tar in tobacco smoke
- Ionising radiation e.g. UV light, X-rays, radioactive materials, nuclear disasters
- Viral infections e.g. HPV causing cervical cancer

Tumour:
A mass of cells caused by uncontrolled cell growth and division.
Most cancers are the result of mutations – changes in genetic material



Two types of tumour:

1. **Benign** – Not cancerous, the tumour stays in one place.
2. **Malignant** – Tumour grows and spreads to other tissues. Cells can break off and travel in the bloodstream to infect other tissues.

Revision Guide: Foundation pages 123 -127 , Higher pages

Lessons 1 & 2
Coservation of mass & relative Formula mass

- Atoms are the smallest parts of pure substances called elements.
- Atoms cannot be created or destroyed.
- The number of atoms present in the reactants are the same as the number in the products.
- Due to the law of conservation we have to balance symbol equations by putting numbers in front of the formula.
- Due to the law of conservation we can calculate unknown reactants or products.

Magnesium + Oxygen Magnesium Oxide

10g + 5g = **?**

Answer = 15 g

- No substances can enter or leave a **closed system**.
- Substances can enter or leave a **non-enclosed system**.
- An element is a pure substance the only contains <u>one</u> type of atom.
- A compound contains atoms from different elements chemically joined in a <u>fixed</u> composition.
- The [Ar] is the relative atomic mass and is the number of protons added to neutrons
- The [Mr] if the relative formula mass and is the [Ar] of each element in a compound added together.

Lessons 3 & 4
Percentages , uncertainty, mean and range

- Calculate the percentage of a total value
- Calculate the percentage of an atom in a compound using the [Mr]
- The **Mean** is the **average** of the numbers a calculated "central" value of a set of numbers.
- Work out the mean of the following set of data .

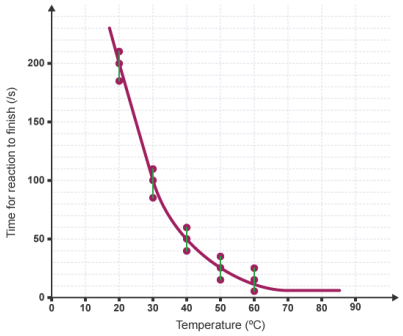
  7.5 , 6.5 , 4.8 , 5.7, 6.2

  Add them together:

  7.5 + 6.5 + 4.8 + 5.7 + 6.2 = 30.7

  Divide 30.7 by the number of values:

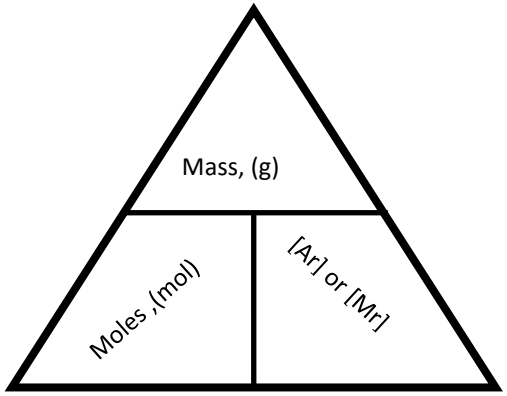
  30.7 ÷ 5 = **<u>6.14</u>**
- The resolution of a measuring instrument is the smallest change in a quantity that gives a change in the reading that can be seen.
- Uncertainty is the interval within which the true value of a quantity can be expected to lie.
- Range = largest value - smallest value
- Uncertainty = Range ÷ 2



Lessons 5
Moles

- Chemical amounts are measured in **MOLES**.
- The MOLE is a unit like centimetres, (cm), grams , (g) or Metres ,(M).
- The MOLE has its own symbol too, its **mol**.
- A Mole measures the **number** of **particles** in the mass of a substance.
- The number of atoms, molecules or ions in ONE MOLE of a substance is called the **Avogadro constant**.
- **Avogadro constant =** 6.02×10^{23}
- Number of particles = Avogadro constant × mol

Moles ,(mol) = Mass , (g)
[Ar] or [Mr]



- The mass of one mole of a substance is equal to the [Ar] or [Mr] in grams.

Lesson 6
Reacting masses

- **20g of magnesium reacts with oxygen to produce Magnesium Oxide . How much Magnesium Oxide will be produced ?**
- Step 1 Write the balanced symbol equation

  2Mg + O_2 -> **2**MgO

- Step 2 Calculate the masses in reaction

  48g + 32g -> 80g

- Step 3 work out what 1g produces by dividing through by 48g

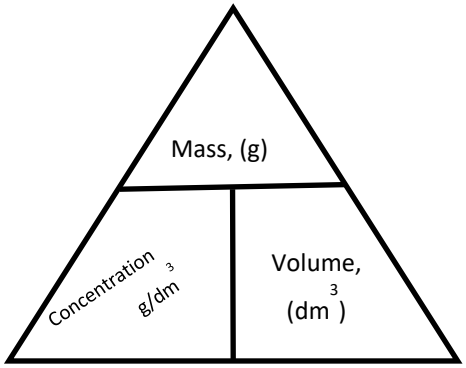
  $\frac{48g}{48g} + \frac{32g}{48g} \rightarrow \frac{80g}{48g}$

  = 1g + 0.67g -> 1.67g

- Step 4 work out what 20 g of magnesium produces .
  X through by 20
  (20X 1g) + (20 X 0.67g) -> (20 X 1.67g)
  20g + 13.4g -> **33.4g**

Lessons 7
Concentration

- A **solution** forms when a **solute dissolves** in a **solvent**.
- The **concentration** of a solution is a measure of how 'crowded' the solute particles are.
- The more concentrated the solution, the more particles it contains in a given **volume**.
- The **concentration** of a **solution** can be shown in g/dm^3 or mol/dm^3.
- Volume is measured in dm^3.
- 1 dm^3 is the same as 1 litre or a 1000 cm^3 .
- A solution with a concentration of 0.5 g/dm^3 ,has 0.5 grams dissolved in 1 dm^3 .
- Concentration = $\frac{\text{Mass , (g)}}{\text{Volume , } (dm^3)}$ g/dm^3



Lessons 1 & 2
Newton's first and second laws

Newton's First Law:

If the resultant force acting on an object is zero and:

- the object is stationary – the object will remain stationary
- the object is moving – the object will continue to move at the same speed and in the same direction. So the object continues to move at the same velocity.

If the forces are not balanced the object will accelerate (change direction or velocity) in the direction of the resultant force.

Newton's Second Law

resultant force = mass × acceleration

$$F = m\,a$$

The tendency of objects to continue in their state of rest or of uniform motion is called inertia. HT only

- force (*F*) is measured in newtons (N)
- mass (*m*) is measured in kilograms (kg)
- acceleration (*a*) is measured in metres per second squared (m/s²)

The equation shows that the acceleration of an object is:

- proportional to the resultant force on the object
- inversely proportional to the mass of the object

In other words, the acceleration of an object increases if the resultant force on it increases, and decreases if the mass of the object increases.

Inertial mass – Higher: The ratio of force over acceleration is called inertial mass. Inertial mass is a measure of how difficult it is to change the velocity of an object.

Example:

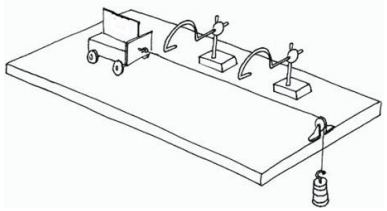
Calculate the force needed to accelerate a 22 kg cheetah at 15 m/s².

$$F = m\,a$$
$$F = 22 \times 15$$
$$F = 330\ N$$

Lessons 3 & 4
Newtons second law required practical

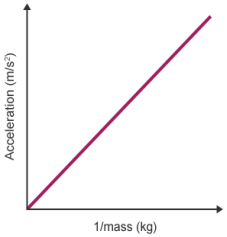
Physics practical 6: Acceleration

Method: what did you do?



1. Connect the light gates to the datalogger and configure it to measure acceleration.
2. Attach the bench pulley to the end of the bench.
3. Tie a length of string to the toy car or trolley. Pass the string over the pulley and attach the weight stack to the other end of the string.
4. Release the toy car or trolley – the data logger will calculate acceleration.
5. Carry out this experiment by either changing the mass of the trolley or the force acting on the trolley (weight stack).

Acceleration is directly proportional to the force exerted on the object.



Acceleration is inversely proportional to the mass of the object. This means that a graph of acceleration against 1/mass should produce a straight line that passes through the origin

Lessons 5 & 6
Newtons third law and inertia

Newton's Third Law

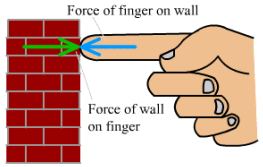
According to Newton's Third Law of motion, whenever two objects interact, they exert equal and opposite forces on each other.
'every action has an equal and opposite reaction'.
Examples of force pairs

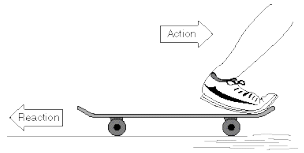
Pushing a pram: There are contact forces between the person and the pram. The person pushes the pram forwards and the pram pushes the person backwards

Car tyre on a road: There are contact forces between the tyre and the road: The tyre pushes the road backwards and the road pushes the tyre forwards

A satellite in Earth orbit

There are non-contact gravitational forces between Earth and the satellite: The Earth pulls the satellite and the satellite pulls the Earth.





Higher tier Only

The tendency of objects to continue in their state of rest or of uniform motion is called inertia.

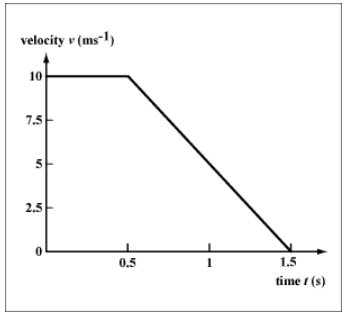
- Inertial mass is a measure of how difficult it is to change the velocity of an object.
- Inertial mass is defined by the ratio of force over acceleration.

Lessons 6 & 7
Stopping Distance and reaction times

Stopping distances

stopping distance = thinking distance + braking distance

- **thinking distance** is the distance a vehicle travels in the time it takes for the driver to apply the brakes after realising they need to stop
- braking distance is the distance a vehicle travels in the time after the driver has applied the brake



Thinking distance = 0-0.5 seconds

Braking distance = 0.5-1.5 seconds

Thinking distance can be affected by:

- Reaction times which vary from person to person. Typical values range from 0.2 s to 0.9 s. Reaction time can be affected by tiredness, drugs, alcohol and distractions (mobile phone, passengers).
- The speed of the vehicle. The greater the speed the greater the thinking distance.

Braking distance of a vehicle can be affected by:

- Adverse road and weather conditions and poor condition of the vehicle. Adverse road conditions include wet or icy conditions. Poor condition of the vehicle is limited to the vehicle's brakes or tyres.
- Mass of the vehicle. The greater the mass the greater the braking distance.
- Speed of the vehicle. The greater the speed the greater the braking distance.

Lessons 8
Braking energy

- When a force is applied to the brakes of a vehicle, work done by the friction force between the brakes and the wheel reduces the kinetic energy of the vehicle and the temperature of the brakes increases.
- The greater the speed of a vehicle the greater the braking force needed to stop the vehicle in a certain distance.
- The greater the braking force the greater the deceleration of the vehicle. Large decelerations may lead to brakes overheating and/or loss of control.

Example question:

At the end of a race a car is travelling at 5.2 m/s.
The brakes are applied causing the car to slow down and stop.
The brakes apply a constant force of 855 N in the opposite direction to the car's motion.
The mass of the car is 950 kg
Calculate the braking distance travelled by the car.
[6 marks]

Calculate acceleration using F=ma a = -855/950 (1)
a = −0.9 (m/s^2) (1)
Substitute values into equation v^2-u^2 = 2as
$0^2-5.2^2 = 2 \times (-0.9) \times s$
for this mark, sign of "a" must be opposite to sign of" u"
i.e., allow: $0^2-(-5.2)^2 = 2 \times 0.9 \times s$ (1)
s=-27.07/-1.8 (2)
s = 15.0 (m)
an answer of 15.0 (m) scores 6 marks.

You could also be asked to work out the energy transferred, braking force or braking distance using the equation:
Work done = Force X distance from the energy topic.

Lessons 9
Momentum (higher tier only)

Momentum is a property of moving objects and is defined by the equation: $\boldsymbol{momentum = mass\ x\ velocity}$

$$[\ \boldsymbol{p = m\,v}\ ]$$

- momentum, *p*, in kilograms metre per second, kg m/s
- mass, *m*, in kilograms, kg
- velocity, *v*, in metres per second, m/s

Example

A lorry has a mass of 7,500 kg. It travels south at a speed of 25 m/s. Calculate the momentum of the lorry.
P= m v
P=7500Kg X 25 m/s
P= 187 500 Kg m/s

The Principle of Conservation of momentum

In a closed system:
total momentum before an event = total momentum after the event
A 'closed system' is something that is not affected by external forces. Momentum is conserved in collisions and explosions.

(c) Skater **A** bumps into another skater, Skater **B**. Skater **B** is stationary.
The skaters move off together in a straight line.
Explain what happens to the velocity of each of the skaters.
Use the idea of conservation of momentum.

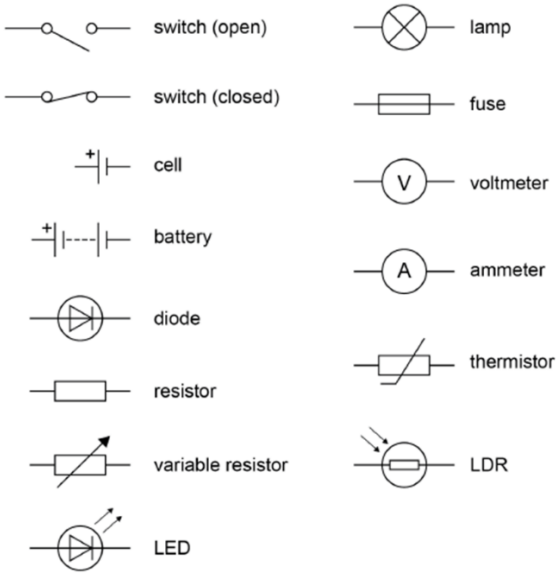
(c) (total) momentum before (collision) = (total) momentum after (collision) 1

either
momentum of skater A decreases and momentum of skater B increases
allow (total) momentum is shared between skater A and skater B 1

velocity of skater A decreases and velocity of Skater B increases 1

or
momentum of skater A decreases and so velocity of skater A decreases (1)
momentum of skater B increases and so velocity of skater B increases (1)
[7]

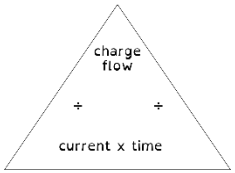
Lesson 1 Introduction to circuits



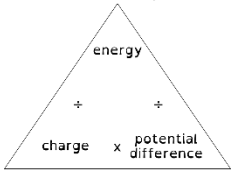
- **Charge** is a property of materials.
- It can be positive or negative and is measured in coulombs. Electrons have a negative charge.
- Metals have a "sea" of delocalised/free "conduction electrons".
- These electrons can move through the material, causing a current.
- **Insulators** do not have free electrons.

Lessons 2 & 3 Current, p.d. and resistance

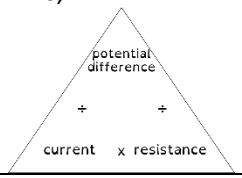
charge flow = current x time
Charge in Coulombs, C
Current in Amperes, A
Time in seconds, s



energy transferred = charge x potential difference
Energy transferred in Joules, J
Charge in Coulombs, C
Potential difference in Volts, V



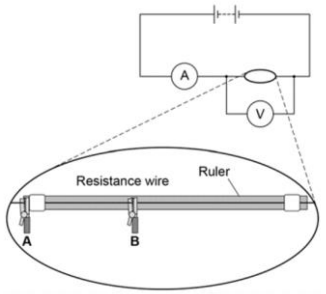
potential difference = current × resistance
Potential difference in Volts, V
Current in Amperes, A
Resistance in Ohms, Ω



Lesson 4 Required Practical – Resistance and the length of a wire

- **Resistance** is a measure of how hard or easy it is for a current to flow.
- The more resistance:
  - The lower the current will be for a given p.d.
  - The higher the p.d. will be needed for a particular current to flow.

- You will investigate **the relationship between the length of a wire and its resistance.**



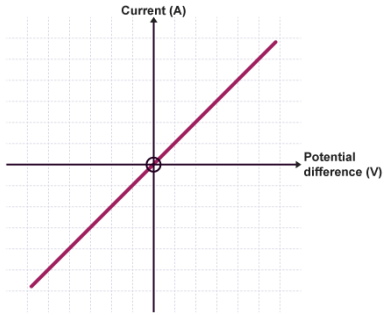
- **Independent variable**: Length of wire in metres
- **Dependent variable**: Resistance of wire in Ω
- **Control variable**: Current, temperature, material of wire

Revision Guide: Foundation pages 180-192, Higher pages 179-190

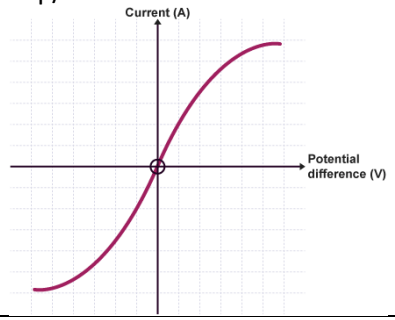
Lessons 5 & 6
Required Practical – I-V Characteristics

- You will investigate **the relationship between current and potential difference for circuit components**
- **Ohm's law** states that the current through a resistor is directly proportional to the potential difference across it, at constant temperature.
- A graph is **directly proportional** if a line of best fit is a straight line through the origin.

Resistor:

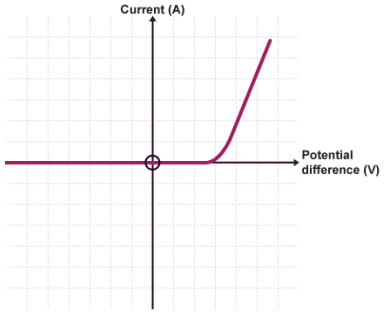


Filament lamp/bulb:



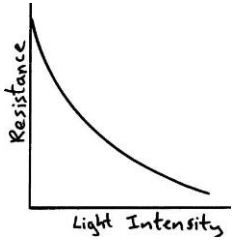
Lesson 7
Non-ohmic components

Diode/LED:

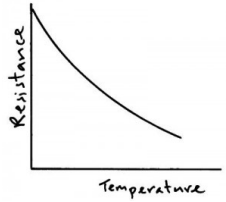


- Some components have a resistance that depends on an environmental factor.

LDR:

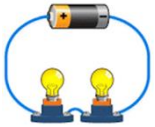


Thermistor:

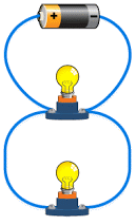


Lessons 8 & 9
Series and Parallel circuits

- In a series circuit, you have one component after another. All of the components are connected together by the same 'loop' of wire.



- A parallel circuit is one where components are connected in separate loops – sometimes called branches.
- Each component is placed along a different path.

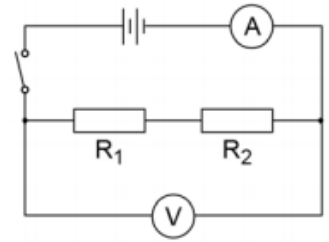


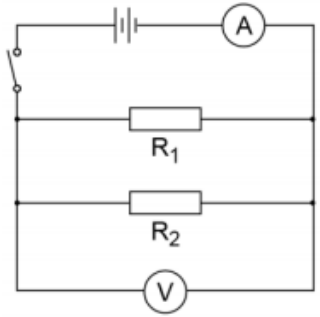
	Series	**Parallel**
Current	Same everywhere	Shared between branches
P.d.	Shared between components	Same in each branch (and equal to p.d. of the supply)
Resistance	Sum of individual resistances	Less than the resistance of any one resistance

Revision Guide: Foundation pages 180-192, Higher pages 179-190

Lesson 10
Required Practical – Resistance in series and parallel

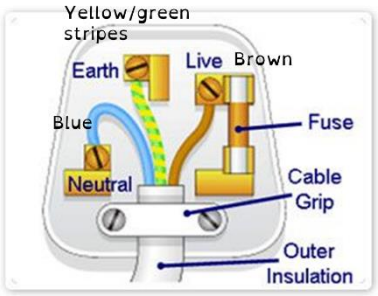
- You will investigate how **combinations of resistors in series and parallel behave**





- In series, current must flow through both resistors. It is harder to flow through both than to flow through either resistor individually, so the resistance increases.
- **In series**: $R_{total} = R_1 + R_2$
- In parallel, current can flow through both resistors at the same time. More current flows in the circuit than if only one of the resistors was there. As the p.d. remains constant, this means the total resistance must have decreased.

Lessons 11 & 12
The 3-pin plug and mains electricity

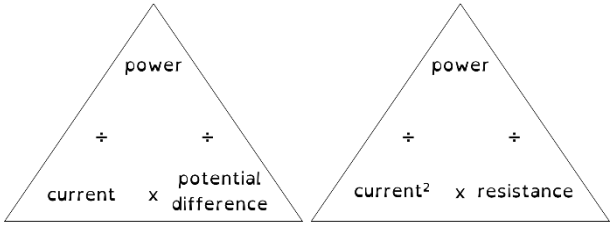


Name of wire	Colour	Job
Live	Brown	Supplies the alternating potential difference
Neutral	Blue	Completes the circuit
Earth	Green/Yellow stripes	Safety (can prevent shocks or fires)

- **A fuse** is a thin wire in a glass tube designed to melt at a specific current.
- **Earthing** means connecting the metal case of an appliance directly to the earth using a low resistance cable.
- The **UK mains supply** is an **alternating current** supplied at a p.d. of **230 V** and a frequency of **50 Hz**.

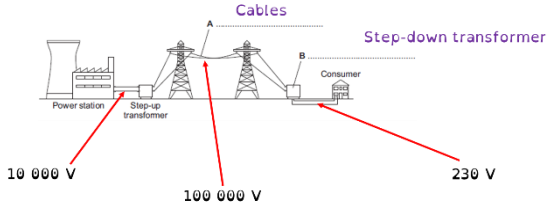
Lessons 13 & 14
Electrical power and The National Grid

power = potential difference x current
power = current2 x resistance



Power in Watts, W

- The National Grid is the system of cables and transformers that bring electricity to homes and businesses.



- Transformers increase (step up) or decrease (step down) the potential difference of the electricity supply.
- If the potential difference goes up the current goes down. (As power = current x p.d.)
- If the current goes down, less energy is lost as heat in the wires.
- (As power = current^2 x resistance, half the current means ¼ the energy lost!)