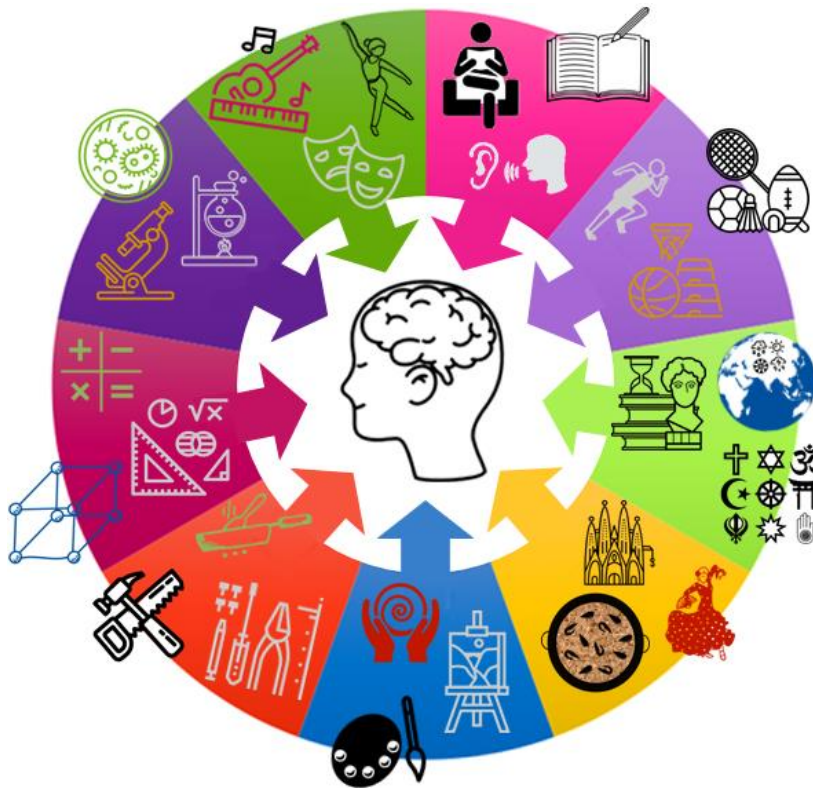


100% book - Year 10 Mainstream

Aim to memorise 100% of the knowledge on these Knowledge Organisers.

Term 5



Swindon Academy 2023-24

Name:	
Tutor Group:	
Tutor & Room:	

"If you are not willing to learn, no one can help you.

If you are determined to learn, no one can stop you."

How to use your 100% book of Knowledge Organisers and Quizzable Organisers

Knowledge Organisers

Knowledge Organisers contain the essential knowledge that you **MUST** know in order to be successful this year and in all subsequent years.

They will help you learn, revise and retain what you have learnt in lessons in order to move the knowledge from your short-term memory to long-term memory.

Quizzable Knowledge Organisers

These are designed to help you quiz yourself on the essential Knowledge.

Use them to test yourself or get someone else to test you, until you are confident you can recall the information from memory.

Top Tip

Don't write on your Quizzable Knowledge Organisers! Quiz yourself by writing the missing words in your prep book. That way you can quiz yourself again and again!

Expectations for Prep and for using your Knowledge Organisers

1. Complete all prep work set in your subject prep book.
2. Bring your prep book to every lesson and ensure that you have completed all work by the deadline.
3. Take pride in your prep book – keep it neat and tidy.
4. Present work in your prep book to the same standard you are expected to do in class.
5. Ensure that your use of SPAG is accurate.
6. Write in blue or black pen and sketch in pencil.
7. Ensure every piece of work has a title and date.
8. Use a ruler for straight lines.
9. If you are unsure about the prep, speak to your teacher.
10. Review your prep work in green pen using the mark scheme.

How do I complete Knowledge Organiser Prep?

Step 1

Check Epraise and identify what words /definitions/facts you have been asked to learn. Find the Knowledge Organiser you need to use.

The image shows a screenshot of the Epraise website. On the left is a 'Planner' for the week of 20th May to 26th May 2020, with a grid for different subjects. On the right is a 'Knowledge Organiser' for 'Particle Theory'. It contains various questions and answers, such as 'What is particle theory?' and 'Describe the arrangement and movement of particles in the three states of matter.' There are also diagrams of particle arrangements for solid, liquid, and gas.

Step 2

Write today's date and the title from your Knowledge Organiser in your Prep Book.

This image shows a printed page from a knowledge organiser. It has handwritten notes in blue ink. At the top, the date '29th May 2020' and the title 'Particle theory' are written. The page includes questions like 'What is particle theory?' and 'Describe the arrangement and movement of particles in the three states of matter.' Below the text are diagrams showing the arrangement of particles in solid, liquid, and gas states. A flowchart shows the transitions between states: solid to liquid (melting), liquid to gas (evaporation), gas to liquid (condensation), and liquid to solid (freezing). It also notes that melting and evaporation involve gaining energy, while freezing and condensation involve losing energy.

Step 3

Write out the keywords/definitions/facts from your Knowledge Organiser in FULL.

The image shows handwritten notes on lined paper. At the top, the date '29th May 2020' is written. Below it, the title 'Properties of the states of matter' is underlined. The notes define particle theory as 'all matter is made of particles'. It then describes the three states: 'Solid = regular pattern particles vibrate in fixed position', 'Liquid = particles are arranged randomly but are still touching each other particles can slide past each other and move around', and 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy'.

Step 4

Read the keywords/definitions/facts out loud to yourself again and again and write the keywords/definitions/facts at least 3 times.

The image shows handwritten notes on lined paper. It repeats the definitions of the three states of matter three times: 'Solid = regular pattern particles vibrate in fixed position', 'Liquid = particles are arranged randomly but are still touching each other particles can slide past each other and move around', and 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy'.

Step 5

Open your quizzable Knowledge Organiser. Write the missing words from your quizzable Knowledge organiser in your prep book.

This image shows a printed page from a quizzable knowledge organiser. It has handwritten answers in blue ink. The questions are 'What is the law of conservation of mass?' (answered 'Self quizzing'), 'What are the different changes of state?' (answered 'Arrangement/movement of matter'), and 'What are the different?' (answered 'Solid = regular pattern', 'Liquid =', 'Gas ='). There are also diagrams of particle arrangements for solid, liquid, and gas.

Step 6

Check your answers using your Knowledge Organiser. Repeat Steps 3 to 5 with any questions you got wrong until you are confident.

The image shows handwritten notes on lined paper, similar to Step 3, but with corrections and checkmarks. The definitions are: 'Particle theory = all matter is made of particles', 'Solid = regular pattern particles vibrate in fixed position', 'Liquid = particles are arranged randomly but are still touching each other particles can slide past each other and move around', and 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy'. There are checkmarks next to the definitions and an 'X' next to the gas definition.

Make sure you bring in your completed Prep notes to demonstrate that you have completed your prep.

ENGLISH –Poetry cluster 3: The Problem with Power - Grammar

Key Vocabulary		Poem	Context	Events in the poem	Message	Form/ structure	
Patriotism	Being devoted to your country	Kamikaze-Beatrice Garland	<ul style="list-style-type: none"> During WW2, the term 'kamikaze' was used for Japanese fighter pilots who were sent on suicide missions. They were expected to crash their planes into enemy warships. The word 'kamikaze' literally translates as 'divine wind'. Flying a kamikaze mission was portrayed as a great honour by the Japanese government. It was claimed that there were many volunteers, although some have argued that not every kamikaze soldier would have been willing. By the end of the war, nearly 4,000 kamikaze pilots had died. 	<ul style="list-style-type: none"> The narrator of this poem is a kamikaze pilot's daughter. Unlike many of his comrades, this pilot turns back from his target and returns home. The poem explores the moment that the pilot's decision is made and sketches out the consequences for him over the rest of his life. Not only is he shunned by his neighbours, but his wife refuses to speak to him or look him in the eye. His children gradually learn that he is not to be spoken to and begin to isolate and reject him. 	<ul style="list-style-type: none"> The poem explores the conflict between personal and national duty and suggests that individual desire and extreme patriotism cannot be achieved together. Through the pilot, Garland may be expressing how it is not honour that gives life meaning, but rather being with loved ones. The poem explores the impossible situation that the pilots were put in by those in power- dying in glory or being shamed and rejected by your family. It also deals with the lasting effects that war can inflict on people, families, and communities. This poem not only deals with the kamikaze pilot's own story, but the implications for those around him. 	Kamikaze is a narrative poem. It begins as a report, summarising another conversation or story told by someone else. Sections of the poem are presented in italics as first-person narrative, where the storyteller speaks directly for herself. This has the effect of heightening the sense of sadness she feels.	
	Colonialism		When a powerful country takes control of a less powerful country	Checking Out Me History- John Agard	<ul style="list-style-type: none"> Since the early 17th century, the country of Guyana has been colonised and controlled by the Dutch, French and British. The indigenous population spoke Arawak, but the British introduced English as the language of the government, courts and education system. For centuries, nations would repress the culture and identity of the countries that they colonised. They did this to control the population and get rid of any rebellion against the colonisers. Born in Guyana in 1949, Agard moved to Britain in 1977 and so sees the culture as both an insider from living there and an outsider from moving to Britain 	<ul style="list-style-type: none"> The poem focuses on the omission of indigenous history and discusses how colonized people were forced to learn about <i>British</i> history—which had little to do with their actual lives. 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 Toussaint L'Ouverture, the leader of the Haitian revolution. The poem suggests the curriculum deliberately blinded colonized people to their own histories, and argues that in order to understand their own identity they must learn their own history. 	<ul style="list-style-type: none"> Knowledge should not be denied to anyone. No one has the right to oppress others by denying them facts about their past. This can lead to feelings of inferiority and there should be more equality in the world. History is important and there is power in knowing your heritage and culture. People should never exclude this from you – especially if it is replaced with less relevant examples. There is a sense of caution in this poem in relation to believing what you are told. We are reminded that we should always seek the truth for ourselves and question what others choose to teach us. The education system has power to mould our thinking and we should be aware of this. There is a warning that, when people are denied knowledge, they can become bitter and angry, and this could lead to rebellion, protests and uprisings.
Dominate	To have power and influence over others	The Émigrée- Carol Rumens	<ul style="list-style-type: none"> Carol Rumens was born in South London in 1944 Published her own poems and translations of Russian poems She has a 'fascination with elsewhere' The Émigrée is not autobiographical poem, but is inspired by living in London (a diverse society) The poem sympathises with people who have been exiled Emigrants are people who have left the country of their birth to settle elsewhere in the world. 	<ul style="list-style-type: none"> A displaced person pictures the country and the city where they were born. The city and country are never named in order to increase the relevancy to as many people who have left their homelands as possible. The speaker's home country appears to be war-torn, or under the control of a dictatorial government that has banned the language the speaker once knew. Despite this, the émigrée's childhood memories are filled with light and happiness. Though there is a clear sense of fondness for the place, there is also a more threatening tone in the poem, suggesting that not all of her memories are happy and that the country she has emigrated to is not always welcoming. 	<ul style="list-style-type: none"> Rumens presents the importance of empathy and sympathy. She reminds us of how traumatic conflict can be and that people are forced to make heart-breaking decisions when they live under cruel leadership. The poem highlights the importance of belonging and is a celebration of diversity – we should make people feel welcome when they move to a new home. Memories are shown to be powerful and to have a strong hold over us with the ability to bring both pain and comfort. The past can be difficult to escape and can restrict us from moving forward in life. There is also a sense of the power of the media – their portrayal of immigrants can lead to a lack of sympathy in society; it is important we do not become insensitive to the pain that can lead to people moving to a new home. 	The use of enjambment reflects the chaos and confusion of her situation. The poem consists of two stanzas with eight lines and a third stanza with nine lines. The added line in the final stanza could suggest she doesn't want to let her memories go, stop writing about her homeland or give up her past.	
Defiance	Showing that you don't want to obey someone		Storm on the Island- Seamus Heaney	<ul style="list-style-type: none"> For many centuries, there has been conflict in Northern Ireland. The majority of Northern Ireland's population were unionists, who wanted to remain within the United Kingdom. Most of these were Protestant Christians. Seamus Heaney was a Catholic born in Northern Ireland in 1939. Catholics were seen as the underclass and were discriminated against by the government and police. This resulted in strong political and guerrilla warfare movements in an attempt to overthrow British rule and re- unite Ireland. 	<p>There are two interpretations of this poem- literal and metaphorical.</p> <p>Literal: The narrator describes how well prepared they are for the storm. The storm attacks the island. As the poem progresses, the narrator's confidence decreases, and they begin to worry.</p> <p>Metaphorical: Heaney uses the storm as a metaphor for the conflict in Northern Ireland. The 'Islanders' suffer under enemy occupation with quiet resignations.</p>	<ul style="list-style-type: none"> Heaney portrays nature as a powerful force that humans should fear and not attempt to control. Heaney presents the idea that life under constant enemy occupation can leave people accepting this presence with sadness, but stop trying to do anything about it. He warns that the enemy can appear reasonable, but can quickly turn in to a dangerous threat – this threat may not always be physical; the gradual erosion of human rights and liberties is just as perilous. 	Heaney's use of iambic pentameter may appear strange given its use in traditional British poems. However he subverts the traditional structure by swapping the stressed and unstressed syllables on certain lines, resisting the regularity of British control.
Isolated	To be far away from other people or places.			Tissue- Imtiaz Dharker	<ul style="list-style-type: none"> Imtiaz Dharker was born in Pakistan but grew up in Scotland. Her poetry often deals with themes of identity, the role of women in society and the search for meaning. Tissue is from her poetry collection called 'The terrorist at my table'. Most of the poems in that collection relate to religion, terrorism and global politics. 	<ul style="list-style-type: none"> Tissue explores the varied uses of paper and how they relate to life. It is written from the point of view of someone looking out at the conflict and troubles of the modern world; destruction, war and politics, money and wealth as well as issues like terrorism and identity. The poem remarks how nothing is meant to last. 	<ul style="list-style-type: none"> Human power is ephemeral. No matter how much we try to build structures to display our power, nature will always outlast it. Our relationship with paper is unhealthy. We rely on it too much to make records, document ownership and build debt. Instead, we should realise that the significance of human life will outlast the records we make of it on paper or in buildings. Human life is fragile, and not everything can last. We must understand our fragility and should not try to build our lives through making recordings or building with blocks and bricks, we should focus on living.
Dictatorial	Telling people what to do in a forceful and cruel way	Storm on the Island- Seamus Heaney	<ul style="list-style-type: none"> For many centuries, there has been conflict in Northern Ireland. The majority of Northern Ireland's population were unionists, who wanted to remain within the United Kingdom. Most of these were Protestant Christians. Seamus Heaney was a Catholic born in Northern Ireland in 1939. Catholics were seen as the underclass and were discriminated against by the government and police. This resulted in strong political and guerrilla warfare movements in an attempt to overthrow British rule and re- unite Ireland. 	<p>There are two interpretations of this poem- literal and metaphorical.</p> <p>Literal: The narrator describes how well prepared they are for the storm. The storm attacks the island. As the poem progresses, the narrator's confidence decreases, and they begin to worry.</p> <p>Metaphorical: Heaney uses the storm as a metaphor for the conflict in Northern Ireland. The 'Islanders' suffer under enemy occupation with quiet resignations.</p>	<ul style="list-style-type: none"> Heaney portrays nature as a powerful force that humans should fear and not attempt to control. Heaney presents the idea that life under constant enemy occupation can leave people accepting this presence with sadness, but stop trying to do anything about it. He warns that the enemy can appear reasonable, but can quickly turn in to a dangerous threat – this threat may not always be physical; the gradual erosion of human rights and liberties is just as perilous. 	Heaney's use of iambic pentameter may appear strange given its use in traditional British poems. However he subverts the traditional structure by swapping the stressed and unstressed syllables on certain lines, resisting the regularity of British control.	
Nostalgia	A warm feeling for the past, particularly a very happy time		Tissue- Imtiaz Dharker	<ul style="list-style-type: none"> Imtiaz Dharker was born in Pakistan but grew up in Scotland. Her poetry often deals with themes of identity, the role of women in society and the search for meaning. Tissue is from her poetry collection called 'The terrorist at my table'. Most of the poems in that collection relate to religion, terrorism and global politics. 	<ul style="list-style-type: none"> Tissue explores the varied uses of paper and how they relate to life. It is written from the point of view of someone looking out at the conflict and troubles of the modern world; destruction, war and politics, money and wealth as well as issues like terrorism and identity. The poem remarks how nothing is meant to last. 	<ul style="list-style-type: none"> Human power is ephemeral. No matter how much we try to build structures to display our power, nature will always outlast it. Our relationship with paper is unhealthy. We rely on it too much to make records, document ownership and build debt. Instead, we should realise that the significance of human life will outlast the records we make of it on paper or in buildings. Human life is fragile, and not everything can last. We must understand our fragility and should not try to build our lives through making recordings or building with blocks and bricks, we should focus on living. 	The poem has an irregular structure and no rhyme scheme reflecting the irregularity of life and the lack of and predictability. The fragile structure is symbolic of the fragile nature of our lives.
Fragility	being easily broken or damaged.	Storm on the Island- Seamus Heaney	<ul style="list-style-type: none"> For many centuries, there has been conflict in Northern Ireland. The majority of Northern Ireland's population were unionists, who wanted to remain within the United Kingdom. Most of these were Protestant Christians. Seamus Heaney was a Catholic born in Northern Ireland in 1939. Catholics were seen as the underclass and were discriminated against by the government and police. This resulted in strong political and guerrilla warfare movements in an attempt to overthrow British rule and re- unite Ireland. 	<p>There are two interpretations of this poem- literal and metaphorical.</p> <p>Literal: The narrator describes how well prepared they are for the storm. The storm attacks the island. As the poem progresses, the narrator's confidence decreases, and they begin to worry.</p> <p>Metaphorical: Heaney uses the storm as a metaphor for the conflict in Northern Ireland. The 'Islanders' suffer under enemy occupation with quiet resignations.</p>	<ul style="list-style-type: none"> Heaney portrays nature as a powerful force that humans should fear and not attempt to control. Heaney presents the idea that life under constant enemy occupation can leave people accepting this presence with sadness, but stop trying to do anything about it. He warns that the enemy can appear reasonable, but can quickly turn in to a dangerous threat – this threat may not always be physical; the gradual erosion of human rights and liberties is just as perilous. 	Heaney's use of iambic pentameter may appear strange given its use in traditional British poems. However he subverts the traditional structure by swapping the stressed and unstressed syllables on certain lines, resisting the regularity of British control.	

ENGLISH –Poetry cluster 3: The Problem with Power - Grammar

Key Vocabulary	
Patriotism	
Colonialism	
Dominate	
Defiance	
Isolated	
Dictatorial	
Nostalgia	
Fragility	

The Big Ideas	Notes
Garland questions the importance of honour and patriotism and demonstrates how we must have the individuality to learn for ourselves and not just to follow others.	
Agard explores the importance of identity and the power of history and education.	
Rumens demonstrates impact of dictatorial governments and the power of memory. She highlights the need for compassion and empathy.	
Heaney warns of the dangers of enemy occupation and the emotional toll of silent resignation.	
Dharker emphasises the fragility of life through the extended metaphor of paper.	

ENGLISH –Poetry cluster 3: The Problem with Power- Sets 2-5

Key Vocabulary		Poem	Context	Events in the poem	Message	Form/ structure
Patriotism	Being devoted to your country	Kamikaze-Beatrice Garland	<ul style="list-style-type: none"> During WW2, the term 'kamikaze' was used for Japanese fighter pilots who were sent on suicide missions. They were expected to crash their planes into enemy warships. The word 'kamikaze' literally translates as 'divine wind'. Flying a kamikaze mission was portrayed as a great honour by the Japanese government. It was claimed that there were many volunteers, although some have argued that not every kamikaze soldier would have been willing. By the end of the war, nearly 4,000 kamikaze pilots had died. 	<ul style="list-style-type: none"> The narrator of this poem is a kamikaze pilot's daughter. Unlike many of his comrades, this pilot turns back from his target and returns home. The poem explores the moment that the pilot's decision is made and sketches out the consequences for him over the rest of his life. Not only is he shunned by his neighbours, but his wife refuses to speak to him or look him in the eye. His children gradually learn that he is not to be spoken to and begin to isolate and reject him. 	<ul style="list-style-type: none"> The poem explores the conflict between personal and national duty and suggests that individual desire and extreme patriotism cannot be achieved together. Through the pilot, Garland may be expressing how it is not honour that gives life meaning, but rather being with loved ones. The poem explores the impossible situation that the pilots were put in by those in power- dying in glory or being shamed and rejected by your family. It also deals with the lasting effects that war can inflict on people, families, and communities. This poem not only deals with the kamikaze pilot's own story, but the implications for those around him. 	Kamikaze is a narrative poem. It begins as a report, summarising another conversation or story told by someone else. Sections of the poem are presented in italics as first-person narrative, where the storyteller speaks directly for herself. This has the effect of heightening the sense of sadness she feels.
Colonialism	When a powerful country takes control of a less powerful country	Checking Out Me History- John Agard	<ul style="list-style-type: none"> Since the early 17th century, the country of Guyana has been colonised and controlled by the Dutch, French and British. The indigenous population spoke Arawak, but the British introduced English as the language of the government, courts and education system. For centuries, nations would repress the culture and identity of the countries that they colonised. They did this to control the population and get rid of any rebellion against the colonisers. Born in Guyana in 1949, Agard moved to Britain in 1977 and sees the culture as both an insider from living there and an outsider from moving to Britain 	<ul style="list-style-type: none"> The poem focuses on the omission of indigenous history and discusses how colonized people were forced to learn about <i>British</i> history—which had little to do with their actual lives. 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 Toussaint L'Ouverture, the leader of the Haitian revolution. The poem suggests the curriculum deliberately blinded colonized people to their own histories, and argues that in order to understand their own identity they must learn their own history. 	<ul style="list-style-type: none"> Knowledge should not be denied to anyone. No one has the right to oppress others by denying them facts about their past. This can lead to feelings of inferiority and there should be more equality in the world. History is important and there is power in knowing your heritage and culture. People should never exclude this from you – especially if it is replaced with less relevant examples. There is a sense of caution in this poem in relation to believing what you are told. We are reminded that we should always seek the truth for ourselves and question what others choose to teach us. The education system has power to mould our thinking and we should be aware of this. There is a warning that, when people are denied knowledge, they can become bitter and angry, and this could lead to rebellion, protests and uprisings. 	The open form highlights Agard's rebellion against the status quo and the restrictions of a colonial curriculum. His use of italics separates and celebrates the important historical figures from the history he was taught. The sing-song rhyme scheme holds a bitterness and anger that he was taught trivial things whilst his own history was omitted.
Dominate	To have power and influence over others	The Émigrée- Carol Rumens	<ul style="list-style-type: none"> Carol Rumens was born in South London in 1944 Published her own poems and translations of Russian poems She has a 'fascination with elsewhere' The Émigrée is not autobiographical poem, but is inspired by living in London (a diverse society) The poem sympathises with people who have been exiled Emigrants are people who have left the country of their birth to settle elsewhere in the world. 	<ul style="list-style-type: none"> A displaced person pictures the country and the city where they were born. The city and country are never named in order to increase the relevancy to as many people who have left their homelands as possible. The speaker's home country appears to be war-torn, or under the control of a dictatorial government that has banned the language the speaker once knew. Despite this, the émigrée's childhood memories are filled with light and happiness. Though there is a clear sense of fondness for the place, there is also a more threatening tone in the poem, suggesting that not all of her memories are happy and that the country she has emigrated to is not always welcoming. 	<ul style="list-style-type: none"> Rumens presents the importance of empathy and sympathy. She reminds us of how traumatic conflict can be and that people are forced to make heart-breaking decisions when they live under cruel leadership. The poem highlights the importance of belonging and is a celebration of diversity – we should make people feel welcome when they move to a new home. Memories are shown to be powerful and to have a strong hold over us with the ability to bring both pain and comfort. The past can be difficult to escape and can restrict us from moving forward in life. There is also a sense of the power of the media – their portrayal of immigrants can lead to a lack of sympathy in society; it is important we do not become insensitive to the pain that can lead to people moving to a new home. 	The use of enjambment reflects the chaos and confusion of her situation. The poem consists of two stanzas with eight lines and a third stanza with nine lines. The added line in the final stanza could suggest she doesn't want to let her memories go, stop writing about her homeland or give up her past.
Defiance	Showing that you don't want to obey someone	Storm on the Island- Seamus Heaney	<ul style="list-style-type: none"> For many centuries, there has been conflict in Northern Ireland. The majority of Northern Ireland's population were unionists, who wanted to remain within the United Kingdom. Most of these were Protestant Christians. Seamus Heaney was a Catholic born in Northern Ireland in 1939. Catholics were seen as the underclass and were discriminated against by the government and police. This resulted in strong political and guerrilla warfare movements in an attempt to overthrow British rule and re-unite Ireland. 	<p>There are two interpretations of this poem- literal and metaphorical.</p> <p>Literal: The narrator describes how well prepared they are for the storm. The storm attacks the island. As the poem progresses, the narrator's confidence decreases, and they begin to worry.</p> <p>Metaphorical: Heaney uses the storm as a metaphor for the conflict in Northern Ireland. The 'Islanders' suffer under enemy occupation with quiet resignations.</p>	<ul style="list-style-type: none"> Heaney portrays nature as a powerful force that humans should fear and not attempt to control. Heaney presents the idea that life under constant enemy occupation can leave people accepting this presence with sadness, but stop trying to do anything about it. He warns that the enemy can appear reasonable, but can quickly turn in to a dangerous threat – this threat may not always be physical; the gradual erosion of human rights and liberties is just as perilous. 	Heaney's use of iambic pentameter may appear strange given its use in traditional British poems. However he subverts the traditional structure by swapping the stressed and unstressed syllables on certain lines, resisting the regularity of British control.
Nostalgia	A warm feeling for the past, particularly a very happy time	Tissue- Imtiaz Dharker	<ul style="list-style-type: none"> Imtiaz Dharker was born in Pakistan but grew up in Scotland. Her poetry often deals with themes of identity, the role of women in society and the search for meaning. Tissue is from her poetry collection called 'The terrorist at my table'. Most of the poems in that collection relate to religion, terrorism and global politics. 	<ul style="list-style-type: none"> Tissue explores the varied uses of paper and how they relate to life. It is written from the point of view of someone looking out at the conflict and troubles of the modern world; destruction, war and politics, money and wealth as well as issues like terrorism and identity. The poem remarks how nothing is meant to last. 	<ul style="list-style-type: none"> Human power is ephemeral. No matter how much we try to build structures to display our power, nature will always outlast it. Our relationship with paper is unhealthy. We rely on it too much to make records, document ownership and build debt. Instead, we should realise that the significance of human life will outlast the records we make of it on paper or in buildings. Human life is fragile, and not everything can last. We must understand our fragility and should not try to build our lives through making recordings or building with blocks and bricks, we should focus on living. 	The poem has an irregular structure and no rhyme scheme reflecting the irregularity of life and the lack of and predictability. The fragile structure is symbolic of the fragile nature of our lives.
Fragility	being easily broken or damaged.					

ENGLISH –Poetry cluster 3: The Problem with Power- Sets 2-5

Key Vocabulary	
Patriotism	
Colonialism	
Dominate	
Defiance	
Isolated	
Dictatorial	
Nostalgia	
Fragility	

Poem	Context	Events in the poem	Message	Form/ structure
Kamikaze- Beatrice Garland				
Checking Out Me History- John Agard				
The Emigrée- Carol Rumens				
Storm on the Island- Seamus Heaney				
Tissue- Imtiaz Dharker				

ENGLISH –Poetry cluster 3: The Problem with Power- Sets 6-7

Key Vocabulary		Poem	Context	Events in the poem	Message	Form/ structure
Patriotism	Being devoted to your country	Kamikaze-Beatrice Garland	<ul style="list-style-type: none"> During WW2, the term 'kamikaze' was used for Japanese fighter pilots who were sent on suicide missions. They were expected to crash their planes into enemy warships. The word 'kamikaze' literally translates as 'divine wind'. Flying a kamikaze mission was portrayed as a great honour by the Japanese government. It was claimed that there were many volunteers, although some have argued that not every kamikaze soldier would have been willing. By the end of the war, nearly 4,000 kamikaze pilots had died. 	<ul style="list-style-type: none"> The narrator of this poem is a kamikaze pilot's daughter. Unlike many of his comrades, this pilot turns back from his target and returns home. The poem explores the moment that the pilot's decision is made and sketches out the consequences for him over the rest of his life. Not only is he shunned by his neighbours, but his wife refuses to speak to him or look him in the eye. His children gradually learn that he is not to be spoken to and begin to isolate and reject him. 	<ul style="list-style-type: none"> The poem explores the conflict between personal and national duty and suggests that individual desire and extreme patriotism cannot be achieved together. Through the pilot, Garland may be expressing how it is not honour that gives life meaning, but rather being with loved ones. The poem explores the impossible situation that the pilots were put in by those in power- dying in glory or being shamed and rejected by your family. It also deals with the lasting effects that war can inflict on people, families, and communities. This poem not only deals with the kamikaze pilot's own story, but the implications for those around him. 	Kamikaze is a narrative poem. It begins as a report, summarising another conversation or story told by someone else. Sections of the poem are presented in italics as first-person narrative, where the storyteller speaks directly for herself. This has the effect of heightening the sense of sadness she feels.
Colonialism	When a powerful country takes control of a less powerful country	Checking Out Me History- John Agard	<ul style="list-style-type: none"> Since the early 17th century, the country of Guyana has been colonised and controlled by the Dutch, French and British. The indigenous population spoke Arawak, but the British introduced English as the language of the government, courts and education system. For centuries, nations would repress the culture and identity of the countries that they colonised. They did this to control the population and get rid of any rebellion against the colonisers. Born in Guyana in 1949, Agard moved to Britain in 1977 and sees the culture as both an insider from living there and an outsider from moving to Britain 	<ul style="list-style-type: none"> The poem focuses on the omission of indigenous history and discusses how colonized people were forced to learn about <i>British</i> history—which had little to do with their actual lives. 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 Toussaint L'Ouverture, the leader of the Haitian revolution. The poem suggests the curriculum deliberately blinded colonized people to their own histories, and argues that in order to understand their own identity they must learn their own history. 	<ul style="list-style-type: none"> Knowledge should not be denied to anyone. No one has the right to oppress others by denying them facts about their past. This can lead to feelings of inferiority and there should be more equality in the world. History is important and there is power in knowing your heritage and culture. People should never exclude this from you – especially if it is replaced with less relevant examples. There is a sense of caution in this poem in relation to believing what you are told. We are reminded that we should always seek the truth for ourselves and question what others choose to teach us. The education system has power to mould our thinking and we should be aware of this. There is a warning that, when people are denied knowledge, they can become bitter and angry, and this could lead to rebellion, protests and uprisings. 	The open form highlights Agard's rebellion against the status quo and the restrictions of a colonial curriculum. His use of italics separates and celebrates the important historical figures from the history he was taught. The sing-song rhyme scheme holds a bitterness and anger that he was taught trivial things whilst his own history was omitted.
Dominate	To have power and influence over others	The Émigrée- Carol Rumens	<ul style="list-style-type: none"> Carol Rumens was born in South London in 1944 Published her own poems and translations of Russian poems She has a 'fascination with elsewhere' The Émigrée is not autobiographical poem, but is inspired by living in London (a diverse society) The poem sympathises with people who have been exiled Emigrants are people who have left the country of their birth to settle elsewhere in the world. 	<ul style="list-style-type: none"> A displaced person pictures the country and the city where they were born. The city and country are never named in order to increase the relevancy to as many people who have left their homelands as possible. The speaker's home country appears to be war-torn, or under the control of a dictatorial government that has banned the language the speaker once knew. Despite this, the émigrée's childhood memories are filled with light and happiness. Though there is a clear sense of fondness for the place, there is also a more threatening tone in the poem, suggesting that not all of her memories are happy and that the country she has emigrated to is not always welcoming. 	<ul style="list-style-type: none"> Rumens presents the importance of empathy and sympathy. She reminds us of how traumatic conflict can be and that people are forced to make heart-breaking decisions when they live under cruel leadership. The poem highlights the importance of belonging and is a celebration of diversity – we should make people feel welcome when they move to a new home. Memories are shown to be powerful and to have a strong hold over us with the ability to bring both pain and comfort. The past can be difficult to escape and can restrict us from moving forward in life. There is also a sense of the power of the media – their portrayal of immigrants can lead to a lack of sympathy in society; it is important we do not become insensitive to the pain that can lead to people moving to a new home. 	The use of enjambment reflects the chaos and confusion of her situation. The poem consists of two stanzas with eight lines and a third stanza with nine lines. The added line in the final stanza could suggest she doesn't want to let her memories go, stop writing about her homeland or give up her past.
Defiance	Showing that you don't want to obey someone	Storm on the Island- Seamus Heaney	<ul style="list-style-type: none"> For many centuries, there has been conflict in Northern Ireland. The majority of Northern Ireland's population were unionists, who wanted to remain within the United Kingdom. Most of these were Protestant Christians. Seamus Heaney was a Catholic born in Northern Ireland in 1939. Catholics were seen as the underclass and were discriminated against by the government and police. This resulted in strong political and guerrilla warfare movements in an attempt to overthrow British rule and re-unite Ireland. 	<p>There are two interpretations of this poem- literal and metaphorical.</p> <p>Literal: The narrator describes how well prepared they are for the storm. The storm attacks the island. As the poem progresses, the narrator's confidence decreases, and they begin to worry.</p> <p>Metaphorical: Heaney uses the storm as a metaphor for the conflict in Northern Ireland. The 'Islanders' suffer under enemy occupation with quiet resignations.</p>	<ul style="list-style-type: none"> Heaney portrays nature as a powerful force that humans should fear and not attempt to control. Heaney presents the idea that life under constant enemy occupation can leave people accepting this presence with sadness, but stop trying to do anything about it. He warns that the enemy can appear reasonable, but can quickly turn in to a dangerous threat – this threat may not always be physical; the gradual erosion of human rights and liberties is just as perilous. 	Heaney's use of iambic pentameter may appear strange given its use in traditional British poems. However he subverts the traditional structure by swapping the stressed and unstressed syllables on certain lines, resisting the regularity of British control.
Isolated	To be far away from other people or places.	Tissue- Imtiaz Dharker	<ul style="list-style-type: none"> Imtiaz Dharker was born in Pakistan but grew up in Scotland. Her poetry often deals with themes of identity, the role of women in society and the search for meaning. Tissue is from her poetry collection called 'The terrorist at my table'. Most of the poems in that collection relate to religion, terrorism and global politics. 	<ul style="list-style-type: none"> Tissue explores the varied uses of paper and how they relate to life. It is written from the point of view of someone looking out at the conflict and troubles of the modern world; destruction, war and politics, money and wealth as well as issues like terrorism and identity. The poem remarks how nothing is meant to last. 	<ul style="list-style-type: none"> Human power is ephemeral. No matter how much we try to build structures to display our power, nature will always outlast it. Our relationship with paper is unhealthy. We rely on it too much to make records, document ownership and build debt. Instead, we should realise that the significance of human life will outlast the records we make of it on paper or in buildings. Human life is fragile, and not everything can last. We must understand our fragility and should not try to build our lives through making recordings or building with blocks and bricks, we should focus on living. 	The poem has an irregular structure and no rhyme scheme reflecting the irregularity of life and the lack of and predictability. The fragile structure is symbolic of the fragile nature of our lives.
Dictatorial	Telling people what to do in a forceful and cruel way					
Nostalgia	A warm feeling for the past, particularly a very happy time					
Fragility	being easily broken or damaged.					

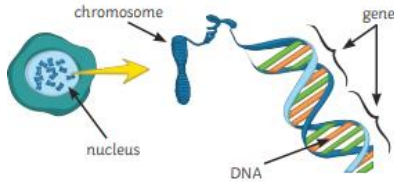
ENGLISH –Poetry cluster 3: The Problem with Power- Sets 6-7

Key Vocabulary	
Patriotism	
Colonialism	
Dominate	
Defiance	
Isolated	
Dictatorial	
Nostalgia	
Fragility	

Poem	Context	Events in the poem	Message	Form/ structure
Kamikaze-Beatrice Garland	<ul style="list-style-type: none"> During _____, the term 'kamikaze' was used for... They were expected to... The _____ made the Kamikaze missions sound like... It was claimed that... 	<ul style="list-style-type: none"> The narrator of this poem is... The poem explores the moment... His neighbours _____ and his wife... His children and grandchildren... 	<ul style="list-style-type: none"> The poem explores the conflict... Through the pilot, Garland may be expressing how... The poem explores... It also deals with the... 	<ul style="list-style-type: none"> Kamikaze is a ... Sections of the poem are presented in...
Checking Out Me History- John Agard	<ul style="list-style-type: none"> Since the early _____, the country of For centuries, nations would ... They did this to... Born in... 	<ul style="list-style-type: none"> The poem focuses on how... Not only does the poem call attention to the how oppressive colonial education was, but it also... The poem suggests the curriculum deliberately... 	<ul style="list-style-type: none"> Knowledge should not be... There is a sense of... There is a warning that,... 	<ul style="list-style-type: none"> His use of italics... The sing-song rhyme scheme...
The Émigrée- Carol Rumens	<ul style="list-style-type: none"> Carol Rumens was born... Published her own... She has a 'fascination with... The Émigrée is not autobiographical poem, but... The poem sympathises with ... Emigrants are... 	<ul style="list-style-type: none"> An emigrant... The speaker's home country appears to be... Despite this, the émigrée's childhood memories are... 	<ul style="list-style-type: none"> Rumens presents the importance of... The poem highlights the importance of... Memories are shown to be... 	<ul style="list-style-type: none"> The use of enjambment reflects the... The poem consists of...
Storm on the Island- Seamus Heaney	<ul style="list-style-type: none"> For many centuries, ... The majority of Northern Ireland's population were ... Seamus Heaney was... 	<p>There are two interpretations of this poem- _____ and _____.</p> <p>_____ : The narrator describes how well prepared they are for...</p> <p>_____ : Heaney uses the storm as a metaphor for...</p>	<ul style="list-style-type: none"> Heaney portrays nature as... Heaney presents the idea that life under... He warns that the enemy can ... 	<ul style="list-style-type: none"> Heaney's use of _____ may appear
Tissue- Imtiaz Dharker	<ul style="list-style-type: none"> Imtiaz Dharker was... Tissue is from... 	<ul style="list-style-type: none"> Tissue explores... It is written from the point of view of ... The poem remarks how... 	<ul style="list-style-type: none"> Human power... Our relationship with paper is ... Human life is... 	

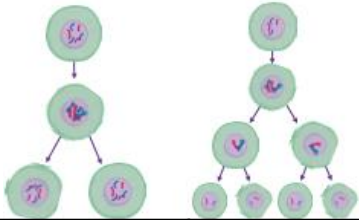
T5 Y10 Grammar Biology Inheritance, Variation and Evolution

Cells and cell division



The chromosomes are in the nucleus of cells
Humans have 46 chromosomes.
Chromosomes contain genes, which code for proteins.
In body cells, chromosomes are in pairs – one from each parent.
In sex cells (gametes) they are not in pairs and there is half the number of chromosomes (e.g. 23 in humans)

Cell division – two types:



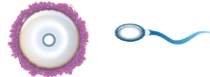
Mitosis (in all body cells)	Meiosis (in testes and ovaries)
2 daughter cells	4 daughter cells
Daughter cells = genetically identical	Daughter cells = not genetically identical
Cell divides once	Two divisions
Daughter cells have same number of chromosomes as original cell	Daughter cells have half the chromosomes as original cell
Used for growth and repair.	Produces gametes for sexual reproduction

Reproduction

Two types of reproduction – sexual and asexual.

	Sexual	Asexual
Number of parents	2	1
gametes used?	Yes	no
Variation in the offspring	lots	None (unless mutations occur) Offspring are clones

Sexual reproduction

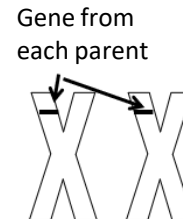


The sperm and egg have half of the genes for the offspring. (in humans 23 chromosomes)
At fertilisation, the sperm and egg nuclei join. (23 + 23 = 46 chromosomes)

There are two genes for any one characteristic – one on the chromosome from mum and one from Dad
Different forms of the same gene are called **alleles**
If the alleles are the same, the person is **homozygous**
If the alleles are different the person is **heterozygous**

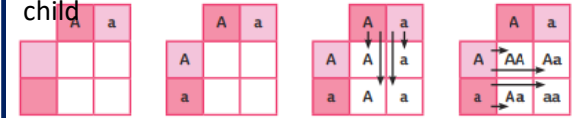
E.g.:
B = brown hair (dominant)
b = red hair

BB = homozygous, brown hair
Bb = heterozygous, brown hair
bb = homozygous, red hair



How to complete a punnet square

If A = blue eyes, a = green eyes
Calculate the probability of two heterozygous people having a green eyed child



Step 1
Put one parents alleles into the boxes at the top

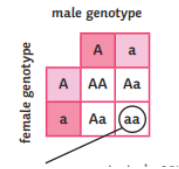
Step 2
Put the other parents alleles into the boxes down the side

Step 3
Write the alleles from parent one in all boxes underneath

Step 4
Put the alleles from the second parent into the boxes to the right

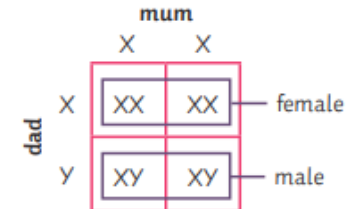
Probability

A green eyed child would have aa genotype.



One of these four has the type aa – that's ¼, 25% or 0.25.

Sex Determination



Females carry two X chromosomes (XX)
Males carry one X and one Y chromosome (XY)
50% chance of male and female.

T5 Y10 Grammar Biology Inheritance, Variation and Evolution

- Put these in order from smallest to biggest:

Allele, Cell, Chromosome, Gene, Nucleus

- What are the two types of cell division?
- When does mitosis take place?
- Where does meiosis take place?
- How does the number of chromosomes in a gamete differ from those of a body cell?
- What do genes do?

- What are the two types of reproduction?
- How many parents are needed for asexual reproduction?
- What are the offspring of asexual reproduction known as?
- What is the term for when a sperm and an egg join?
- How many genes do we have for any single characteristic?
- What term is used to describe a person that has two alleles that are the same for a particular characteristic?

- What two sex chromosomes do females carry?
- What two chromosomes do males carry?
- What is the probability of having a boy?

- Complete the punnet square:

	D	d
d		
d		

- What is the chance of having an offspring with the allele pair dd?

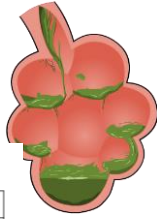
T5 Y10 Grammar Biology Inheritance, Variation and Evolution

Inherited disorders

Cystic fibrosis

Disorder of cell membranes
Caused by a recessive allele
Causes thick mucus to form in membranes
Main organs affected are lungs, digestive & reproductive organs – pancreas and intestines.

Alveoli get blocked with mucus
Increases diffusion path so less O₂ gets into the blood



		♂ Father	
		C	c
♀ Mother	C	CC	Cc
	c	Cc	cc

Polydactyly

Disorder of the hands and feet
Caused by a dominant allele
Causes extra digits, fingers and toes.



Embryo screening

Parents that have inherited disorders may opt for embryo screening

1. Multiple embryos are made in IVF
2. One cell is removed from each embryo
3. The cells are screened for faulty genes
4. Only embryos without the genes for disorders are transferred to the womb of the mother.

- + Babies born free of that inherited disorder
- no guarantee child will be free of other health issues
- Many embryos are destroyed, which are potential human lives

Variation

May be due to differences in:
- Genes that have been inherited (genetic causes)
- Conditions which they have lived in (environmental causes)

- Combination of genes and the environment.

Mutation = a change in the DNA during copying (randomly). Often has no effect on the gene, but sometimes leads to new proteins being made and a new characteristic being seen

Evolution

Evolution = a change in inherited characteristics of a population over time through natural selection – could lead to a new species.

A **species** is a group of organisms that can successfully breed.
Theory of evolution states that all species have evolved from a simple life forms more than 3 billion years ago.



Natural Selection

Described by Darwin

1. **Variation** within a species – different genes. (due to **mutation**)
2. One gene may give characteristics that are better **adapted** for survival in the environment.
3. Those with **advantageous genes** will survive and reproduce – passing genes to **offspring**.
4. Over long periods of time, all members of that species have the characteristic, may even lead to a new **species**.

Extinction

Extinction = no remaining individuals of a species still alive on Earth.

Factors which could cause extinction:

- New disease
- Rapid change in environment (e.g. meteor/volcano eruption)
- New predators
- New competitors (often man)



Evidence for evolution

Fossils

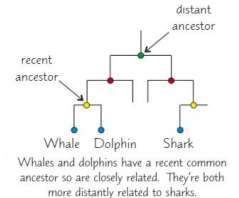
Fossils are the **remains of plants or animals** from **millions of years ago**:

They are formed in different ways:
- Remains of an organism that has not fully decayed as one of the decay conditions was absent (e.g. too cold, not enough O₂)
- Mineralised forms of the harder parts of an organisms (such as bones)
- Traces of organisms such as footprints or burrows.

Many early life forms were **soft bodied** so have left few traces behind, as they decayed so we cannot be sure how life started on Earth. Many have been destroyed by Earth's rock cycle. Fossils help us understand how much or little organisms have changed as life developed on Earth.

Evolutionary trees

Show how species have evolved from and are related to others



T5 Y10 Grammar Biology Inheritance, Variation and Evolution

1. What is cystic fibrosis a disorder of?

2. Is the allele for cystic fibrosis dominant or recessive?

3. Why do cystic fibrosis sufferers struggle to get oxygen into the body?

4. What is polydactyly?

5. Is the allele for polydactyly dominant or recessive?

6. Give one advantage of embryo screening

7. Give one disadvantage of embryo screening

1. What are the two causes of variation?

2. What is a mutation?

3. Which scientist proposed the theory of evolution by natural selection?

4. What is the theory of evolution?

5. What is a species?

6. Why do mutations sometimes lead to new characteristics being seen?

1. What does 'extinct' mean?

2. What are fossils?

3. Describe one way fossils can form

4. What do fossils show us?

5. Why is the fossil record incomplete?

6. What factors can cause extinction?

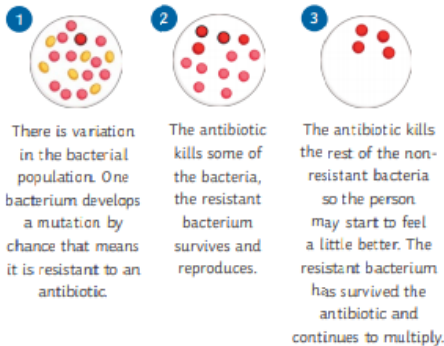
T5 Y10 Grammar Biology Inheritance, Variation and Evolution

Resistant Bacteria

- Bacteria **evolve** rapidly as they reproduce at a fast rate. (reproduce approx. every 20 mins)
- Mutations of bacteria can produce new strains.

- Some strains are **resistant** to antibiotics (so are not killed).
- They **survive** and **reproduce** – population of resistant strain rises.
- Resistant strain will spread because people are not **immune** and there is no effective treatment.

- **MRSA** is **resistant** to antibiotics.



How to reduce antibiotic resistant strains:

- Doctors should not prescribe antibiotics for viral infections
- Patients must complete courses of antibiotics
- Agricultural use of antibiotics should be restricted.

Genetic Engineering

- Process which involves modifying the **genome** of an organism by introduction a gene from another organism to give a **desired characteristic**.

Uses of genetic engineering:

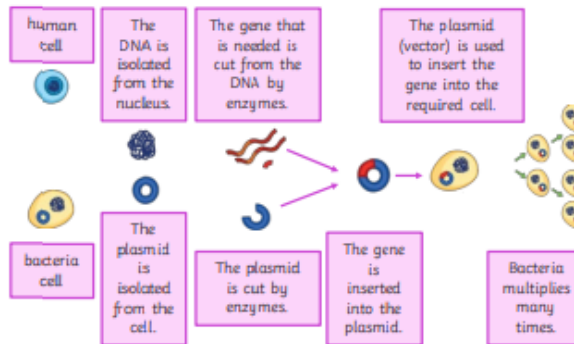
- Plant crops to be **resistant** to diseases or produce bigger, better fruits.

- Bacteria cells to produce useful substances, such as human insulin to treat diabetes.

Genetically modified (GM) crops

Advantages	Disadvantages
Resistant to insect attack	Not sure on long term effects when eating GM crops
Produce increased yields	Could affect populations of wild flowers and insects

Process of Genetic Engineering (HT only)



Selective Breeding

- Process which humans breed plants and animals for particular **genetic characteristics**.

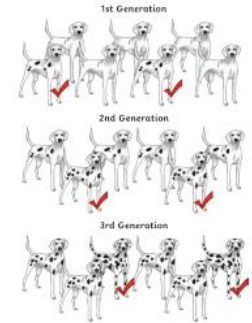
Steps of selective breeding:

1. Choose a male and female with **desired characteristics**.

2. Breed together

3. Pick the offspring which have the desired characteristic and breed together.

4. Continue over many generations, selecting the best offspring each time, until all offspring show desired characteristics.



Classification

Linnaeus classified things into: Kingdom, phylum, class, order, family genus and species.

Organisms are named by the **binomial system** of genus and species. (2 names)

Due to evidence from chemical analysis, there is now a 'three-domain system' by Carl Woese:

Domain	bacteria	archaea	eukaryota			
Kingdom	eubacteria	archaeobacteria	protista	fungi	plantae	animalia

T5 Y10 Grammar Biology Inheritance, Variation and Evolution

1. Why do bacteria evolve rapidly?

2. What can cause new strains of bacteria?

3. Name a bacteria which is resistant to antibiotics.

4. What are the three ways to reduce antibiotic resistance strains?

1. What is genetic engineering?

2. State two uses of genetic engineering.

3. What does 'GM' stand for?

4. State two advantages of GM crops.

5. State two disadvantages of GM crops.

6. Describe the stages of genetic engineering (HT only).

1. 1. What is selective breeding?

2. Describe the four stages of selective breeding.

3. Why might a characteristic be chosen?

4. Give 3 examples of characteristics humans may choose.

1. How did Linnaeus classify organisms?

2. What are Carl Woese's three domains?

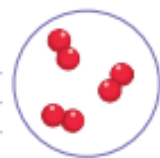
3. What does 'binomial' mean?

T5 Y10 Grammar Chemistry Chemical Analysis

Vocabulary: Suspension, Formulation

Pure substances

Pure = single element or compound – not mixed with any other substance.



Testing to see if a substance is pure:

- Pure substances have specific melting and boiling points

- Compare your data to a library of known values.

E.g. Water has a boiling point of 100°C, if it is above or below this, it is not pure.

Formulations

Formulation = a mixture that is designed as a useful product.

- Components mixed carefully to get the required **properties**.

Examples of formulations:

- Fuels
- Cleaning agents
- Paints
- Medicines
- Alloys
- Fertilisers
- Food



Chromatography

- Technique used to separate mixtures of **soluble substances**.
- How soluble a substance is determines how far it travels across paper.

More soluble = travels further (higher up paper)

Mobile phase

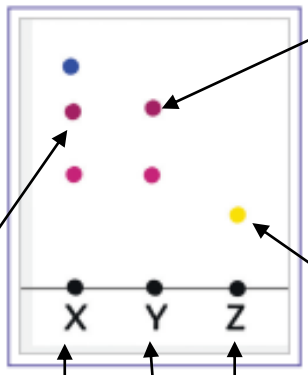
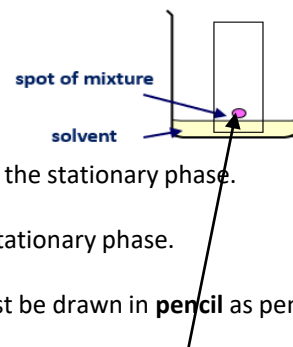
- **Solvent** is the mobile phase
- The substances dissolve in the solvent
- The solvent then moves through the stationary phase.

Stationary phase

- Does not move. The paper is the stationary phase.

Important – start line on paper must be drawn in **pencil** as pencil is **insoluble** and **will not run**

The spot and start line must be **above the solvent line** so the colours won't just wash into the solvent in the beaker.



X is a mixture as it contains 3 substances (3 spots)

Y is a mixture as it contains 2 substances (2 spots)

Z is pure as it only contains one substance (1 spot)

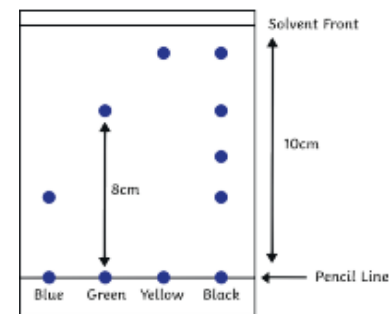
Three samples (x, y and z)

Rf Values

This is the ratio of the distance moved by a substance to the distance moved by the compound

$$R_f = \frac{\text{distance travelled by substance}}{\text{distance travelled by solvent}}$$

- Should always be between 0 and 1.
- Each substance has a unique Rf value.
- Can compare Rf values to a library of known substances
- Can identify unknown substances.



Rf value of green:

$$8\text{cm} / 10\text{cm} = 0.8$$

T5 Y10 Grammar Chemistry Chemical Analysis

1. What is a pure substance?

2. How can you test that a substance is pure?

1. What is chromatography used for?

2. What determines how far the substance travels?

3. What is the mobile phase in paper chromatography?

4. What is the stationary phase in paper chromatography?

1. How do you calculate the Rf value?

2. Rf values should always be between...

3. Use a ruler to measure the distance the solvent moved in the diagram below.

4. Use a ruler to measure how far the yellow spot moved

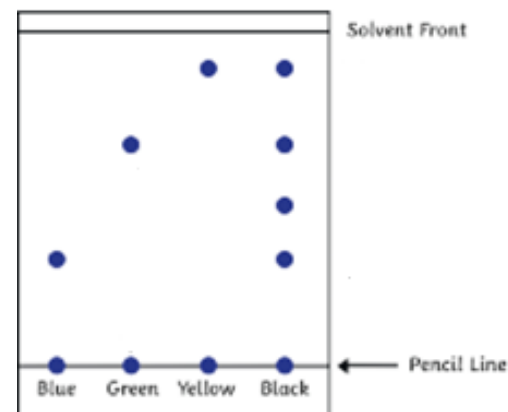
1. What is a formulation?

2. Give 3 examples of formulations.

5. How would you be able to identify a pure substance on a chromatogram?

6. Draw and label a diagram of the experiment to investigate how many different colours there are in food colouring using paper chromatography.

5. Calculate the Rf value for yellow



T5 Y10 Grammar Chemistry Chemical Analysis

Required Practical – Paper Chromatography

Aim: Investigate how paper chromatography can be used to separate and distinguish between coloured substances.

Method

- 1) Using a ruler, measure 1cm from bottom of chromatography paper and draw a line across the paper with a **pencil**.
- 2) Using a pipette, drop small spots of each ink onto pencil line (leave a gap so do not merge).
- 3) Pour solvent into a beaker, do not fill solvent above the pencil line on the paper.
- 4) Place chromatograph paper into beaker and allow solvent to move up the paper.
- 5) Remove paper just before solvent reaches top of the paper and leave to dry.
- 6) Calculate R_f values of all the spots using the equation below:

$$R_f = \frac{\text{distance travelled by substance}}{\text{distance travelled by solvent}}$$

Common questions

Q1) Why is a pencil used instead of a pen?

A1) Ink in the pen would move up the paper with the substances.

Q2) Why do you not fill the solvent above the line?

A2) Substances would wash off into the solvent instead of rising up the paper

Q3) Why might water not work as a solvent?

A3) Some substances are **insoluble** in water.

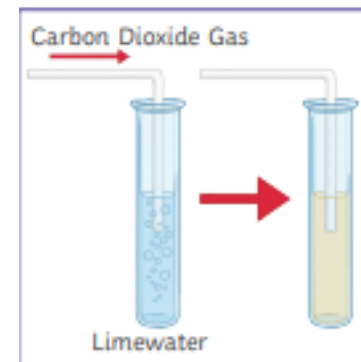
Identification of the Common Gases

Test for hydrogen – Place a **burning** splint at the opening of a test tube. If hydrogen gas is present, it will burn with a **squeaky-pop sound**.



Test for Oxygen – Place a **glowing** splint inside a test tube. The splint will **relight** in the presence of oxygen.

Test for Carbon Dioxide –Bubble the gas through the lime water – if the gas is carbon dioxide, the limewater turns **cloudy**.



Test for Chlorine – **Damp litmus paper** is held over the of gas. If the tube contains chlorine, the litmus paper becomes **bleached** and **turns white**.

T5 Y10 Grammar Chemistry Chemical Analysis

1. Describe how you would carry out paper chromatography to separate and identify the different colours in food dye.
2. Why is a pencil used instead of a pen?
3. Why do you not fill the solvent above the pencil line?
4. Why might water not work as a solvent?

1. Describe the tests and the positive results for:

a) Hydrogen

b) Carbon dioxide

c) Oxygen

d) Chlorine

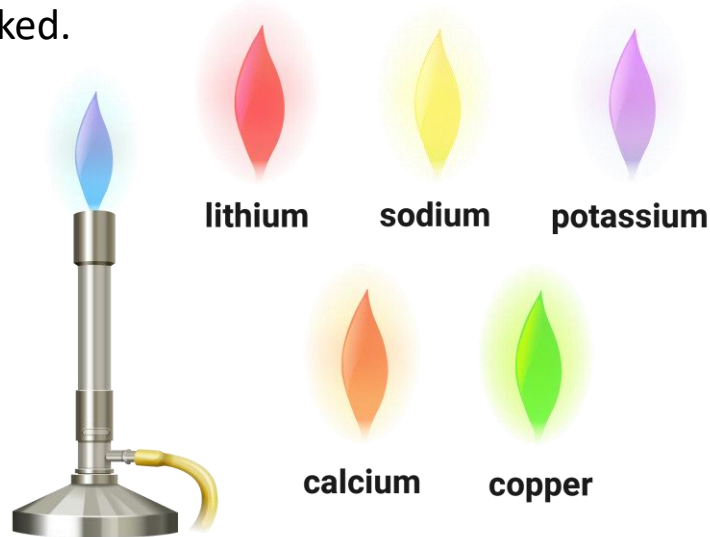
T5 Y10 Grammar Chemistry Chemical Analysis

Flame test

Flame tests can be used to identify some metal ions (cations). Lithium, sodium, potassium, calcium and copper compounds produce distinctive colours in flame tests:

- lithium compounds result in a crimson flame
- sodium compounds result in a yellow flame
- potassium compounds result in a lilac flame
- calcium compounds result in an orange-red flame
- copper compounds result in a green flame.

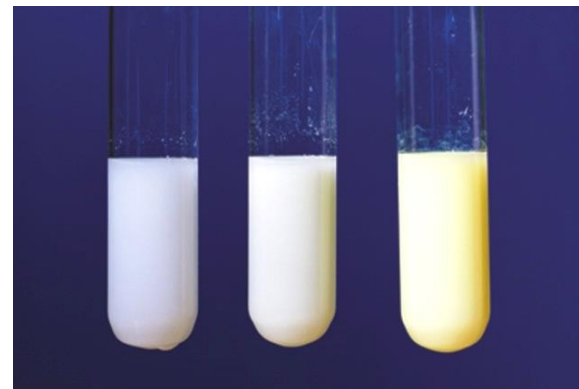
If a sample containing a mixture of ions is used some flame colours can be masked.



Halides

Halide ions in solution produce precipitates with silver nitrate solution in the presence of dilute nitric acid.

Silver chloride is white, silver bromide is cream and silver iodide is yellow.



Sulfate ions

Sulfate ions in solution produce a white precipitate with barium

T5 Y10 Grammar Chemistry Chemical Analysis

1. Why do we do flame tests?
2. What colour does lithium go in a flame?
3. What colour does sodium go in a flame?
4. What colour does potassium go in a flame?
5. What colour does calcium go in a flame?
6. What copper does lithium go in a flame?

1. What do we reacts the halides with to test for them?
2. What colour does chlorine go?
3. What colour does bromine go?
4. What colour does iodine go?

5. What is the test for sulphate ions?
6. What is the result of a positive test?

T5 Y10 Grammar Chemistry Chemical Analysis

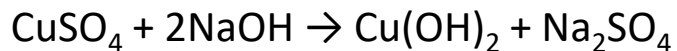
Metal hydroxides

Sodium hydroxide solution can be used to identify some metal ions (cations).

Solutions of aluminium, calcium and magnesium ions form white precipitates when sodium hydroxide solution is added but only the aluminium hydroxide precipitate dissolves in excess sodium hydroxide solution.

Solutions of copper(II), iron(II) and iron(III) ions form coloured precipitates when sodium hydroxide solution is added.

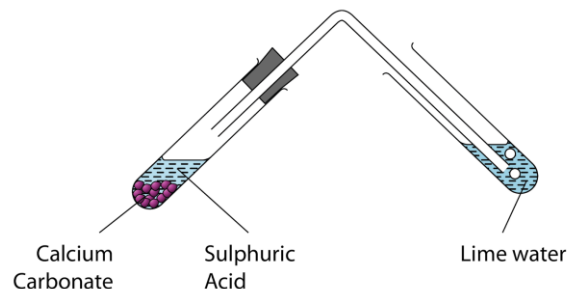
Copper(II) forms a blue precipitate, iron(II) a green precipitate and iron(III) a brown precipitate.



Carbonates

Carbonates react with dilute acids to form carbon dioxide gas.

Carbon dioxide can be identified with limewater, it will go cloudy.



T5 Y10 Grammar Chemistry Chemical Analysis

1. What test do we do to test for some metal ions (cations)?
2. What is seen when this test reacts with these aluminium ions?
3. What is seen when this test reacts with these calcium ions?
4. What is seen when this test reacts with these magnesium ions?
5. What is seen when this test reacts with these copper (II) ions?
6. What is seen when this test reacts with these iron (II) ions?
7. What is seen when this test reacts with these iron (III) ions?

1. What is the test for carbonates?
2. How can you test that carbon dioxide has been produced?

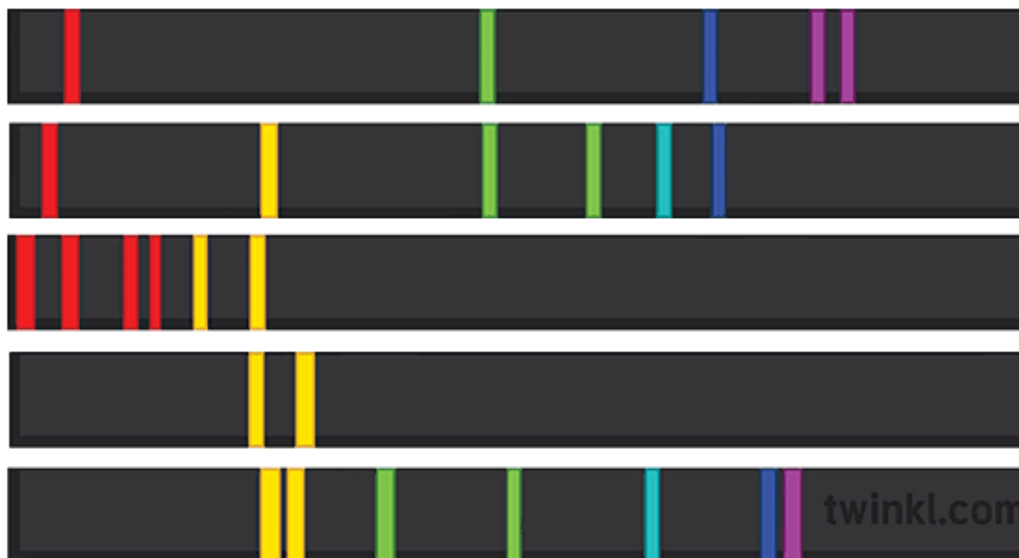
T5 Y10 Grammar Chemistry Chemical Analysis

Instrumental methods

Elements and compounds can be detected and identified using instrumental methods. Instrumental methods are accurate, sensitive and rapid. Students should be able to state advantages of instrumental methods compared with the chemical tests in this specification.

Flame emission spectroscopy

Flame emission spectroscopy is an example of an instrumental method used to analyse metal ions in solutions. The sample is put into a flame and the light given out is passed through a spectroscope. The output is a line spectrum that can be analysed to identify the metal ions in the solution and measure their concentrations.

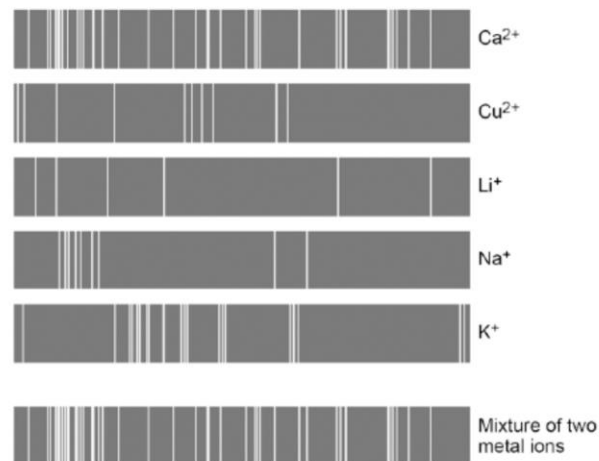


T5 Y10 Grammar Chemistry Chemical Analysis

1. What are the 3 things that are advantageous about instrumental techniques?

1. Name 3 metal ions that are in the sample from the picture
2. What is the reason to do flame emission spectroscopy?

Figure 3



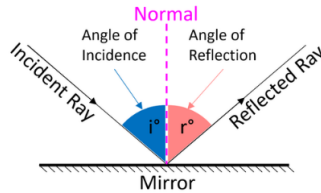
T5 Y10 Grammar Physics Light

Reflection

Definition: The change of direction of a light ray or wave at a boundary when the incident ray stays within the medium.

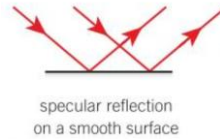
Law of reflection

The angle of incidence = angle of reflection



Specular reflection

Definition: Reflection from a smooth surface. Each light ray is reflected in a single ray.

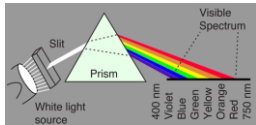


Diffuse reflection

Definition: Reflection from a rough surface. The light rays are scattered in different directions

Colour

White light can be split into the colours of the rainbow, each with a different wavelength



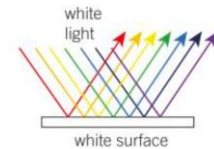
Primary and secondary colours

Red + yellow = green

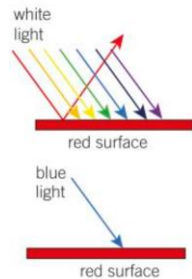
Green + blue = cyan

Blue + red = magenta

Green + blue + red = white



A white object looks white because it **reflects** all the wavelengths of visible light that reach it.



A red object looks red because it **absorbs** all the wavelengths of light except red. Only red light is **reflected**.

If only blue light is shone on a red surface it is **absorbed**, and no light is **reflected**, so the surface looks black

Ray diagrams

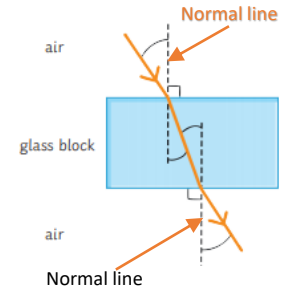
- You need to construct **ray diagrams** to show how a wave is **refracted** at the boundary of a different medium.

Less dense → More dense (e.g. air to glass)

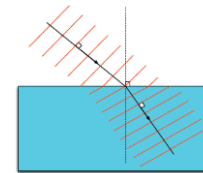
- Ray **slows down** and bends **towards the normal line**.

More dense → Less dense (e.g. glass to air)

- Ray **speeds up** and bends **away from the normal line**.



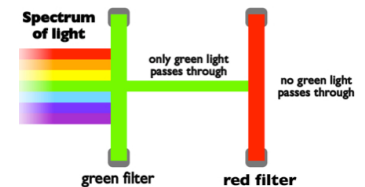
The ray bends because different parts of the wavefront cross the boundary at slightly different times –



If wave hits medium at an angle of 90° then the ray will slow down but will not be refracted.

Filters

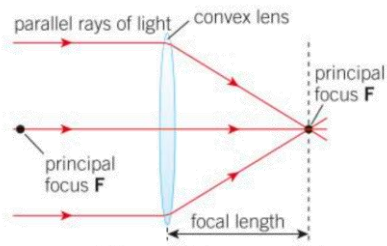
Filters change the colour objects appear as the only let certain wavelengths of light through. A green filter absorbs all colours except green, and **transmits** only green light



T5 Y10 Grammar Physics Light

- | | |
|--|--|
| <ol style="list-style-type: none">1. What is reflection?2. Draw a labelled diagram to show reflection of a ray of light by a mirror.3. What is specular reflection?4. What is diffuse reflection? | <ol style="list-style-type: none">1. What happens when a ray goes from a less dense → more dense medium?2. What happens when a ray moves from a more dense → less dense medium?3. What is the line at 90° to a surface called?4. 4. What happens if a ray hits a medium at 90°? |
| <ol style="list-style-type: none">1. What are the primary colours of light?2. Why does a red object look red?3. Why does a blue filter make everything appear blue? | |

T5 Y10 Grammar Physics Light

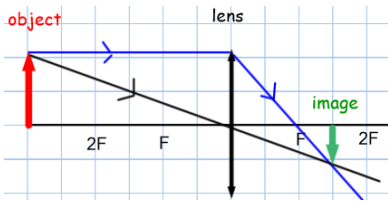


Convex (Converging) Lenses make parallel rays of light converge to meet at the principal focus. Focal length = distance from centre of lens to principal focus

To draw a ray diagram:

Draw two rays from the top of the object

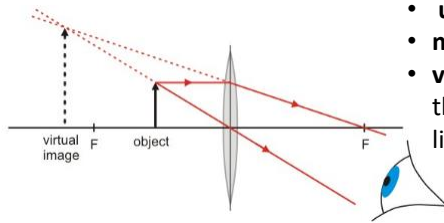
1. A ray parallel to the principal axis, which is refracted through the principal focus.
2. A ray through the centre of the lens, which does not change direction.
3. To create the image, draw an arrow from the principal axis to the point where the rays meet.



The image above is **inverted** (upside down), **diminished** (smaller than the object) and **real** (the rays of light pass through it).

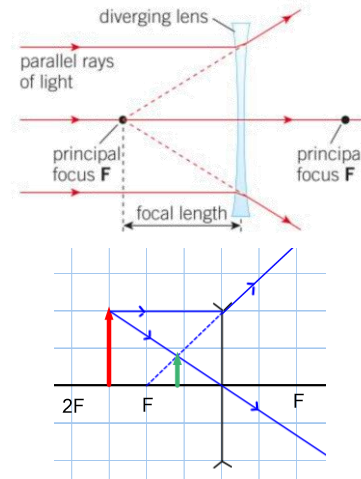
This image is

- **upright** (right way up),
- **magnified** (larger than the object)
- **virtual** (rays of light don't pass through it); represented by dotted lines



Convex lenses can produce **real** or **virtual** images.

Concave (Diverging) Lenses make parallel rays of light diverge (spread out), as if they have come from the principal focus of the lens



To draw a ray diagram:

Draw two rays from the top of the object

1. A ray parallel to the principal axis, which is refracted as if it came from the principal focus on the same side of the lens.
2. A ray through the centre of the lens, which does not change direction
3. To create the image, draw an arrow from the principal axis to the point where these rays appear to meet.

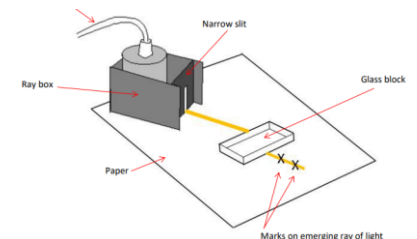
Concave lenses always produce **virtual** images.

Magnification: If the image is bigger than the object the magnification is greater than 1. If the image is smaller than the object, the magnification is less than 1.

Magnification is a ratio and so does not have units.

$$\text{Magnification} = \frac{\text{Image size}}{\text{Actual size}}$$

Required Practical: use different substances and surfaces to investigate refraction and reflection of light



T5 Y10 Grammar Physics Light

1. What does a convex lenses do to parallel rays of light?

2. How do you draw a ray diagram for a convex lens?

3. What is a real image?

4. What is a virtual image?

5. What type of does a concave lens produce?

1. What does a concave lenses do to parallel rays of light?

2. How do you draw a ray diagram for a concave lens?

3. What type of does a concave lens produce?

1. What is the formula to calculate magnification?

2. What does a magnification of less than 1 mean?

1. What equipment would you use to investigate the refraction of light through a glass block.

1. What is development?

Term	Definition
Development	The progress of a country in terms of economic growth, the use of technology and human welfare.
Uneven development	Development takes place at different rates in different places.
Development gap	The difference in standards of living and wellbeing between the world's richest and poorest countries.
Quality of life	General wellbeing (includes health, happiness, social belonging...)
Standard of living	Level of wealth and material goods available to people. \$
Economic development	Progress in an economy. New technology can lead to a move from agriculture to industry.

Ways to classify the world

LIC	Low income countries. GNI per capita of under \$1,045. (Poor) e.g. Haiti.
NEE	Newly Emerging Economies. Countries that have begun to experience high rates of economic development, with rapid industrialisation. e.g. Nigeria
HIC	High Income Countries. GNI per capita of over \$12,746. (Rich) e.g. UK.
Brandt line	An outdated line from the 1980's that split the world into rich north and poor south.

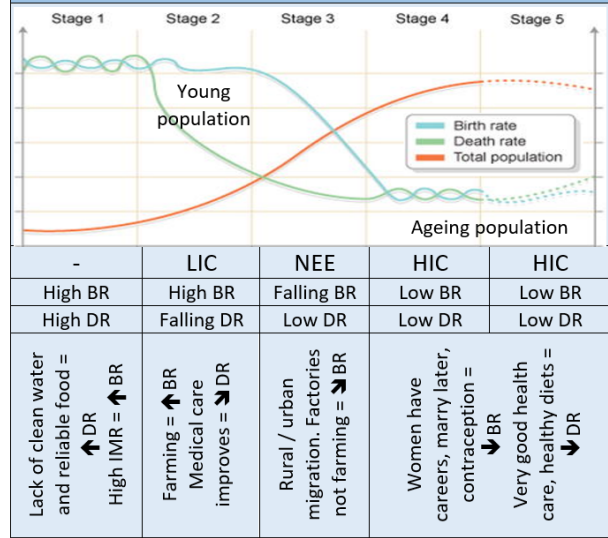
5. Consequences of uneven development

Disparities in wealth	Most developed countries > most wealth Africa owns just 1% of global wealth.
Disparities in health	Health care in LICs poor = ↓ life expect UK LE is 81 years. Nigeria LE is 52 years
International migration	Poor try to migrate to HICs. Mexico into USA. Syrians into Europe. Economic migration also occurs.

2. Measuring development

Term	Cat.	Definition
Arrows show how the indicator changes with development.		
GNI per capita	💰 ↗	Gross National Income per person. Total income divided by the size of the population. - Doesn't show inequality within a country. It's just an average.
Birth rate	👶 ↘	The number of babies born in a year per 1000 of the population. +Reliable- infers female equality.
Death rate	👤 ↘	The number of people that die in a year per 1000 of the population. - Less reliable. HICs now have an ageing population- > DR
Infant mortality rate	👶 ↘	The average number of deaths of infants under the age of 1, per 1000 live births per year.
Life expectancy	👤 ↗	The average number of years a person might be expected to live. - Less reliable for a LIC due to IMR making it look lower
People per doctor	👤 ↘	The number of people who depend on a single doctor for their health care needs
Literacy rate	📖 ↗	The percentage of people who have basic reading / writing skills.
Access to safe water	🚰 ↗	The percentage of people who have access to water that does not carry a health risk such as cholera
HDI	👤 💰 ↗	Human Development Index. A combined measure that includes GNI per capita, life expectancy and adult literacy rate. Out of 1. + Best indicator as it includes 💰 and 👤 data. Removes anomalies
Generic limitations		Data can be out of date or unreliable. Inequalities exist within countries.

3. Demographic Transition Model



4. Causes of uneven development

Cat	Factor	Explanation
Physical	Natural disasters	Government has to spend money rebuilding rather than education. eg Haiti has had EQs and TS
	Land-locked	No coastline. This hindered trade keeping the GNI low. E.g. Nepal.
	Extreme climates	If it's too hot or cold agriculture is difficult. E.g. Thar Desert
Economic	Debt	A country's money will go to repaying debt rather than education.
	Selling primary products	These are low value goods so the government has restricted income to invest in health care.
Historical	Colonialism	European countries controlled much of Africa and Asia. After regaining power they were poor and civil wars often occurred. eg Nigeria- UK colony
	War	Money spent on arms. E.g. Sudan

1. What is development?

Term	Definition
Development	
Uneven development	
Development gap	
Quality of life	
Standard of living	
Economic development	

Ways to classify the world

LIC	
NEE	
HIC	
Brandt line	

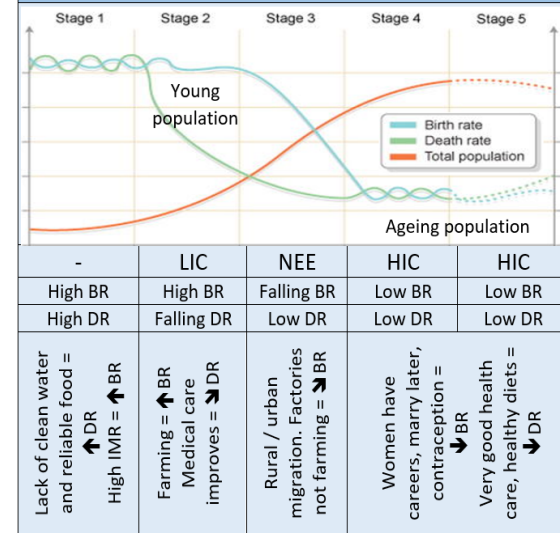
5. Consequences of uneven development

Disparities in wealth	
Disparities in health	
International migration	

2. Measuring development

Term	Cat.	Definition
Arrows show how the indicator changes with development.		
GNI per capita	δ ↗	
Birth rate	↓ ↘	
Death rate	↓ ↘	
Infant mortality rate	↓ ↘	
Life expectancy	↑ ↗	
People per doctor	↓ ↘	
Literacy rate	↑ ↗	
Access to safe water	↑ ↗	
HDI	δ ↑ ↗	
Generic limitations		

3. Demographic Transition Model



4. Causes of uneven development

Cat	Factor	Explanation
Physical	Natural disasters	
	Land-locked	
	Extreme climates	
Economic	Debt	
	Selling primary products	
Historical	Colonialism	
	War	

6. Strategies to reduce uneven development		FAT MIDII
Strategy	Explanation	Evaluation
Fairtrade	When producers in LICs are guaranteed a fair price for the goods they produce <u>ie</u> cocoa, coffee. The better price improves income, aids community projects and protects the environment.	+ Improves quality of life - Poorest can't afford certification
Aid	When a country or non-governmental organisation donates resources or money to another country to improve people's lives. Short term emergency aid or long-term aid. Nigeria- NETS4Life.	+ Improves quality of life - Aid may be tied - Corruption of aid
Tourism	Visitors spend money in a country and infrastructure is improved.	- Can be unreliable
Microfinance loans	Very small loans which are given to people in the LICs to help them start a small business. Often to women.	+ Makes women more equal - Can lead to debt
Investment	Countries or TNCs can invest in a country. Might include the development of infrastructure, building dams or industry. Shell.	+ Triggers multiplier effect - Economic leakage can occur
Debt relief	36/39 of the poorest countries have had their debt cancelled if they could guarantee no corruption and they agreed to spend <u>the money</u> on education/ reducing poverty. Nigeria's cancelled 2005.	+ Improves quality of life - They may go into debt again - Corrupt governments...
Intermediate technology	Sustainable technology that is appropriate to the needs, skills, knowledge and wealth of local people. Small scale projects.	+ Affordable - Small scale
Industrial development	Developing the secondary sector. This brings jobs, higher income and infrastructure improvements.	+ Triggers multiplier effect - Environmental damage

7. Tourism to reduce uneven development	
Nepal	LIC. GNI per capital of US\$1,090. Suffered civil war and earthquakes. Trek (Mount Everest), jungles, culture.
Advantages	+ \$445 million in 2015. + 8% GNI. + 500,000 jobs. 7% employment.
Dis-advantages	- Locals are poorly paid. - Economic leakage. - EQ in 2015 reduced tourism by 1/3. Some out of work for 7 months. - Environmental damage (<u>ie</u> O ₂ tanks).
Summary	Has been successful but it is unreliable. Need to find a more sustainable method for the long run.

6. Strategies to reduce uneven development		FAT MIDII
Strategy	Explanation	Evaluation
Fairtrade		-
Aid		-
Tourism		-
Microfinance loans		-
Investment		-
Debt relief		-
Intermediate technology		-
Industrial development		-

7. Tourism to reduce uneven development	
Nepal	
Advantages	
Dis-advantages	
Summary	

Balboa the Conquistador

1509
Balboa rescues Spanish expedition in trouble on mainland America.

1510
Founds first permanent settlement on mainland America, Santa Maria de la Antigua del Darien.

1511
Confirmed, by King Ferdinand, as captain general and governor of Darien.

1513
Expedition across Isthmus of Panama – finds the Pacific and claims it and surrounding lands for Spain.

1514
Plans an expedition to sail south on the Pacific. Replaced as governor by Pedrarias. Arrested for treason, tried and beheaded.

Pedrarias and Espinosa: the significance of Panama

Pedrarias and Espinosa explored the south coast separately, but both ended up on the same point on the Pacific coast – this became Panama. Panama significant because:

- Situated on Pacific coast – closest in distance to Nombre de Dios on the Caribbean Sea.
- a route between Panama and Nombre de Dios was the quickest way of moving goods, people and messages between the Pacific and the Caribbean sea.
- land surrounding Panama was fertile and had sea rich in fish.
- Panama was a port, well situated for Spanish treasure ships to off-load.

Velázquez conquers Cuba

1511 – Hatuey a native chief living in Haiti, flees to Cuba with 400 natives to escape Spanish cruelty. Velázquez and 300 conquistadors pursue them.

1512 – After strong native resistance, Hatuey is captured and burned alive.

1513 – Massacre at Canao – thousands of natives killed.

1514 – Conquest of Cuba complete. City of Santiago de Cuba founded and becomes capital of Cuba.

1515 – City of Havana founded.

2. The Conquistadors 1513-1528



Cortes' expedition to Mexico 1519

1519 February – Cortes sails from Cuba, despite Velázquez attempts to stop him.

March – Lands on Yucatan Peninsula and claims land for Spain.

April – Fights Tabascan natives and takes control of the city of Pontonchon. Makes peace with Tabascans. Given Malinche.

July – Re-establishes a Spanish settlement at Vera Cruz. Cortes also sinks his ships.

August – Cortes is met by cheering natives at Cempoala and allies with them.

September – Fights Tlaxcalans – enemies of the Aztecs – makes peace and allies with them.

Aztec religion



Quetzalcoatl

What beliefs did the Aztecs have towards the Spanish?

Some Aztecs wanted to treat Cortes and the Conquistadors as returning gods; others as dangerous invaders. Aztecs worshipped many gods. They were usually connected to nature. Human sacrifices were common among the Aztecs. The god Quetzalcoatl was the god of life. Aztecs believed he had vanished into the sea and would one day return. Many Aztecs believed that Cortes and the conquistadors were returning gods. Cortes and the conquistadors appeared from the same sea, and in the same spot, from which Aztecs believed Quetzalcoatl disappeared.

Magellan

Magellan and his ships managed to circumnavigate the world between 1519 and 1522 and claim the Phillipines for Spain.

This was important because:

- It meant that Spain could claim the Spice Islands – as they had found a western route to it.
- It brought prestige to Spain – Magellan and his ships were the first to complete a voyage of global circumnavigation.

Cortes removed as governor

Cortes had many enemies which were causing him problems back in Spain. In 1528 he was removed as governor because:

- Velázquez became a determined enemy.
- Rumours of greed reached the Spanish court.
- The king wanted to control Cortes.

In 1528 Cortes returns to Spain. Charles I was impressed with what Cortes had found but did not trust him. Cortes was no longer governor but he kept his land. An enemy of Cortes was installed so they could keep an eye on both, and to prevent one gaining too much power.

Date Event

1519

Feb Cortes sails from Cuba

March Lands on Yucatan peninsula and claims land for Spain

April Fights Tabascan natives and takes control of Pontonchon. Makes peace with Tabascans. Given Mayan woman, Malinche.

July Re-establishes Spanish settlement at Vera Cruz. Sinks his ships.

August Met by cheering natives at Cempoala and allies with them.

Sept Fights Tlaxcalans – enemies of the Aztecs – makes peace and allies with them.

October Cortes and his forces massacre 3000 natives in the town of Cholula.

8th Nov Cortes and his forces enter Tenochtitlan – welcomed by Montezuma.

14th Nov Montezuma taken prisoner by Cortes – becomes a puppet emperor.

1520

April Spanish troops arrive at Vera Cruz under instructions from Velázquez, intending to arrest Cortes.

May Cortes leaves Tenochtitlan to oppose Velázquez's troops. Cortes deputy, Alvarado, massacres thousands of Aztec nobles.

24-29 June Spaniards trapped in Tenochtitlan as Aztecs rise against them.

29th June Montezuma killed.

30th June The Night of Tears: Spaniards are massacred as they flee from Tenochtitlan and spend nearly a year re-grouping and planning.

1521

22nd May Battle for Tenochtitlan begins.

1st Aug Spaniards fight their way into the centre of Tenochtitlan.

13th Aug Tenochtitlan falls to the Spaniards and the Aztecs surrender.

Cortes strengthens Spanish control

In the years to 1528, Cortes strengthened control in many ways:

- He continued killing Aztecs and natives that supported them.
- He took tribute from remaining Aztec chiefs.
- Tenochtitlan was rebuilt on the ruins of the Aztec city.
- He encourages exploration and establishment of new communities.
- Agriculture was developed.
- Industry was developed.
- He helped with the spread of Christianity.

Aztec priests killed

Temples pulled down

The Spanish impose the encomienda system of landholding

The fall of the Aztec Empire

Aztec leaders killed and Aztecs ruled by Spaniards

Millions of Aztecs die from smallpox

Christian priests and friars convert Aztecs to Christianity

Forced labour kills millions of Aztecs



Keywords	
Tawhid	The belief in Islam that there is only one God who created everything
Omnipotent	God is all powerful and "has power over everything"
Immanent	God is active in the world and involved in its' creation.
Transcendent	God is outside of time and space. God cannot age or die or be located in one place.
Beneficent	Allah is compassionate, caring and good
Sunnah	The traditions and practices of the Prophet Muhammad
Qur'an	The Islamic sacred book
Hadith	A collection of traditions and sayings of the Prophet Muhammad
6 Articles of Faith	6 basic beliefs that shape the Islamic way of life
5 Roots of Usul Ad-Din	5 rules which explain how Muslims should act in daily life
Akhirah	Belief in the afterlife
Al Qadr	Supremacy of God's will and The belief in predestination which is slightly different for Sunni and Shi'a Muslims

What we are learning in this unit		
A. 6 Articles of Faith B. 5 Roots of Usul Ad-Din C. Sunnah and Hadith D. Risalah E. Torah, Psalms and Gospels F. Nature of Allah G. Qu'ran H. Torah, Psalms and Gospels I. Angels J. Al Qadir K. Day of Judgement, Paradise and Hell		

B. 5 Roots of Usul Ad-Din		
The 5 roots of Usul ad-Din are central to the Shi'a Muslim faith.		
Root	What is it?	Quote
1: Tawhid	The belief in the oneness of Allah	"He is God the One, God the eternal" Surah 112
2: Risalah	Belief in prophethood: the chain of messengers from Adam to Muhammad	"We sent messengers to every community" Surah 16
3: Adalat	Allah is just (fair) and will bring Divine Justice	"I advise you to being just towards both friend and foe" Imam Ali
4: Imamah	A term for God-given leadership	"obey God and the Messenger, and those in authority among you"
5: Mi'ad	The day of judgement and resurrection	"His is the judgement; and to Hjm you shall be returned"

A. 6 Articles of Faith	
Article of faith	What is it?
1: Belief in one God	Allah is the creator and sustainer of life. There is no God but Allah
2: Belief in Angels	Angels do the work of Allah and do not have free will like humans. They obey Allah
3: Belief in God's revealed books	The Torah, the Psalms, the Gospels, the Scrolls of Abraham and the Qur'an.
4: Belief in the messengers of God	Prophets and messengers are chosen by Allah to deliver His message to humankind
5: Belief in the Day of Judgement	There will be a day when all people stand in front of Allah and are sent to Heaven or Hell
6: Belief in pre-destination	Allah knows everything. Everything is ordered by Allah – nothing is random or by chance

C. Sunnah and Hadith	
Sunnah	<ul style="list-style-type: none"> The practices, customs and traditions of Prophet Muhammad They give an example for Muslims to follow The Sunnah and Hadith are sources of Wisdom and authority alongside the Qur'an
Hadith	<ul style="list-style-type: none"> Reading the Hadith helps a Muslim to learn how Muhammad explained the teachings from the Qur'an The Hadith makes the Qur'an easier to understand
What does the Sunnah tell Muslims?	<ul style="list-style-type: none"> The Sunnah covers many areas of life It provides a guideline for Muslim life There is a Sunnah for everything



Keywords	
Tawhid	
Omnipotent	
Immanent	
Transcendent	
Beneficent	
Sunnah	
Qur'an	
Hadith	
6 Articles of Faith	
5 Roots of Usul Ad-Din	
Akhirah	
Al Qadr	

What we are learning in this unit		
A. 6 Articles of Faith B. 5 Roots of Usul Ad-Din C. Sunnah and Hadith D. Risalah E. Muhammad F. Nature of Allah G. Qu'ran H. Torah, Psalms and Gospels I. Angels J. Al Qadir K. Day of Judgement, Paradise and Hell		

B.	5 Roots of Usul Ad-Din	

Root	What is it?	Quote
1:		
2:		
3:		
4:		
5:		

A.	6 Articles of Faith	
Article of faith	What is it?	
1:		
2:		
3:		
4:		
5:		
6:		

C.	Sunnah and Hadith	



D.	<i>Risalah (Prophethood)</i>	E	<i>Torah, Psalms and Gospels</i>
What is it	<ul style="list-style-type: none"> Muslims believe there has been 124,000 prophets Every Islamic prophet preached Islam and key beliefs The first was Adam, the last was Muhammad (Box E) 	Psalms (Zabur)	<ul style="list-style-type: none"> The Psalms of Dawud are a collection of prayers to Allah They contain lessons of guidance for the people
Why are prophets important?	<ul style="list-style-type: none"> Prophets are guided by Allah Their love of Allah stops them from sinning Some prophets are messengers who have been given revelation of news 	Gospel (Injil)	<ul style="list-style-type: none"> This is the good news about Isa (Jesus) Muslims highly respect Isa because there are revelations in the Qur'an about him Muslims believe he was the Masih, he was not the son of Allah, he was not crucified, he did not die to save sins The gospels contain some mistakes because they were written many years after Isa died
Adam	<ul style="list-style-type: none"> The first prophet The father of all humankind He taught about the work of Iblis and how to protect themselves He taught life on Earth was temporary, eternal life is in the next life He built the Ka'aba as the first place of worship 	Torah (Tawrat)	<ul style="list-style-type: none"> The Tawrat is the Arabic word for the Torah These are the revelations given to Moses by Allah on Mt Sinai The Qur'an refers to the Tawrat as "guidance and light"
Ibrahim	<ul style="list-style-type: none"> Ibrahim was told in a dream to sacrifice Isma'il as a test of faith – remembered at Hajj every year His son Isma'il is the ancestor of the prophet Muhammad 	Scrolls of Ibrahim	<ul style="list-style-type: none"> Revelations received by Ibrahim on the first day of Ramadan Contained stories about worship and reflection Not a book, individual revelations

F.	<i>The Nature of Allah</i>
Tawhid	<ul style="list-style-type: none"> There is only one God and this God has no equal. He created everything. Only He should be worshipped: worshipping other Gods is a sin called shirk. "There is no God but Allah, and Muhammad is his messenger". "Allah witnesses that there is no deity except Him" "Do they not see that Allah, who created the heavens and the Earth and was not wearied by their creation, has the power to raise the dead to life?"
2: Omnipotent	Allah is all powerful and has power over everything
3: Immanence	Allah is active in the world and able to control events
4: Transcendent	<ul style="list-style-type: none"> Allah is outside of the universe Not limited by time or space
5: Beneficence	God has love and good will
6: Mercy	<ul style="list-style-type: none"> "In the name of Allah, the most compassionate, the most merciful" God is forgiving and caring
7: Fairness and justice	<ul style="list-style-type: none"> Allah is fair to all people Allah has sent the same message to all prophets to allow humans numerous opportunities to submit to the will of Allah Allah will ensure that judgement is fair and punishments are suitable



D.	<i>Risalah (Prophethood)</i>	E	<i>Torah, Psalms and Gospels</i>
What is it		Psalms (Zabur)	
Why are prophets important?		Gospel (Injil)	
Adam		Torah (Tawrat)	
Ibrahim		Scrolls of Ibrahim	

F.	<i>The Nature of Allah</i>
Tawhid	
2: Omnipotent	
3: Immanence	
4: Transcendent	
5: Beneficence	
6: Mercy	
7: Fairness and justice	



G.	<i>Qur'an</i>	I.	<i>Angels</i>
Revelation	<ul style="list-style-type: none"> Chapters of the Qur'an were revealed to Prophet Muhammad over 13 years in Makkah While Muhammad received the revelations, he was not able to change them because it was the will of Allah After Muhammad received them, he recited them, and somebody wrote them down. 	What are they?	<ul style="list-style-type: none"> Angels are made from light and have wings which can move at the speed of light They have no gender and are in the unseen world They always complete what Allah asks and they always obey Allah as they have no free will
Authority	<ul style="list-style-type: none"> It is the direct word of Allah so it has His authority It is without error and remains in its' original form A written book was needed to formalise the religion 	What do they do?	<ul style="list-style-type: none"> Watch over humans Bring peace to believers and instill fear in non-believers Angel of Death takes the soul at death Greet people entering paradise or throw people into the pits of hell Signify the end of the world by blowing a horn
What does it contain?	<ul style="list-style-type: none"> It covered every aspect of life It influences a person throughout their lives The basics of worship which Muhammad developed Shari'ah law and social systems It explains creations and other ultimate questions 	Jibril	<ul style="list-style-type: none"> Most important angel in Islam Always brings good news Helped Ibrahim when he was thrown in to a fire, opened up the Zamzam well for Hajar Told Maryam she would have a son (Isa) Dictated the Qur'an directly from Allah
Supreme authority	<ul style="list-style-type: none"> The Qur'an is believed to have supreme authority It is a timeless book – it is only the word of Allah if it is not translated from Arabic 	Mika'il	<ul style="list-style-type: none"> Assisted Muhammad with his spiritual mission Giver of rain and sustenance – in charge of plants and rain Helped Muhammad to fight for Makkah Will help to weigh peoples' actions on Judgement Day Mika'il prepared Muhammad by providing Jibril with purifying water

K.	<i>Day of Judgement, paradise and Hell</i>		J.	<i>Al Qadir</i>	
What will happen?	<ul style="list-style-type: none"> Muslims believe Judgement day will come on a Friday (Adam was created on a Friday) It will be announced by Israfil's trumpet Allah will refer us to the book of deeds to justify damnation or salvation Humans will go to paradise or Hell 		<ul style="list-style-type: none"> Everything happens as a result of Allah's will and nothing is ever random or without reason Allah is in charge of everything Everything is a part of Allah's plan "never will we be struck except by what Allah has decreed for us" 		
Jannah	<ul style="list-style-type: none"> Paradise No growing ill, old or dying – it is a reward and gift from Allah A person must live religiously and ask Allah for forgiveness Good beliefs and actions It is beyond human imagination 		E.	<i>Muhammad</i>	
Entry to Jannah	<ul style="list-style-type: none"> "enter among my servants! Enter my paradise!" People will arrive over the As-Sirat bridge There are 8 gates and you go through the one which represents your best action Two angels welcome people saying "peace be upon you" 		Why was he chosen?	<ul style="list-style-type: none"> Muhammad had characteristics such as responsibility, determination, patience, courage and honesty He was highly respected in his community He was extremely devoted to Allah – he prayed and fasted for long periods of time 	
Jahannam	<ul style="list-style-type: none"> Hell People wail in misery, 70x hotter than any flame on earth, boiling water poured on their heads, pain, dragged in chains Punishment for a life full of evil or rejecting the teachings of the Qur'an 		What did he do as a prophet?	<ul style="list-style-type: none"> He became the ruler of Madinah and set up the first Islamic community He converted the people of Makkah to Islam 	
			Why is Muhammad important?	<ul style="list-style-type: none"> He is seen as the perfect role model as he is trustworthy and obedient to Allah His influence can still be seen in the Hadith and Sunnah The night of power in Ramadan is to remember Muhammad's first revelation from the angel Jibril 	



Year 10 GCSE Religious Education KO - Islam Beliefs



G.	Qur'an	I.	Angels
Revelation		What are they?	
Authority		What do they do?	
What does it contain?		Jibril	
Supreme authority		Mika'il	

K.	Day of Judgement, paradise and Hell	J.	Al Qadir
What will happen?			
Jannah		E.	Muhammad
Entry to Jannah		Why was he chosen?	
Jahannam		What did he do as a prophet?	
		Why is Muhammad important?	



Keywords		What we are learning in this unit		B.	The 5 Pillars - Salah
Tawalla	Showing love for God and for those who follow Him	A. The 5 Pillars and 10 Obligatory Acts B. Salah C. Sawm D. Zakah E. Hajj F. Jihad G. Id-ul-Adha H. Id-ul-Fitr		What is it?	<ul style="list-style-type: none"> • “Salah is a prescribed duty that has to be performed at the given time by the Qur’an” • Muslims pray 5 times per day and this allows them to communicate with Allah. • The prayers are done at dawn (fajr), afternoon (zuhr), late afternoon (asr), dusk (maghrib) and night (isha) • Muslims face the holy city of Makkah when paying.
Tabarra	Disassociation with God’s enemies	A.	5 Pillars of Islam and 10 obligatory acts	Wuzu	<ul style="list-style-type: none"> • The washing process to purify the mind and body for prayer • Muhammad said the key to Salah is cleanliness • Hands, arms, nose, mouth, head, neck and ears are cleaned as well as both feet up to the ankle.
Khums	The obligation to pay one-fifth of acquired wealth	What are the 5 pillars	<ul style="list-style-type: none"> • 5 key practices or duties for Muslims • Both Sunni and Shi’a keep these (Shi’a have them as part of the 10 obligations) • They are seen as pillars “holding up the religion” and are all of equal importance 	Rak’ahs and recitations	<ul style="list-style-type: none"> • These are the movements that Muslims make during prayer • Takbir – raise hands to ears and say 'Allahu Akbar' • Qiyam – Standing, Muslims recite Surah • Then bow to the waist saying “Glory be to my Great Lord and praise be to Him” • Then sink to their knees saying “Glory be to my Lord, The Most Supreme...”
Lesser jihad	The physical struggle or holy war in defence of Islam	What are the 10 obligatory acts	<ul style="list-style-type: none"> • There are 10 obligations for a Muslim according to the Shi’a branch of Islam. • These include prayer, fasting, almsgiving, pilgrimage, jihad, khums, directing others towards good, forbidding evil, tawalla and tabarra 	Salah at home	<ul style="list-style-type: none"> • Salah is a big part of family life • Meals and other activities are usually scheduled to fit around prayer times • Families pray all together and might have a room set aside for prayer
Greater jihad	The daily struggle and inner spiritual striving to live as a Muslim	Shahadah	<ul style="list-style-type: none"> • Shahadah is the first of the 5 pillars • It is the Muslim declaration of faith • “there is no God but Allah, and Muhammad is His messenger” • This is a statement that Muslims reject anything but Allah as their focus of belief • It also recognises that Muhammad has an important role and his life is an example to follow 	Salah in the mosque	<ul style="list-style-type: none"> • All mosques have a qiblah wall which is to show where to face Makkah • Men and women pray in separate rooms at the Mosque
Sunni	Muslims who believe in the successorship of Abu Bakr, Umar, Uthman and Ali as leaders after the Prophet Muhammad			Jumma	<ul style="list-style-type: none"> • Jumma is congregational prayer held on a Friday at the mosque where the imam leads the prayer • Praying together as a community develops the feeling of unity amongst Muslims • Men are obliged to attend unless they are sick or too old • Women do not have to go – they may pray at home instead
Shi’a	Muslims who believe in the Imamah, leadership of Ali and his descendants			Differences between Sunni and Shi’a	<ul style="list-style-type: none"> • Shi’a Muslims combine some prayers so they may only pray 3x a day • Shi’a use natural elements e.g. clay where their head rests
Niyah	Intention during prayer - having the right intention to worship God				
Du’a	A personal prayer that is done in addition to Salah e.g. asking Allah for help				
		<i>Jihad</i>			
Lesser Jihad	<ul style="list-style-type: none"> • Originated when Prophet Muhammad and early Muslims were being attacked and oppressed by the Meccans and had no choice but to engage • “Fight in the way of God those who fight against you but do not transgress” • Conditions for declaration <ul style="list-style-type: none"> • self-defense • proportionate • legitimate authority • no harm to civilians 				
Greater Jihad	<ul style="list-style-type: none"> • A struggle within oneself to follow the teachings of Islam and be a better person • e.g. perform the Five Pillars, follow Sunnah and avoid temptation • “encourage what is right and forbid what is wrong” 				



Keywords		What we are learning in this unit		B.	The 5 Pillars - Salah		
Tawalla		A. The 5 Pillars and 10 Obligatory Acts B. Salah C. Sawm D. Zakah E. Hajj F. Jihad G. Id-ul-Adha H. Id-ul-Fitr		What is it?			
Tabarra				A.	5 Pillars of Islam and 10 obligatory acts	Wuzu	
Khums				What are the 5 pillars		Rak'ahs and recitations	
Lesser jihad				What are the 10 obligatory acts		Salah at home	
Greater jihad				Shahadah		Salah in the mosque	
Sunni				<i>Jihad</i>		Jummah	
Shi'a						Differences between Sunni and Shi'a	
Niyah							
Du'a							
Lesser Jihad							
Greater Jihad							



The 5 Pillars - Zakah	
The role of giving alms	<ul style="list-style-type: none"> • Muslims believe it is their duty to ensure Allah's wealth has been distributed equally as everyone is the same • The Qur'an commands to give to those in need
The significance of giving alms	<ul style="list-style-type: none"> • Giving 2.5% of savings/wealth to charity • Wealth can cause greed which is evil, so Zakah purifies wealth – wealth is given by God and must be shared • The Prophet Muhammad practiced Zakah as a practice in Medina • Given to the poor, needy and travellers • Sadaqah is giving from the heart out of generosity and compassion
Khums	<ul style="list-style-type: none"> • Shi'a Islam – one of the 10 obligatory acts • 20% of any profit earned by Shi'a Muslims paid as a tax • Split between charities that support Islamic education and anyone who is in need • "know that whatever of a thing you acquire, a fifth of it is for Allah, for the Messenger, for the near relative, and the orphans, the needy, and the wayfarer"

The 5 Pillars - Sawm	
The role of fasting	<ul style="list-style-type: none"> • Fasting during Ramadan (9th month in Muslim calendar) • Muslims give up food, drink, smoking and sexual activity in daylight hours • Pregnant people, children under 12, travellers and elderly people are exempt from fasting.
The significance of fasting	<ul style="list-style-type: none"> • Ramadan is believed to be the month that Prophet Muhammad began to receive revelations of the Qur'an • Helps Muslims to become spiritually stronger
Reasons for fasting	<ul style="list-style-type: none"> • Obeying God and exercising self-discipline • Develops empathy for the poor • Appreciation of God's gifts • Giving thanks for the Qur'an • Sharing fellowship and community with other Muslims
Night of power	<ul style="list-style-type: none"> • The night when the Angel Jibril first appeared to Muhammad and began revealing the Qur'an. • The most important event in history – "better than a thousand months" [Surah 97:3] • Laylat Al-Qadr is the holiest night of the year. Muslims try to stay awake for the whole night to pray and study for the Qur'an

The 5 Pillars - Hajj	
The role of pilgrimage	<ul style="list-style-type: none"> • A pilgrimage to Makkah which is compulsory for Muslims to take at least once as long as they can afford it and are healthy
The significance of pilgrimage	<ul style="list-style-type: none"> • God told Ibrahim to take his wife and son on a journey and leave them without food or water • Hajira ran up and down two hills in search of water, could not find any and prayed to God. Then water sprung from the ground. This is the Zamzam well • When Ibrahim returned he was commanded to build the Ka'ba as a shrine dedicated to Allah • Hajj is performed in the month of Dhu'l-Hijja
Actions	<ul style="list-style-type: none"> • Ihram – dressing in two pieces of white cloth • Circling the Ka'aba 7 times (tawaf) • Drinking water from the Zamzam well like Hajar • walking between Al-Safa and Al-Marwa hills seven times • Throwing stones at 3 pillars (jamarat) to represent casting out the devil and remembering Ibrahim throwing stones at the devil to drive him away • Asking Allah for forgiveness at Mt Arafat • Collecting pebbles at Muzdalifah

Id-ul-Adha, Id-ul-Fitr, Ashura	
Id-ul-Adha Not an official holiday in UK	<ul style="list-style-type: none"> • Festival of sacrifice • Marks the end of Hajj and is a chance for whole Ummah to celebrate • Origins – Ibrahim's commitment to God in being willing to sacrifice his son, Ishmael. God was testing Ibrahim • Key events – new clothes, sacrificing an animal, visiting the Mosque. • People ask a butcher to slaughter a sheep for them and share the meat with the community
Id-ul-Fitr Public holiday in Muslim majority countries, not UK	<ul style="list-style-type: none"> • Festival of fast-breaking • Marks the end of Ramadan • Key events – Decorate homes with colourful light and banners, dress in new clothes, gather in Mosques, give gifts and money, give to the poor • Zakah ul-Fitr – donation to the poor so that everyone can eat a generous meal at the end of Ramadan.
Ashura	<ul style="list-style-type: none"> • Sunni celebration – many fast on this day which was established by Prophet Muhammad • Shi'a mourning – Husayn was murdered and beheaded. Muslims remember his death and betrayal • Key events – public displays of grief, day of sorrow, wear black, re-enactments of martyrdom, not a public holiday in Britain but Muslims may have day off school



The 5 Pillars - Zakah

The role of giving alms	
The significance of giving alms	
Khums	

The 5 Pillars - Sawm

The role of fasting	
The significance of fasting	
Reasons for fasting	
Night of power	

The 5 Pillars - Hajj

The role of pilgrimage	
The significance of pilgrimage	
Actions	

Id-ul-Adha, Id-ul-Fitr, Ashura

Id-ul-Adha Not an official holiday in UK	
Id-ul-Fitr Public holiday in Muslim majority countries, not UK	
Ashura	



GCSE unit 1 SPANISH Knowledge organiser.
Topic Me my family and friends



What we are learning this term:	
A. Talking about your family B. Describing your family and friends C. Explaining family relationships D. Describing relationships E. Describing future plans F. Translation practice	
6 Key Words for this term	
1. Me llevo bien	4. El año próximo
2. No soporto	5. Por otro lado
3. discuto	6. Voy a...

1.1G ¿Cómo es tu familia?

1.1G ¿Cómo es tu familia?	
El/la abuelo/a	grandfather/grandmother
los abuelos	grandparents
alegre	happy
alto/a	tall
amable	kind
anciano/a	old
la barba	beard
calvo/a	bald
cariñoso/a	affectionate, tender
casi nearly,	almost
castaño/a	brown hair colour
corto/a	short
delgado/a	thin
las gafas	glasses
gracioso/a	funny
guapo/a	good looking, handsome
El/la hermano/a	brother/sister
El/la hijo/a	son/daughter
joven	young
largo/a	long
liso/a	straight
la madrastra	stepmother
los ojos	eyes
el padrastro	stepfather
las pecas	freckles
pelirrojo/a	red-haired
el pelo	hair
rizado/a	curly
la tía	aunt
el tío	uncle
viejo/a	old
sensible	sensitive

1.1F Hablando de los amigos	
a menudo	often
alegrarse de	to be happy about
comprensivo/a	understanding
conocer	to know a person
el consejo	advice
la cosa	thing
cuidar	to look after
la discusión	argument
divertido/a	good fun
egoísta	selfish
el equipo	team
escribir	to write
fastidiar	to annoy, to bother
fuerte	strong
hablador/a	talkative
honrado/a	honest
maduro/a	mature
mismo/a	same
peligroso/a	dangerous
reirse	to laugh
seguro/a	certain, sure
el sentido del humor	sense of humour
travieso/a	naughty
triste	sad
el verano	summer
la vida	life

1.1H Relaciones con la familia

1.1H Relaciones con la familia	
abierto/a	open
aconsejar	to advise
actualmente	nowadays
aguantar	to bear, to put up with
arreglar	to tidy
la barrera generacional	generation gap
el cariño	affection
celoso/a	jealous
la culpa	blame, fault
los demás	others
harto/a	fed up
el hogar	home
hoy en día	nowadays
incluso	even
injustamente	unfairly
juntos	together
la libertad	freedom
manera	way
molestar	to bother
oír hablar de	to hear about
olvidar	to forget
orgullosa/a	proud

Key Verbs				
Llevarse to get on	Ir To go	Soportar To stand	Hacer – to do/make	Discutir to argue
Me llevo I get on	Voy I go	Soporto I can stand	Hago I do	Discuto I argue
Te llevas You (s) get on	Vas You go	Soportas You can stand	Haces You do	Discutes You argue
Se lleva He/se gets on	Va s/he goes	Soporta He/she can stand	Hace s/he does	Discute He/she argues
Nos llevamos They get on	Vamos They go	Soportamos W can stand	Hacemos We do	Discutios We argue
Se llevan They get on	Van They go	Soportan They can stand	Hacen They do	Discuten They argue

1.1H Relaciones con la familia

parecido/a	similar
la pelea	fight
perezoso/a	lazy
provocar	to cause
el sobrino / la sobrina	nephew, niece
tender a	to tend to
todavía	still
tratar	to treat
triste	sad

1.2G Hablando de parejas

el beso	kiss
cada vez más	more and more
cocinar	to cook
comprar	to buy
echar de menos	to miss someone
enamorado/a	in love
los familiares	relatives
feliz	happy
la gente	people
el invitado/a	guest
maleducado/a	rude
el marido	husband
el matrimonio	marriage
la mujer	wife, woman
la novia	girlfriend, fiancée
el novio	boyfriend, fiancé
parecer	to seem
la pareja	partner
los parientes	relatives
pelear(se)	to fight
el piso	flat, apartment
serio/a	serious, responsible
sonreír	to smile

1.2F Planes para el futuro

así que	so, therefore
la boda	wedding
buscar	to look for
cambiar	to change
el casamiento	wedding
casarse	to get married
el compañero/a	colleague, friend
decepcionado/a	disappointed
encontrar	to find
la felicidad	happiness
la fiesta	party, festival
por eso	therefore
próximo/a	next
el sitio	place
solo/a	alone, only
soltero/a	single
tener suerte	to be lucky
las vacaciones	holidays
ya no	no longer

1.2H Las relaciones de hoy en día

ahora	now
alguien	someone
cara a cara	face to face
distinto/a	different
en contra	against
en primer lugar	in the first place,
la edad	age
estar de acuerdo	to agree
el/la jubilado/a	retired person,
pagar	to pay
la pareja	partner
la piel	skin
por otro lado	on the other hand

Translation Practice. G – blue F – orange H - Green	
Mi a _____ es	My grandfather is
a _____ y _____	Happy and Kind
Tiene los ___ verdes	He has green eyes
Y tiene el pelo _____	He has Curly hair
la _____ de mis sueños	The wife of my dreams
Quiero un _____ guapo	I want a pretty boyfriend
Mis padres me dan buenos _____	My parents give me good advice
Es importante _____ a otros	It's important to look after others
Se debe _____ a los niños	It's necessary to advise kids
Mi hermano es _____	My brother is understanding
Es bueno _____ a otra gente	It's good to know other people
Tener una _____ me importa	Having a partner is important
_____ me interesa	Getting married interests me
Mis padres me dan mucho _____	My parents give me lots of affection
No soy nunca _____	I'm never jealous
Estoy _____/a de los deberes	I'm fed up of homework
encontrar _____	To find a partner
Fue una buena _____	It was a good party
No quiero ser _____	I don't want to be single

Key Questions: Answer the following in your own words. Use these model answers	
¿Puedes describir te? ¿Cómo es tu aspecto físico, tu personalidad?	Soy bastante alto y delgado. Tengo los ojos azules y el pelo marrón y liso. Mis padres me describen como una persona cariñosa, comprensiva, sensible, honesta y un poco vaga.
¿Cómo sería un novio perfecto/una novia perfecta? ¿Por qué?	Mi novia perfecta sería muy guapa y honesta y tendría el pelo rubio, corto y rizado. Todos los días sería sensible y no sería nunca perezosa o torpe.
¿Quiénes son los miembros de tu familia?	Somos cinco en mi familia. Vivo con mis padres que se llaman Tengo un hermano menor que se llama .. y tengo una hermana mayor que tiene _____ años
¿Te llevas bien con tu familia? ¿Por qué?	Me llevo bien con mi hermano porque es cariñoso y siempre comprensivo. No me llevo bien con mi hermana porque nos peleamos mucho y mi hermana se enfada conmigo.
¿Hay discusiones en tu familia? ¿De qué se discute?	Sí, hay discusiones en mi familia. Hay tensión en la casa de vez en cuando. No estoy de acuerdo con los consejos de mis padres. También hay discusiones porque mi hermana pone su música demasiado fuerte
¿Quieres casarte y tener niños en el futuro? ¿Por qué?	Si, en el futuro me gustaría casarme con un hombre/mujer (man/woman) honesto y sensible. Quiero casarme porque el matrimonio es muy importante para mí y quiero una boda perfecta en una iglesia. Quiero tener dos niños, una chica y un chico. Voy a tener niños después de haber ido a la universidad
¿Qué has hecho recientemente con tu familia?	Recientemente, fui al centro de la ciudad con mi familia. Fuimos juntos en coche y fuimos para comprar unos regalos para el cumpleaños de mi abuelo. Después comimos en un restaurante, yo comí un bocadillo de pollo, mi hermana comió una ensalada. Me gustó mucho porque fue muy divertido y la comida fue muy deliciosa.
¿Crees que el matrimonio es importante para ti? ¿Por qué?	Quiero casarme porque el matrimonio es muy importante para mí y quiero una boda perfecta en una iglesia. Aunque las bodas son muy caras, tener una boda es mi ambición.

Key Grammar	
Forming the preterite (past tense). Always remove the –AR, –ER, –IR endings first	Remember the preterite (past) tense endings for –AR, –ER, –IR verbs. They are: -AR: -é, -aste,-ó, -amos, -astéis, -aron -ER: -í, -íste, -ió, -imos, -istéis, -ieron -IR : -í, -iste, -ió, -imos, -istéis, -ieron
Forming the conditional ('would like to' tense). Always remove the –AR, –ER, –IR endings first	Remember the conditional ('would') tense endings for –AR, –ER, –IR verbs. They are: -AR, –ER, –IR: -ía, -ías, -ía, -íamos, -íais, -ían
Using the immediate future tense IR + A + INFINITIVE	Voy a casarme = I'm going to get married Va a discutir con su padre = He / She is going to argue with his/her father

GCSE unit 1 SPANISH Knowledge organiser.
Topic Me my family and friends



What we are learning this term:	
A. Talking about your family	
B. Describing your family and friends	
C. Explaining family relationships	
D. Describing relationships	
E. Describing future plans	
F. Translation practice	

6 Key Words for this term	
1. Me llevo bien	4. El año próximo
2. No soporto	5. Por otro lado
3. discuto	6. Voy a...

1.1G ¿Cómo es tu familia?

1.1G ¿Cómo es tu familia?	
El/la abuelo/a	_____
los abuelos	_____
alegre	_____
alto/a	_____
amable	_____
anciano/a	_____
la barba	_____
calvo/a	_____
_____/a	affectionate, tender
_____	nearly, almost
_____/a	brown hair colour
_____/a	short
_____/a	thin
_____	glasses
_____/a	funny
_____/a	good looking, handsome
El/la _____/a	brother/sister
El/la _____/a	son/daughter
_____	young
_____/a	long
_____/a	straight
la _____	stepmother
los _____	eyes
el _____	stepfather
las _____	freckles
_____/a	red-haired
el _____	hair
_____/a	curly
la _____	aunt
el tío	_____
viejo/a	_____
sensible	_____

1.1F Hablando de los amigos	
a _____	often
_____ de	to be happy about
_____/a	understanding
_____	to know a person
el _____	advice
la _____	thing
_____	to look after
la _____	argument
_____/a	good fun
egoísta	_____
el equipo	_____
escribir	to _____
fastidiar	to _____
fuerte	_____
hablador/a	_____
honrado/a	_____
maduro/a	_____
misma/a	_____
_____/a	dangerous
_____	to laugh
_____/a	certain, sure
el ___ del ___	sense of humour
_____/a	naughty
_____	sad
el _____	summer
la _____	life

1.1H Relaciones con la familia

1.1H Relaciones con la familia	
abierto/a	_____
aconsejar	to _____
actualmente	_____
aguantar	to _____
arreglar	to _____
la barrera generacional	_____
el cariño	_____
celoso/a	_____
la culpa	_____
los _____	others
_____/a	fed up
el _____	home
_____	nowadays
_____	even
_____	unfairly
_____	together
la _____	freedom
_____	way
_____	to bother
oír _____ de	to hear about
_____	to forget
_____/a	proud

Key Verbs

Llevarse to get on	Ir To go	Soportar To stand	Hacer – to do/make	Discutir to argue
Me _____ I get on	_____ / I go	_____ / I can stand	_____ / I do	_____ / I argue
Te _____ You (s) get on	_____ / You go	_____ / You can stand	_____ / You do	_____ / You argue
Se _____ He/se gets on	_____ / s/he goes	_____ / He/she can stand	_____ / s/he does	_____ / He/she argues
Nos _____ They get on	_____ / They go	_____ / W can stand	_____ / We do	_____ / We argue
Se _____ They get on	_____ / They go	_____ / They can stand	_____ / They do	_____ / They argue

1.1H Relaciones con la familia

_____/a	similar
la _____	fight
perezoso/a	lazy
_____	to cause
el sobrino / la sobrina	_____
tender a	to _____ to
todavía	_____
tratar	to _____
triste	_____

1.2G Hablando de parejas

el beso	_____
cada vez más	_____
cocinar	to _____
comprar	to _____
echar de menos	to _____
enamorado/a	in _____
los familiares	_____
_____	happy
la _____	people
el _____/a	guest
_____/a	rude
el _____	husband
el _____	marriage
la _____	wife, woman
la novia	_____
el novio	_____
_____	to seem
la _____	partner
los _____	relatives
pelear(se)	to _____
el piso	_____
serio/a	_____
sonreír	to _____

1.2F Planes para el futuro

_____	so, therefore
la _____	wedding
_____	to look for
_____	to change
el _____	wedding
_____	to get married
el _____/a	colleague, friend
_____/a	disappointed
encontrar	to _____
la felicidad	_____
la fiesta	party, _____
por eso	_____
_____/a	next
el _____	place
solo/a	_____ / _____
_____/a	single
tener _____	to be lucky
las _____	holidays
ya no	_____

1.2H Las relaciones de hoy en día

_____	now
_____	someone
cara a cara	_____
distinto/a	_____
en contra	_____
_____	in the first place,
la _____	age
estar de _____	to agree
el/la _____/a	retired person,
_____	to pay
la _____	partner
la _____	skin
por _____	on the other hand

39. Stakeholder

Stakeholders are the people or groups with an interest in the success or failure of an organisation.

Types of stakeholders & their typical objectives:

Business owners & shareholders

Interested in the business being successful and making a profit.

Staff/managers

Interested in having job security, career development, fair wages etc.

Customers

Interested in getting an honest and fair deal from a business.

Local Community

Interested in honest and fair dealing/co-operation with the organisation with regards to local employment and environment.

Local Government

Interested in employment plans, location plans and business ability to pay tax.

Pressure Groups

Interested in fair and ethically correct business practices.

42. Retail Legislation

Legislation	Law's passed by acts of parliament. Too many rules that impact on a business from operating as the owner would like are known as "Red Tape".
Consumer Rights Act 2015	<ul style="list-style-type: none"> • Goods must be fit for purpose and free from defects. • The buyer has the right to get their money back or have their product repaired at the seller's expense. • Any issues are to be dealt with by the seller and not the manufacturer.
Trade Descriptions Act	<ul style="list-style-type: none"> • Trader's can not use false or misleading statements. • Labels must not be misleading.
Other acts of legislation:	Consumer credit act 1974, The weights and measures act 1985, The food safety act 1990.

43. Recruitment Legislation

Employees are protected from being exploited in the work place.

Equality Act 2010	Organisations must consider all job applicants equally <u>in regards to</u> gender, age, skin colour etc.
Equal Pay Act 1970	Organisations must pay workers fairly and can not discriminate <u>in regards to</u> gender, age or skin colour etc.

40. Types of technology used in business

Technology is used in different aspects of business:

E-commerce: Allows businesses to sell their products online and reach a wider audience of potential customers with lower costs.

Social Media: Allows a business to communicate and interact directly with customers.

Digital Communication: E-mail allows customers to contact a business personally and directly.

Payment Systems: Online payment systems (eg, Paypal) allow all types of businesses to access their payments fast and easily.

41. How does technology influence business activity?

Sales can increase as a result of e-commerce because customers can access products or services 24 hours a day, 7 days a week. New technology drives innovation to create new products or services and this can increase sales of new products.

Costs can be reduced through advertising online through websites, e-mail newsletters, and via social media. Costs can also be reduced through manufacturing efficiency and being able to find the best deal on raw materials online.

The 4 P's are affected by different types of technology.

Product = New technologically advanced product or a new method of production.

Promotion = Digital marketing can improve the effectiveness of marketing and is cheap.

Place = Products can be sold online and can be accessed by customers worldwide.

44. The Economy

The economy is the collection of business transactions that take place throughout the country, throughout the year.

Interest rates.	The amount that a lender charges per year to someone who has borrowed money. This is measured as a percentage.
Exchange rates	The value of the pound (£) measured by how much foreign currency can be bought per pound (£).
Recession	A downturn in sales and output throughout the economy, often leading to rising unemployment.
Inflation	The rate in which prices are rising from the same time last year.

GCSE Business. Paper 1. Understanding External Influences on Business

39. Stakeholder

Stakeholders are the people or groups with an interest in the success or failure of an organisation.

Types of stakeholders & their typical objectives:

40. Types of technology used in business

Technology is used in different aspects of business:

E-commerce:

Social Media:

Digital Communication:

Payment Systems:

41. How does technology influence business activity?

42. Retail Legislation

Legislation	
Consumer Rights Act 2015	
Trade Descriptions Act	
Other acts of legislation:	

43. Recruitment Legislation

Employees are protected from being exploited in the work place.

Equality Act 2010	
Equal Pay Act 1970	

44. The Economy

The economy is the collection of business transactions that take place throughout the country, throughout the year.

Interest rates.	
Exchange rates	
Recession	
Inflation	

GCSE Business. Paper 1. Understanding External Influences on Business

45. Changes in interest rates

Interest rates change depending on how confident a lender is on the state of the economy. If the economy is strong the % rates are low, if the economy is weak then % rates are high.

Effects of lower interest rates:

Increased customer spending:

Customers are happy to spend money more confidently because they will pay less in interest and are more likely to have an excess in disposable income.

More favourable borrowing:

Businesses can borrow money from lenders at a lower rate of interest.

Effects of higher interest rates:

Reduced customer spending:

Customers are unlikely to spend money confidently because they will pay more in interest on loans and mortgages. Customers are more likely to have a lack of disposable income.

Less favourable borrowing:

Businesses will be charged higher interest rates on any money they have borrowed.

46. Changes in exchange rates

Exchange rates change depend on the supply and demand for different currencies. This is based on how well a country's economy is performing.

Effects of a strong pound (£):

Imported goods become cheaper to buy, Products being exported become more expensive abroad.

Effects of a weak pound (£):

Imported goods become more expensive to buy, products being exported become cheaper abroad.

47. External Influences

External influences can impact a business significantly. Business owners are often powerless to control how and when these influences can impact on business.

Typical external influences

- **Technology** – Technology changes all the time and it can affect how customers buy from a business, how products are made or even how a business is expected to communicate with customers.
- **Legislation** – New laws are created by government to protect consumers, employees and business activities from unethical, unsafe or undesirable working practices. Some legislation can be perceived as being a barrier to easy business and is known as “Red Tape”.
- **Economic Climate** – Businesses need to be able to react to changes in the economy. If customers are feeling unconfident in their ability to spend money because of a weak economy, then this could affect a business's ability to generate sales. If exchange rates change, a business will need to deal with the consequences of higher costs or lower demand abroad.

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Effects of higher interest rates:

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External influences can impact a business significantly. Business owners are often powerless to control how and when these influences can impact on business.

Typical external influences

- Technology –

- Legislation –

- Economic Climate –

Food choice

Food choice

Food choices for a balanced diet depend on many factors, such as: advertising and other point of sale information; cost and economic considerations; cultural or religious practices; environmental and ethical considerations; food availability; food preferences; food provenance; health concerns; individual energy and nutrient needs; portion size; social considerations.

Consumer information

Information can help consumers make informed choices, including: advertising and marketing; media, online blogs/forums; packaging, nutrition and health claims; point of purchase information and product placement; recipe ideas.

Cost and economic considerations

The cost of food and money available will influence people's food choices. If money is limited, people may choose to buy more basic items. Luxury items might then be selected for special occasions.

Food prices

Food prices can and do change throughout the year and over time. This may be due to a variety of reasons, including:

- climate and weather patterns;
- crop failure;
- crop disease;
- seasonality;
- consumer demand;
- agricultural costs increase;
- fuel prices go up;
- increased use of biofuels.

Budgeting

There are many things that we can do to spend money wisely on food. Examples can include: eating the seasons; stocking up on food with a long shelf-life; taking time to plan meals and write a shopping list; cooking using one pot; making fake-away's rather than buying takeaways; using leftovers; replacing branded items with cheaper items; comparing prices and shop around to find the cheapest items; growing your own food.

Environmental and ethical considerations

Some considerations when buying food might be:

- fair trade;
- local food;
- genetically modified (GM) food;
- organic food;
- free range.

Food availability

Buying food when it is in season will often mean that the price is lower. Technology and the importation of food has allowed food to be available all year round.

Personal preferences

A few factors can influence personal preferences, including:

- colour, size and shape of crockery and cutlery used;
- portion size;
- serving style;
- taste, aroma, texture, appearance, shape and colour of food.

Food provenance

Food provenance is about where food is grown, caught or reared, and how it was produced. Food certification and assurance schemes guarantee defined standards of food safety or animal welfare. There are many in the UK, including:



Health concerns

People may choose their food based on their own or their family's health and wellbeing:

- allergy and intolerance, e.g. lactose intolerance, coeliac disease, wheat allergy, dairy allergy;
- body image;
- health issues, e.g. coronary heart disease, type 2 diabetes, inflammatory bowel disease, over or under malnutrition;
- mental health.

Individual energy and nutrient needs

The amount of energy and nutrients needed differs between different age groups and between males and females. Energy needs also depend on activity levels. For example, athletes will have much higher energy requirements due to their high level of physical activity.

Key terms

Advertising: Advertising is a form of communication for marketing and used to encourage, persuade, or manipulate an audience to continue or take some new action.

Ethical: Relating to personal beliefs about what is morally right and wrong.

Food certification and assurance schemes: Defined standards of food safety, quality or animal welfare.

Food provenance: Knowing where food was grown, caught or raised and how it was produced.

Marketing: Promoting and selling products or services, including market research and advertising.

Religion: A particular system of faith and worship.

Seasonal food: Food grown at a particular time of year.

Portion size

Having a healthy, balanced diet is about getting the right types of foods and drinks in the right amounts.



Social considerations

- Body image and peer pressure.
- Development of ready meals and a wider range of convenience foods.
- Development of labour saving devices.
- Lack of competence and confidence in the kitchen.
- Lack of time.
- Living arrangement (e.g. living alone).

Food availability

Buying food when it is in season will often mean that the price is lower. Technology and the importation of food has allowed food to be available all year round.

Food choice

Food choice

Food choices for a balanced diet depend on many factors, such as:

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Consumer information

Information can help consumers make informed choices, including:

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Cost and economic considerations

The cost of food and money available will influence people's food choices. If money is limited, people may choose to buy more basic items. Luxury items might then be selected for special occasions.

Food prices

Food prices can and do change throughout the year and over time. This may be due to a variety of reasons, including:

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Budgeting

There are many things that we can do to spend money wisely on food. Examples can include:

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Environmental and ethical considerations

Some considerations when buying food might be:

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Key terms

Advertising:

Ethical:

Food certification and assurance schemes:

Food provenance:

Marketing:

Religion:

Seasonal food:

Portion size

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Social considerations

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Year 10 PRODUCT DESIGN Term 5



What we are learning this term:

- A. Modern Materials C. Polymers E. Technical Textiles
 B. Smart Materials D. Composite Materials F. Textiles

A. Modern Materials

A modern material is a material that has been engineered to have improved properties.

Type	Properties	Common Uses
Graphene	Transparent. Very strong and light	Protective equipment and clothing
Metal Foams	Lightweight. Strong under compression. Absorbs energy well.	Prosthetics. Soundproofing and crash protection.
Titanium	High strength-to-weight ratio. Corrosion resistant.	Prosthetics. Aircraft and spacecraft.

B. Smart Materials

Materials that exhibit a physical change in response to some external stimuli and change back once that stimuli has been removed.

Shape-memory alloys (SMA) – spectacle frames	Thermochromic pigments – colour changing spoons
Photochromic pigments - colour changing lenses and windows	Self-healing materials – metals that resist corrosion, concrete that can heal cracks
Ferrofluids formed by magnetic field – hydraulic suspension pistons	Polymorph –modelling and ergonomic handles

C. Polymers – come from crude oil

Thermoforming can be heated and formed repeatedly, thermosetting can only be formed once

Thermoforming (pliable, recyclable)	Thermosetting (good insulators)
Acrylic (PMMA)	Epoxy resin (ER)
High impact polystyrene (HIPS)	Melamine formaldehyde (MF)
High density polythene (HDPE)	Phenol formaldehyde (PF)
Polypropylene (PP)	Polyester resin (PR)
Polyvinyl chloride (PVC)	Urea formaldehyde (UF)
Polyethylene terephthalate (PET)	These are resistant to heat and chemicals

D. Composite Materials

A composite material is a mixture of two or more materials to enhance properties.

Fibre-based	Materials	Common Uses
Glass-reinforced plastic (GRP)	Glass fibres and resin	Boats, instrument cases
Carbon-reinforced plastic (CRP)	Carbon fibres and resin	Formula 1 car bodies, crash helmets, sports equipment
Glass-reinforced concrete (GRC)	Glass fibres and concrete	Street furniture, urban features.
Particle-based	Materials	Common Uses
Concrete	Cement, sand and aggregate	Buildings, street furniture
Cement	Ceramic and metal	Electronic components

Sheet-based composite materials – look back to Term 4 – Manufactured Boards

Medium Density Fibreboard (MDF)	Plywood	Chipboard
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E. Technical Textiles

Modern textiles can be engineered to have numerous properties.

Conductive Fabrics – touch screen gloves	Fire-retardant fabrics – furniture, furnishings, firefighter clothing.	
Kevlar – racing tyres and bullet proof vests	Microfibres – winter clothes and cleaning cloths	Microencapsulation – sports clothing and scratch and sniff perfume samples

F. Textiles

Textile materials can be found natural or can be formed synthetically

Natural – come from plants or animals	Synthetic – come from coal or oil
Cotton (plant)	Polyester
Wool (animal)	Polyamide (nylon)
Silk (animal)	Elastane

Blended – a mixture of fibres that combines and improves properties

Polycotton	Kevlar	Sympatex
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Year 10 PRODUCT DESIGN Term 5



What we are learning this term:		
A. Modern Materials	C. Polymers	E. Technical Textiles
B. Smart Materials	D. Composite Materials	F. Textiles

A.	Modern Materials	
A modern material is a material that has been engineered to have improved properties.		
Type	Properties	Common Uses
Graphene		
Metal Foams		
Titanium		

B.	Smart Materials	
Materials that exhibit a physical change in response to some external stimuli and change back once that stimuli has been removed.		

C.	Polymers – come from crude oil	
Thermoforming can be heated and formed repeatedly, thermosetting can only be formed once		
Thermoforming (pliable, recyclable)	Thermosetting (good insulators)	
	These are resistant to heat and chemicals	

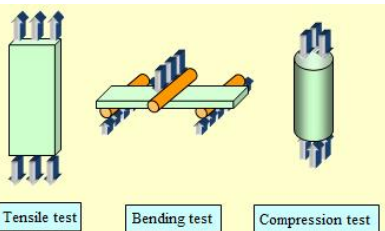
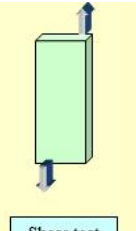
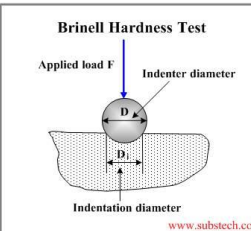
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A composite material is a mixture of two or more materials to enhance properties.		
Fibre-based	Materials	Common Uses
Particle-based	Materials	Common Uses
Sheet-based composite materials – look back to Term 4 – Manufactured Boards		

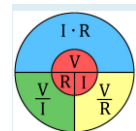
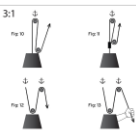
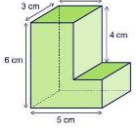
E.	Technical Textiles	
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F.	Textiles	
Textile materials can be found natural or can be formed synthetically		
Natural – come from plants or animals	Synthetic – come from coal or oil	
Blended – a mixture of fibres that combines and improves properties		



Understanding the effects of engineering achievements
Types of engineering developments
<p>Structural design – the development of components designed to resist or apply forces, for example the frame of a bicycle</p> <p>Developments include – the use of frames, triangulation and shell structures, the use of CAD to test the structural integrity of a product before manufacture.</p> <p>Mechanical design – the development of components designed to perform a physical function..</p> <p>Developments include - Suspension systems, gears and pulleys, chain drives, the use of mechanical advantage.</p> <p>Electronic design – The development and use of electronic components within products.</p> <p>Developments include – smart home devices with connectivity to user's mobile phones, touch screen controls, miniaturization of transistors (smaller and more powerful circuits).</p>
Effects of engineering developments
<p>Frame and shell structures: The introduction of cheap and strong materials led to high-rise buildings, fast construction methods and a broad range of shell-frame products (cars, airplanes).</p> <p>Development of new materials:</p> <ul style="list-style-type: none"> - Some give improved strength and reduced weight - Smart materials and new alloys increase the diversity of products that can be designed - Complex synthetic materials are difficult or impossible to recycle <p>Smart technology:</p> <ul style="list-style-type: none"> - Smart home products in the home leads to designers focusing on linking more products to Bluetooth/wifi - Smart tech can improve quality of living in a variety of ways - Smart tech can be difficult to repair and become obsolete quickly <p>Electronic components:</p> <ul style="list-style-type: none"> - Miniaturization of circuits makes for smaller and faster products with increased data storage, making them more efficient and reliable - The minerals used in complex circuits are finite and difficult to mine, leading to land destruction and pollution. These products are also hard to recycle

C. Mechanical property testing
 <p>Tensile test Bending test Compression test</p>
 <p>Shear test</p>
 <p>Brinell Hardness Test</p> <p>Applied load F</p> <p>Indenter diameter D</p> <p>Indentation diameter D_i</p> <p>www.substech.com</p>
<p>1. Just, you need to:</p> <ol style="list-style-type: none"> 1. Have a clear question that can be answered through experiment 2. Change only one variable at a time and keep all other conditions the same 3. Repeat the experiment multiple times to avoid basing your conclusion on too few events 4. Use an objective measurement system that others can use in the same way 5. Avoid bias and consider the possibility of chance differences <p>Explain using notes and sketches questions:</p> <ol style="list-style-type: none"> 1. Must have two or more drawings 2. Drawings must be annotated 3. Drawings and annotations must give a reasonable answer to the question in the setting they ask for i.e workshop tools used for a workshop process

D. Use of calculations in engineering
 <p>Ohm's law is used to calculate resistance, current and voltage. Voltage = Resistance x current Resistance = voltage / current Current = voltage / resistance</p>
 <p>When using mechanisms (levers, pulleys, gears etc) you can calculate the mechanical advantage using the formula: Mechanical advantage = load / effort</p>
 <p>Calculating the area of a variety of common shapes: Quadrilateral - Base x height Triangle - (base x height) / 2 Circle - $A = \pi r^2$ To calculate the volume of a prism, calculate the area of a face and multiply by the depth of the prism.</p>
<p>(1:2) (real size: image)</p> <p>Using scale factors when reading or producing working drawings: Scales are shown as ratios, and calculated as fractions i.e a scale of 1:2 is the same as the drawing being 1/2 size.</p>

E. How environmental issues affect engineering												
<table border="1"> <tr> <td>Materials development</td> <td>More emphasis on developing sustainable materials and recycling technology has had a positive impact on the engineering industry, for example the use of starch-based polymers.</td> </tr> <tr> <td>Costs</td> <td>Manufacturing can be made more efficient to reduce overall costs of production. However, some raw material costs are still volatile due to oil and ore scarcity.</td> </tr> <tr> <td>Transportation</td> <td>Transport is needed at each stage of the life cycle of the product and produces emissions: raw material extraction => manufacture = warehousing => retail => customer use => customer disposal => landfill</td> </tr> <tr> <td>Usage</td> <td>Are customers able to easily repair or maintain the product after it is purchased or does it have planned obsolescence?</td> </tr> <tr> <td>Disposal</td> <td>How do different countries dispose of products? Are there policies in place to ensure recycling?</td> </tr> <tr> <td>Sustainability</td> <td>What design features have been included in the product or its functions to reduce the impact of each stage of the product life cycle? Are the raw materials used renewable? How efficient is the manufacturing process with these materials?</td> </tr> </table>	Materials development	More emphasis on developing sustainable materials and recycling technology has had a positive impact on the engineering industry, for example the use of starch-based polymers.	Costs	Manufacturing can be made more efficient to reduce overall costs of production. However, some raw material costs are still volatile due to oil and ore scarcity.	Transportation	Transport is needed at each stage of the life cycle of the product and produces emissions: raw material extraction => manufacture = warehousing => retail => customer use => customer disposal => landfill	Usage	Are customers able to easily repair or maintain the product after it is purchased or does it have planned obsolescence?	Disposal	How do different countries dispose of products? Are there policies in place to ensure recycling?	Sustainability	What design features have been included in the product or its functions to reduce the impact of each stage of the product life cycle? Are the raw materials used renewable? How efficient is the manufacturing process with these materials?
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Understanding the effects of engineering achievements

Types of engineering developments

Structural design – the development of components designed to for example
Developments include – the use of frames, and the use of CAD to test the of a product before manufacture.

Mechanical design – the development of components designed to perform ...
Developments include - Suspension systems, gears and chain drives, the use of .

Electronic design – The development and use of electronic components within products.
Developments include – smart home devices with connectivity to user's mobile phones, touch screen controls, (smaller and more powerful circuits).

Effects of engineering developments

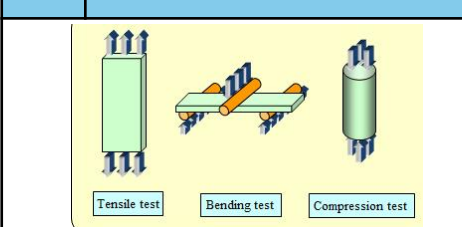
Frame and shell structures: The introduction of cheap and strong materials led to

Development of new materials:
 - Some give improved and reduced
 - Smart materials and new alloys increase the diversity of products that can be designed
 - Complex synthetic materials are difficult or impossible to

Smart technology:
 - Smart home products in the home leads to designers focusing on linking more products to Bluetooth/wifi
 - Smart tech can in a variety of ways
 - Smart tech can be difficult to repair and become quickly

Electronic components:
 - Miniaturization of circuits makes for smaller and faster products with increased data storage, making them more
 - The minerals used in complex circuits are and difficult to mine, leading to land destruction and These products are also hard to recycle

C. Mechanical property testing



Describe, using notes and sketches, a test that could be conducted in the workshop to measure the ability of a ruler to tension. (include at least two drawings, annotations, and an explanation of the process and how it is recorded). [6]

Use of calculations in engineering

$$I \cdot R$$

$$\frac{V}{R} = I$$

$$\frac{V}{I} = R$$

1. What is the current in a circuit with a voltage of 9 V and a resistance of 3 Ω?
2. If the resistance in a circuit is halved, what will happen to the current?
3. What is the resistance of a resistor in a circuit with a voltage of 12 V and a current of 0.5 A?

What is the mechanical advantage of the two pulley systems on the left? Think about how many anchor points there are.

- 1.
- 2.

What is the volume of the shape on the left?

What would the volume be if there were a 6mm diameter hole drilled through this shape?

(1:2)
(real size: image)

1. A map has a scale 1:125,000. The distance between two points on the map is 3.8 cm. What is the real distance in kilometres?

How environmental issues affect engineering

Materials development	Name three modern materials that are sustainable and why.
Costs	Name three sustainable cost saving measures a company could take:
Transportation	What are the stages of a product life cycle that require transport?
Usage	Planned obsolescence is – The opposite of this is -
Disposal	What are the disposal options for a modern bicycle?
Sustainability	Name two modern sustainable materials and two finite resources: Describe a product that uses all four materials:

Year 10 BTEC Health and Social Care- Component 2: Health and Social Care Services and Values.









What we are learning:	
A.	Key words
B.	What are the different types of health care services?
C.	What are the different types of social care services?
D.	What barriers are there to accessing care services?

A. Key words for this Unit	
Primary care	First point of contact when seeking health care
NHS	National Health Service – Tax funded health care in the UK.
Secondary care	Specialist health treatment and/or care
Tertiary care	Advanced specialist health treatment and/or care.
Allied health professionals	Professionals who are involved in patient care from diagnosis to recover
Clinical support staff	Support allied health professionals with the treatment and care of patients.
Foster care	A stable family home where care is provided on either a short or long-term basis.
Residential care	Accommodation and care for a number of children, young people or adults living together in one building.
Respite care	Short-term care which provides relief for family member who are carers.
Domiciliary care	Care received in the person's own home.
Sensory impairment	Difficulties with senses, most commonly vision and hearing.
Braille	Raised lettering to help visually impaired.
Occupational therapist	Offers support to develop independence for daily living activities.

B	What are the different types of health care services?
Primary Care	<ul style="list-style-type: none"> Primary care is the first point of contact a patient is likely to have with the NHS – you can refer yourself to primary care providers. Primary care providers include pharmacists, Registered GPs/doctors, walk-in centres, accident and emergency departments (A&E), dentists and Opticians.
Secondary Care	<ul style="list-style-type: none"> Secondary care is specialist treatment or care. A primary care provider will refer a patient for secondary care if they feel it is necessary for the patient to receive further advice, tests or treatment. Secondary care providers include cardiologists (heart), gynaecologists (female reproduction), paediatrics (children), obstetrics (childbirth and midwifery), psychiatry (mental health) and dermatology (skin).
Tertiary Care	<ul style="list-style-type: none"> Tertiary Care is advanced specialist treatment or care. A secondary care provider will refer a patient for tertiary care for long-term treatment and/or care. Tertiary care areas include spinal, cardiac (heart), cancer care, chronic pain, burns and neonatal (premature and ill new born babies).
Allied Health Professionals	<ul style="list-style-type: none"> Allied health professionals work in a range of specialities They support patients through all stages of care – from diagnosis to recovery. To work with the public they must register with the Health and Care Professions Council (HCPC). Allied health professionals include art therapists, dieticians, paramedics, physiotherapists, speech and language therapists and radiographers.
Clinical Support Staff	<ul style="list-style-type: none"> Clinical support staff work within a range of departments under the guidance of allied health professionals. They are trained in their roles but are not required to register with the HCPC. Clinical support staff include theatre support workers, prosthetic technicians, dietetic assistant, phlebotomist (collects blood samples), hearing aid dispensers and maternity support workers.

C.	What are the different types of social care services?
Children and young people	<ul style="list-style-type: none"> Children and young people may need support on a temporary or permanent basis because their parent or carer is ill; they have family problems, they have behavioural issues or additional needs. Types of support for children and young people include foster care, residential care and youth work.
Children or adults with specific needs	<ul style="list-style-type: none"> Children and adults may need support with specific needs including learning disabilities, sensory impairments and long-term health issues. Types of support for children and adults with specific needs include residential care, respite care and domiciliary care.
Older Adults	<ul style="list-style-type: none"> Older adults may need support with a range of needs including arthritis, cardiovascular disease, dementia and depression. Types of support for older adults include residential care, carers and personal assistants.
Informal Social Care	<ul style="list-style-type: none"> Not all carers get paid for what they do – they are known as informal carers and social services would really struggle without them. Informal carers include a spouse or partner, children, friends and neighbours. Informal carers do practical household duties, shopping, laundry, walk the dog and help with personal care.










D.	What barriers are there to accessing care services?	
Physical Barriers 	<ul style="list-style-type: none"> • Difficulty accessing care due to mobility and/or disability. • Obstacles include uneven and rough pavements and services, narrow doorways, no lift and transport. • Access could be improved by planning journeys in advance and reporting any problems to the council. 	
Sensory Barriers 	<ul style="list-style-type: none"> • Sensory impairments can be a barrier to accessing care. • A person with poor vision may need glasses or documents in large print. Profound sight problems may benefit from Braille. • A person with a hearing impairment may benefit from a hearing aid or sign language interpreter. 	
Social, Cultural and Psychological Barriers 	<ul style="list-style-type: none"> • Social, cultural and psychological barriers may leave people feeling nervous about accessing support. • These can include: religion/cultural barriers, negative experience, self-diagnosis, substance misuse, opening hours. • Care services can give individuals opportunities to share their concerns, offer different gender practitioners, facilities to worship and show respect and understanding. 	
Language Barriers 	<ul style="list-style-type: none"> • Language can be a barrier to accessing care services because individuals and care providers may struggle to understand each other. • Support for individuals could include translated documents, translators and interpreters and support from family members. 	
Geographical Barriers 	<ul style="list-style-type: none"> • Individuals may struggle to reach care services because public transport may not run regularly, specialist treatments may require long distance travel and travel can be expensive. • Support could include being provided with direct travel or having travel costs reimbursed. 	
Intellectual Barriers 	<ul style="list-style-type: none"> • If an individual has a learning disability it can cause difficulty in them accessing care services. • Support might include a learning disability nurse, speech and language therapist or occupational therapist. 	
Resource Barriers 	<ul style="list-style-type: none"> • As the population ages and more disorders are being successfully treated, there is a huge strain on health and social care resources – at times it might seem that not everyone can access what they need. • There are huge staff shortages which puts strain on people that work in the health and social care sector. 	
Financial Barriers 	<ul style="list-style-type: none"> • Seeing a GP or using emergency services are free but some services, such as optical and dental care, often involve some payment. • This can be difficult for people if they are from a low-income household as they may not feel they can afford to access the care they need. 	

Year 10 BTEC Health and Social Care- Component 2: Health and Social Care Services and Values.

What we are learning:	
E.	Define the key words
F.	What are the care values and how can they be implemented?

E. Define the key words	
Self-respect	Valuing yourself
Person centred approach	Planning care around the wants and needs of a service user
Empowerment	Supporting people to take control of their lives and futures by involving them decisions on their care and treatment
Confidentiality	Not passing on information or discussing a private conversation to anyone
Dignity	Being respected and treated with care
Safeguarding	Policies to ensure children and vulnerable adults are protected from harm, abuse and neglect
Discrimination	Treating a person or group of people unfairly or less well than others
Compassionate	Feeling or showing sympathy and concern for others
Competence	The ability to do something successfully and efficiently
Consequences	A result or effect, typically one that is unwelcome or unpleasant
Review	Involves assessing or inspecting something with the intention of making change if necessary
Empathy	Being able to understand and share feelings and views of another person.
Insomnia	Difficulties in sleeping

F.	What are the care values and how can they be implemented?
Empowering and promoting independence 	<ul style="list-style-type: none"> Empowerment is when an individual feels in control of their own life and have a say in what happens to them. Some people might need help with empowerment because of their age, circumstances or confidence e.g. elderly people, children, adult with learning disabilities. You can promote empowerment and independence by involving individuals, where possible, in making choices about their treatment.
Respect for others 	<ul style="list-style-type: none"> You can show respect for the individual by respecting their privacy, needs, beliefs and identity. Show respect by being patient when someone takes longer to perform simple tasks due to their age, disability or injury. Do not leave personal files around for others to see or discuss your patients' case with friends. Gain permission before entering a room, provide private place for personal conversations.
Maintaining confidentiality 	<ul style="list-style-type: none"> It is a person's right by law to have information about them kept confidential. Care workers are not allowed to talk about one service user to another, or someone who is not involved in helping them get better. This involves not having those private conversations in public places where other can overhear. Paper and electronic files are to be kept confidential and only shared with care workers which are involved in the treatment of the patient.
Preserving dignity 	<ul style="list-style-type: none"> Preserving the dignity of individuals to help them maintain self-worth, privacy and self-respect. You do this by involving the person in their own care; helping them go to the bathroom; giving the person time they need, checking what they would like to be called; closing door or curtain when they are changing; making sure their clothes are clean; dealing with embarrassing situations sensitively and professionally.
Effective communication 	<ul style="list-style-type: none"> In health and social care it is important to communicate effectively with service users in order to build trusting relationships. These can be lost if the care worker appears not to care or listen. Recognising different communication needs and trying to overcome them shows that care workers respect the individual e.g. when visually impaired providing a leaflet in braille; if can't speak English well, have a translator organised beforehand. Show you value the person through showing empathy, asking questions, not judging, smiling, using their name, giving appropriate eye contact, open body language, giving time to process.
Safeguarding and duty of care 	<ul style="list-style-type: none"> Health and social care workers have a legal duty to protect service users from harm, neglect or abuse. They must recognise the signs and symptoms of abuse so they can protect people. Signs of abuse include low self-esteem, STDs, unexplained injuries or bruises, insomnia, change in appetite, change of personality, self-harming, fear of being alone etc. What to do: report the abuse, never promise to keep the abuse secret, make it clear that you will have to tell someone e.g. your supervisor or the police. <p>DUTY OF CARE</p> <ul style="list-style-type: none"> Care workers must work in ways that never put individuals at any risk or harms. They need to know their responsibilities, procedures, deliver care as the care plan states and always report and record any concerns about the service user even if they appear minor.
Promoting anti-discriminatory practice 	<ul style="list-style-type: none"> Discrimination can be obvious but sometimes it can be subtle and hidden, and The Equality Act 2010 makes it illegal to discriminate against people because of their e.g. age, gender, race, disability, religion, sexual orientation, marital status etc. You can promote anti-discriminatory practice by: having patience with someone who doesn't speak English well; communicating in a way that the person will understand; showing tolerance towards people who have different beliefs and values from you; challenging unkind behaviour.

Year 10 BTEC Health and Social Care- Component 2: Health and Social Care Services and Values.

What we are learning:
G. How to apply care values in a compassionate way. H. Identifying own strengths and areas for improvement against the care values

G	How to apply care values in a compassionate way?
Show empathy and care by:	<ul style="list-style-type: none"> • Being patient • Showing sensitivity • Understanding • Actively listening • Having a positive outlook • Being encouraging • Having genuine concern for other people.
Care workers can check themselves against the ' Six C's of Compassionate Care ' checklist to make sure they are applying care values with compassion.	
Care	Helps to improve an individual's health and wellbeing. Care should be tailored to each person's needs and circumstances
Compassion	Shows the care worker understands what the individual is experiencing. Being empathetic to their situation shows care and value to the individual
Competence	Shows that care workers can safeguard and protect individuals from harm
Communication	How to adapt to individuals and their circumstances to ensure important information is given and shared- keeping the individual at the heart of everything that is done
Courage	Protecting individuals by speaking up if you think something is wrong; being brave enough to own up if you have made a mistake.
Commitment	Carrying out your duties to care for others to the best of your ability.

H	Identifying own strengths and areas for improvement against the care values
Working together	<ul style="list-style-type: none"> • All care works have the responsibility to uphold care values. If everyone works together, doing their 'bit', service users and colleagues alike will all be able to have positive experiences. • Put any feelings aside, some clients can show anger or aggressions towards you, continues to work in a way that respects each of the care values. <p>Staff training:</p> <ul style="list-style-type: none"> • Staff training keeps everyone updated. Even if they also ready had care values training it is important to have it again and remind them of their importance.
Making mistakes	<ul style="list-style-type: none"> • Everyone sometimes make mistakes. It is crucial that staff own up to mistakes that they have made, not matter how small. This is part of the duty of care to safeguard individuals, it demonstrates respect. • You need to be honest about your mistake, do not pretend it never happened and do not blame someone else. • You can: <ul style="list-style-type: none"> • Tell your supervisor, admit it and apologise • Be honest and accurate about what happened, • Suggest ways to avoid it happening again • Earn back the trust of the person involved • Prove you can do the job • Do no be too hard on yourself; seek help and guidance from others.
Reviewing own applications of care values	<ul style="list-style-type: none"> • One way to improve skills is to look carefully at the areas you are good at, what you are able to do well and things that you find difficult. • Knowing your strengths will allow you to take on task with ease and make you feel confident that you are doing a good job. • Knowing your weaknesses and what needs improving will help you work on them and develop. It is important to be open with yourself and others in order to progress further and be better at your job. • Regularly review your strengths and weaknesses because they change overtime
Receiving feedback	<ul style="list-style-type: none"> • The purpose of feedback is to let you know what you are doing well and the areas you need to improve. • This can be formal- like reports and following an observation at work and Informal- like chatting to colleagues at break time. • Both types encourage you to feel pleased with what you have done well and motivate you to improve in weaker areas, perhaps even provide a way forward. • Remember: when giving and receiving feedback, positives must be noted so that you know what you are doing well and continue to do so. Negatives are hard to uncomfortable to hear, but do not take them personally, you need them to get better at your job and feel more confident.
Using feedback	<ul style="list-style-type: none"> • Create yourself a SMART action plan to set yourself Specific, Measurable, Achievable, Realistic and Time-related targets or goals to help plan for your improvements



Year 10 Cambridge National- Media and Sport- Term 5



What we are learning this term:

- A. Type of media outlet
- B. Competition with other media outlets
- C. Who is the target audience
- D. Targeting of media coverage
- E. What does the coverage consist of

Main assessment objectives

Learning outcome: Be able to evaluate media coverage of sport



What is the difference between a tabloid and broadsheet newspaper?

A tabloid paper focuses on gossip stories and the lives of celebrities. Whereas broadsheet papers look at more serious news stories like the economy and finance.



A. Key question from Assessment objectives?	
Key word	Key definition
Broadsheet	A paper that focus on more serious news such as politics and finance
Tabloid	A paper that focus on celebrity gossip and news about famous people
Bias	Prejudice for or against one person or group, especially in a way considered to be unfair
Target audience	A group at which a product such as a film or advertisement is aimed
Format	The way in which something is arranged or set out
Organisation	An organised group of people with a particular purpose

How may stories be reported differently in broadsheet and tabloid newspapers?

Broadsheet
More informative stories

Tabloid
More likely to look at the lives of athletes outside of sport



A. What sports and clubs are likely to get more media coverage?

Big clubs such as Man UTD, Real Madrid, Barcelona and Liverpool get more coverage than smaller clubs.

Football gets lots of media coverage.

High profile athletes that generate lots of income



G. How could potential bias be shown in the media?

Negative bias
Focus on negative stories around certain clubs, players, managers and executives.
Continuing to focus on stories for days/weeks

Positive bias
Continued focus on certain clubs/managers/players and executives.
Larger clubs/organisations/owners may not be targeted with negative stories



A. Who would be the target audience for different media forms?

Social media- Younger fans
Magazines- Younger fans
Newspapers- Adults



A. How do positive and negative stories get presented differently in the media?

Negative stories may appear in prominent places in the paper (front page). They may appear with big headlines and photos
Negative stories may run for longer than positive ones.

Key Sections
Type and brand of media outlet
Competition with other outlets
Target audience
Timing of the event
Popularity of athlete/club
Features of the coverage
Representation of the issue
Method of reporting
Format and presentation
Potential bias
Extent of the coverage
Duration of the coverage

Music terms and signs

Glossary - Eduqas GCSE Music

Dynamics

<i>pp</i>	<i>p</i>	<i>mp</i>	<i>mf</i>	<i>f</i>	<i>ff</i>
PIANISSIMO	PIANO	MEZZO PIANO	MEZZO FORTE	FORTE	FORTISSIMO
very soft (v.quiet)	soft (quiet)	moderately soft	moderately loud	loud	very loud
crescendo (cresc.) gradually getting louder			diminuendo (dim.) gradually getting quieter		

Tempo

LARGO	LENTO/ADAGIO	ANDANTE/MODERATO	ALLGRETTO	ALLEGRO/VIVACE	PRESTO
v.slow	slow	walking pace/moderate	quite fast	quick/lively	very quick
<ul style="list-style-type: none"> • Accelerando: gradually getting faster • Rallentando/ritardando: gradually getting slower • A tempo: return to the original speed • Ritenuito: in slower time • Rubato: rhythms are played in a more free/flexible way ('robbed time'). 					

Time values

NOTE	NAME	LENGTH (duration)	REST
	Semibreve	4 beats	
	Minim	2 beats	
	Crotchet	1 beats	
	Quaver	½ beats	
	Semiquaver	¼ beats	
A dot after the note increases its length by half:			
	Dotted minim		
	Dotted crotchet		
Groups of quavers/semiquavers are usually beamed together:			

Terms and signs

	Sharp	Raises a note by a semitone.
	Flat	Lowers a note by a semitone.
	Natural	Cancels a previous sharp or flat for a note.
	Staccato	Detached.
	Slur	Play smoothly.
	Tie	Hold the notes for the full value of the tied notes.
	Accent	Emphasize the note (play forcefully).
	Pause	Hold the note longer.
	Sforzando	Sudden stress/ accent.

Popular Music

Area of study 4 - Eduqas GCSE Music



Popular music includes:

- **POP**
- **ROCK**
- **RAP**
- **HIP HOP**
- **REGGAE**

Plus many other genres, e.g. soul, ska, heavy metal, R&B, country, rock'n'roll.

FUSION: when two different styles are mixed together. This can be two styles of popular music e.g. 'rap metal', or could combine a popular music genre with other styles, folk-rock, gospel, world music, classical to create a new and interesting sound. **Jazz fusion** (jazz and pop) is a popular genre.

Instruments

ELECTRIC GUITAR:

- **Lead guitar:** plays the melody/ solos/riffs
- **Rhythm guitar:** plays the chords/ accompaniment.

BASS GUITAR: plays the bass line.

DRUM KIT: provides the beat.

LEAD SINGER: the main vocalist.

BACKING VOCALS: singers who provide harmony.

Pop/rock groups may also include **acoustic** (not electric) instruments e.g. trumpet, trombone, saxophone and/or electronic keyboards/synthesizers.

Features and techniques found in popular music

Riff	A short, repeated pattern.
Hammer on	Finger brought sharply down onto the string.
Pitch bend	Altering (bending) the pitch slightly.
Power chords	A guitar chord using the root and 5 th note (no 3 rd).
Distortion	An effect which distorts the sound (creates a 'grungy' sound).
Slap bass	A percussive sound on the bass guitar made by bouncing the strings on the fret board.
Fill	A short, improvised drum solo.
Rim shot	Rim and head of drum hit at same time.
Belt	A bright, powerful vocal sound, high in the chest voice.
Falsetto	Male voice in a higher than usual range.
Syllabic	One note sung per syllable.
Melismatic	Each syllable sung to a number of different notes.
A cappella	Voices singing without instrumental accompaniment.

The structure of a pop/rock song may include:

INTRO: short opening section, usually instrumental.

VERSE: same music but different lyrics each time.

CHORUS: repeated with the same lyrics each time (refrain).

MIDDLE EIGHT: a link section, often eight bars, with different musical ideas.

BRIDGE: a link/transition between two sections.

OUTRO: an ending to finish the song (coda).

*You may also hear a pre-chorus, instrumental interlude or instrumental solo.

*Strophic songs, 32 bar songs (AABA) and 12 bar blues are also found in popular music.

A typical rock ballad in verse-chorus form could follow the pattern:

- Intro
- Verse 1
- Chorus
- Verse 2
- Chorus
- MiddleEight
- Chorus
- Outro

Technology

Amplified	Made louder (with an amplifier).
Synthesized	Sounds created electronically.
Panning	Moving the sound between left and right speakers.
Phasing	A delay effect.
Sample	A short section of music that is reused (e.g. looped, layered).
Reverb	An electronic echo effect.

Popular Music

Area of study 4 - Eduqas GCSE Music



Write about the instruments, in detail

Draw a ruler line then write the definition of each key word

Popular music includes:

-
-
-
-
-

Plus many other genres, e.g. soul, ska, heavy metal, R&B, country, rock'n'roll.

FUSION:

Instruments

Features and techniques found in popular music

- Riff
- Hammer on
- Pitch bend
- Power chords
- Distortion
- Slap bass
- Fill
- Rim shot
- Belt
- Falsetto
- Syllabic
- Melismatic
- A cappella

The structure of a pop/rock song may include:

- Intro =
- Verse =
- Chorus =
- Middle Eight =
- Bridge =
- Outro =

**strophic songs ...

A typical rock ballad in verse-chorus form could follow the pattern:

-
-
-
-
-
-
-

Technology

- Amplified
- Synthesized
- Panning
- Phasing
- Sample
- Reverb

Complete the missing key words and symbols/Definitions!