

# Knowledge Organiser

Year 11 Autumn 2 2021

“When I say, “**Think outside the shoe,**” I mean that any challenge, any obstacle can be addressed in a different way and it can be figured out in a different way.”

Jessica Cox



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# Homework Timetable

You are expected to study the subjects shown on your timetable each day.

Each day use a page of your exercise book to evidence your work: half a page per subject.

You can use your KOs and book in a variety of ways (see next page) but you **should not just copy** from the Knowledge Organiser into your book.

Your teacher will tell you how they would like you to use your Knowledge Organiser each week. These instructions will appear on Class Charts. You should always mark your work using a different coloured pen

Your teacher may follow up your Knowledge Organiser work with an online activity that uses the knowledge you have been studying.

Week starting Date 13.09.21	Subject 1	Subject 2	Subject 3
Monday	Option C	English	
Tuesday	Maths	Biology	
Wednesday	English	Option A	
Thursday	Maths	Option B	
Friday	Physics	Chemistry	

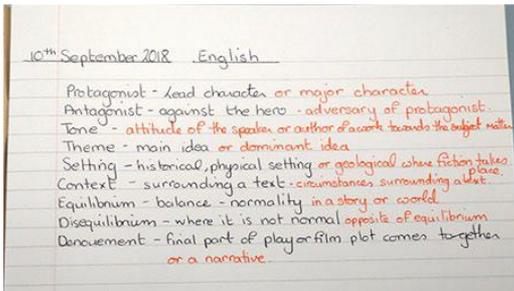
Week starting Date 27.09.21	Subject 1	Subject 2	Subject 3
Monday	Option C	English	
Tuesday	Maths	Biology	
Wednesday	English	Option A	
Thursday	Maths	Option B	
Friday	Physics	Chemistry	

Week starting Date 11.10.21	Subject 1	Subject 2	Subject 3
Monday	Option C	English	
Tuesday	Maths	Biology	
Wednesday	English	Option A	
Thursday	Maths	Option B	
Friday	Physics	Chemistry	

Week starting Date 20.09.21	Subject 1	Subject 2	Subject 3
Monday	Option C	English	
Tuesday	Maths	Biology	
Wednesday	English	Option A	
Thursday	Maths	Option B	
Friday	Physics	Chemistry	

Week starting Date 04.10.21	Subject 1	Subject 2	Subject 3
Monday	Option C	English	
Tuesday	Maths	Biology	
Wednesday	English	Option A	
Thursday	Maths	Option B	
Friday	Physics	Chemistry	

Week starting Date 18.10.21	Subject 1	Subject 2	Subject 3
Monday	Option C	English	
Tuesday	Maths	Biology	
Wednesday	English	Option A	
Thursday	Maths	Option B	
Friday	Physics	Chemistry	



# Examples of Activities

## Look, Cover, Write, Check



**Step 1:** Read the part of the section you want to remember.

**Step 2:** Read it again.

**Step 3:** Read it aloud.

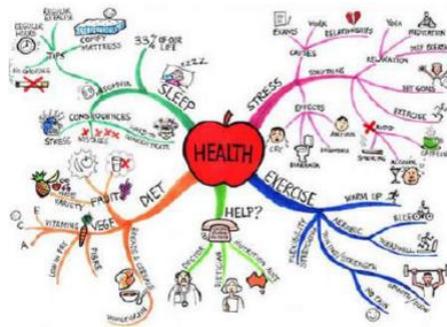
**Step 4:** Cover the part you are remembering with your book.

**Step 5:** Write as much as you can remember in your exercise book.

**Step 6:** Check your answers with a tick for correct answers or a cross for incorrect.

**Step 7:** Correct your mistakes with the information from that section.

## Mind Mapping



**Step 1:** Read the part of the section you want to remember.

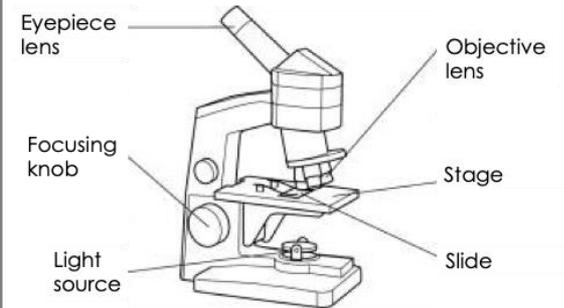
**Step 2:** Draw a mind map with the key information.

**Step 3:** Add and extra information that provides more detail about the topic

**Step 4:** Check your answers using the information in all three sections of the Knowledge Organiser.

**Step 5:** Correct any mistakes

## Explaining a Diagram



**Step 1:** Read, cover and recreate the diagram.

**Step 2:** Write a paragraph explaining what is happening in the diagram and give specific examples.

**Step 3:** Check your answers using your class notes or ask your teacher to check in your next lesson.

**Step 5:** Correct any mistakes

**Question 1**

1. Marks: 4
2. Time: 4 minutes
3. Focus: Identifying explicit information in the text.
4. Tips: Use quotations or paraphrase

**Question 2**

1. Marks: 8
2. Time: 8 minutes
3. Focus: Analysis of language use and effects.
4. Tips: Layers of meaning / Think, feel, imagine / alternative viewpoints / answer the Q

**Question 3**

1. Marks: 8
2. Time: 8 minutes
3. Focus: Analysis of the overall structure of text and how it engages the reader.
4. Tips: How does the focus change from the start to the end of the extract and why has the writer done this?

**Question 4**

1. Marks: 20
2. Time: 20 minutes
3. Focus: Evaluation of effectiveness of text.
4. Tips: Make sure you only explore the focus of the question – re-read it

**Language devices and their effects (Q2 and Q4) - Also can be used in Q5 response**

1. Simile – A simile gives the person/thing being described the characteristics of something else. It therefore helps us to see these people/things in a new light - in a way we may have never seen them or thought about them before allowing the writer to exaggerate or create vivid imagery.
2. Hyperbole – Exaggerated statement or claims not to be taken literally, used specifically for effect in writing: 'I've told you a thousand times!'.
3. Alliteration –can create a harder or softer mood depending on which sound is being repeated. Plosive /b/ /p/ /t/ /d/ sounds create an abrupt, sharp, sometimes shocking effect. Sibilant /s/ sounds (<s> <ss> or <c> as in 'ice'. <sh> <dg> <x> <ks> or <ch>) can create a soft, devious or sinister atmosphere. It can also present a hissing sound.
4. Metaphor – Making a direct comparison to something than a simile does: 'Its eyes fired daggers into my very soul'.
5. Personification – Giving an object human qualities to make it sound more powerful or in control: 'The paintings stared at me menacingly as I crept along the hallway'.
6. Onomatopoeia– can be used to create atmosphere of being surrounded by the action by engaging the sense of sound. It can bring to life a scene and create vivid imagery.
7. Oxymoron – A figure of speech in which opposite words appear next to each other: 'Living dead', 'Working holiday'. – can make a character seem confused or lost.
8. Pathetic Fallacy – Using the weather to reflect to mood of the characters or scene – this creates tone and develops emotion in the writing.
9. Rhetorical Question– Can be used to emphasise: Humor—to emphasise how ridiculous an idea is / Obviousness—to emphasise how obvious an idea is (leading the audience to identify with the writers views) / Reflectiveness—to allow the reader to reflect on their own response to the question.
10. Repetition– A way that a writer can emphasise the importance of words or ideas or to highlight the repetitive nature of a certain message.

**Structural choices and their effects (Q3) - Also can be used in Q5 response**

1. Juxtapositions – a deliberate Contrast between ideas to create tension / imagery
2. Dialogue – speech to reveal information about characters
3. Foreshadowing – a hint of what is to happen later to build dramatic tension
4. Narrative perspectives – the viewpoint of the narrator and how this develops and changes
5. Shifts or changes in time, topics, Places, tone and focus – changes to signpost new events or ideas to the reader – takes the reader on a journey

**Evaluative Vocabulary (Question 4)**

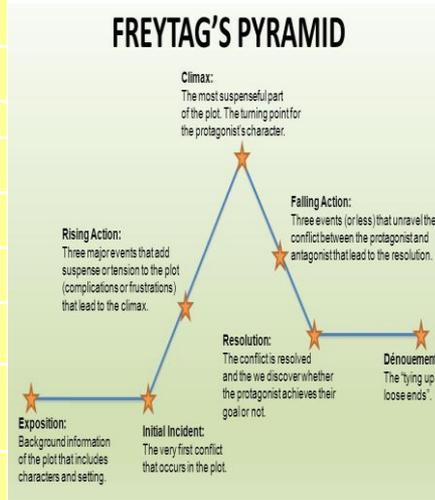
Subtle	Skilful
Challenging	Striking
Crucial	Significant
Pivotal	Provocative

**Phrases to ensure a sophisticated analysis (Q2 and Q4)**

1. This suggests/ implies/ indicates/ demonstrates/ portrays/ presents/ highlights/ emphasises/ develops...
2. The line/adjectives/noun/verb/phrase/image...
3. It could be argued that/the reader may infer...
4. You get the impression/the reader is positioned to feel/ the writer causes the reader to consider..

Descriptive writing	Narrative writing
Focused creating an image in the reader's mind and describing a scene in detail	Focused on character, setting and plot development with descriptive elements as well as dialogue and action

Structuring a narrative	
<b>1. Exposition</b>	A narrative device often used at the beginning of a work that provides necessary background information about the characters.
<b>2. Inciting Incident</b>	An event that begins the action/plot.
<b>3. Rising Action</b>	Events leading up to the climax
<b>4. Climax</b>	Most exciting moment of the story; turning point
<b>5. Falling Action</b>	Events after the climax, leading to the resolution
<b>6. Resolution</b>	Ends the conflict and leaves reader content
<b>7. Cliff-hanger</b>	A dramatic moment leaving suspense over what is to come
<b>8. Flashback</b>	A method of narration in which present action is temporarily interrupted so that the reader can witness past events
<b>9. The one sentence opener</b>	Start with a one-sentence paragraph or rhetorical question. Your next paragraph should then jump back in time. Recount the events leading up to this first line.
<b>10. Twist in the tale</b>	Tell the story in a way that suggests one thing about a character only to surprise the reader at the end.
<b>11. Flipped narrative</b>	Start with the end - the most dramatic moment (present tense) and then flashback to the events leading up to it.
<b>12. A tale of two halves</b>	Tell the incident from one character's perspective and then tell the whole thing again from a completely different point of view.



STRUCTURING A DESCRIPTION	
<b>1. Overview</b>	Describe the bigger picture (wide/panoramic)
<b>2. Zoom in</b>	Focus on an object and describe it in detail (close up)
<b>3. The senses</b>	Sights, sounds, smells, tastes, touch.
<b>4. A person</b>	Describe a person (or two) in an imaginative way, create personality through the way they move, speak and react.
<b>5. Overview</b>	Zoom back out, returning to the bigger picture (wide/panoramic)
<b>6. Linking theme</b>	Repeated reference to an object, person or idea throughout.

Language features	
Pun	A joke exploiting the different possible meanings of a word or the fact that there are words which sound alike but have different meanings
Symbol	An object or action in a literary work that means more than itself, that stands for something beyond itself.
Onomatopoeia	A word that imitates the sound it represents.
Euphemism	An indirect, less offensive way of saying something that is considered unpleasant
Personification	Personification A figure of speech in which an object or animal is given human feelings, thoughts, or attitudes
Metaphor	A comparison of two things without using the word like or as.
simile	A comparison of two things using like or as
Hyperbole	A figure of speech that uses exaggeration to express strong emotion, make a point, or evoke humour
Irony	Irony A contrast or discrepancy between what is stated and what is really meant, or between what is expected to happen and what actually does happen.
Connotation	The experience (associations) we bring to a word
Oxymoron	A figure of speech in which apparently contradictory terms appear in conjunction
Extended metaphor	When a writer exploits a single metaphor or analogy at length throughout a poem or story.
Imperative	A command
Declarative	A statement
Pathetic fallacy	A type of personification where emotions are given to a setting, an object or the weather.
Emotive language	Language intended to create an emotional response.
Rhetorical question	A question asked merely for rhetorical effect and not requiring an answer

## Plot ( 5 Acts)

1	This Act opens with the three Weird Sisters. A war is taking place between Scotland and Norway; Scotland is victorious due to the valiant efforts of Macbeth. The traitorous Thane of Cawdor is captured and executed. King Duncan decides to reward Macbeth with the title of Thane of Cawdor. Before he is given the title, the three Weird Sisters confront Macbeth and Banquo. They tell Macbeth that he will become Thane of Cawdor and eventually king. Macbeth soon learns of his new title which fulfils part of the prophesy and sends word to his wife. Duncan plans on staying the night at Macbeth's castle in Inverness. Lady Macbeth receives the news and immediately plots the death of King Duncan so her husband will be king. Lady Macbeth manipulates Macbeth into following her plans; he reluctantly agrees to murder Duncan. By the end of Act 1, Macbeth is determined to follow through with the plan.
2	Macbeth has some doubts (and visions) but he talks himself into following through with the murder. Macbeth is so scared that Lady Macbeth must finish the rest of the plan by wiping blood on the drunk guards. The next morning, Macduff and Lennox arrive at Macbeth's and Macduff discovers the dead body of King Duncan. The guards are immediately suspects and Macbeth kills them. Malcolm and Donaldbain, the King's sons, flee the castle because they are afraid that they will be blamed for the murder of their father.
3	Banquo begins to suspect Macbeth for the murder of King Duncan; Macbeth feels that Banquo will reveal that it was he that killed the King. Therefore, Macbeth sends out some men to murder Banquo and his son, Fleance. Banquo is murdered but Fleance escapes. Macbeth, Lady Macbeth, Lennox, Ross and other lords attend a banquet. The ghost of Banquo presents itself to Macbeth who begins to rant and rave which makes the other guests uneasy. Lady Macbeth tries to cover up the situation by saying that Macbeth is prone to fits. By the end of the Act we learn that Macduff has not attended the banquet because he has gone to England looking for help because he is suspicious of Macbeth.
4	Macbeth confronts the three Weird Sisters and they show him more visions. The visions lead Macbeth to believe that he cannot be killed by any man which gives him a false sense of security. He then plans to send murderers to the castle of Macduff (who is in England) in order to kill his family. Meanwhile, Macduff is in England begging Malcolm to return to Scotland to seize the throne from Macbeth who has become a tyrant. Malcolm tests Macduff's loyalty to Scotland and himself; once satisfied with Macduff's responses he agrees to wage war against Macbeth. Malcolm's uncle, Siward, will also aid the attack.
5	Lady Macbeth has gone mad with guilt over the murders. The once strong and ruthless woman becomes an hysterical somnambulist and doctors are unable to help her. Some of the Scottish lords discuss Macbeth's state of mind and come to the conclusion that they will help Malcolm and Macduff fight against Macbeth. Of course Macbeth isn't really concerned because he believes the prophecy ensures that he cannot be killed by any man born of woman. Macbeth is soon confronted by Macduff at Dunsinane; Macbeth learns that Macduff was ripped from his mother and not born naturally. Macbeth and Macduff fight and the natural order is restored by the end of the play.

# English Literature Autumn Term 1: Macbeth

## Characters

<b>Macbeth</b>	<i>The eponymous protagonist is both ambitious and ruthless. He transforms from loyal warrior to paranoid, tyrannical king.</i>	<i>Ambitious, cruel, misled</i>
<b>Lady Macbeth</b>	<i>A strong, ambitious and manipulative woman who defies expectations.</i>	<i>Persuasive, ruthless, powerful, manipulative</i>
<b>The Witches / Weird Sisters</b>	<i>Supernatural and manipulative beings who seem to be able to predict the future.</i>	<i>deceptive, cunning unearthly omniscient.</i>
<b>Banquo</b>	<i>Macbeth's close friend and ally is astute and loyal. Macbeth sees him as a threat after he hears the prophecy that Banquo's children will become kings.</i>	<i>Virtuous, insightful</i>
<b>Duncan</b>	<i>King of Scotland; a strong and respected leader.</i>	<i>Regal, virtuous, deceived</i>
<b>Macduff</b>	<i>A noble soldier who is loyal to Duncan and is suspicious of Macbeth.</i>	<i>Noble, loyal, righteous</i>
<b>Malcolm</b>	<i>Duncan's eldest son and next in line to the throne.</i>	<i>Dignified, clever, virtuous</i>

## Themes

<b>Chaos</b>	<b>Deceit</b>
<b>Supernatural</b>	<b>Ambition</b>

## Key Methods

<b>Imagery/ Symbolism</b>	Using objects to represent key ideas.
<b>Irony</b>	When the opposite of what you say or intend happens.
<b>Equivocation</b>	Saying statements that are true but do not reveal the full truth.
<b>Rhythm</b>	Mostly in Shakespeare's plays the lines are divided into 10 syllables (iambic pentameter). Sometimes this rhythm is deliberately broken to create tension.
<b>Contrast</b>	Using opposing ideas or images
<b>Soliloquies</b>	When a character speaks alone on stage revealing their innermost thoughts and feelings

## Context (Written 1606)

**The Gunpowder Plot** happened a year before *Macbeth* was written when a group of Catholics tried to blow-up parliament and most of the royal family, including the King. Those responsible were caught and executed but people were living in a climate of fear. Catholics were treated with suspicion and people felt that the Pope was plotting to destroy the country.

**King James I of England (and VI of Scotland)** came to the throne of England in 1603 following the death of Queen Elizabeth I. James became the patron of Shakespeare's theatre company. James was interested in witchcraft. He believed that witches were real and wrote a book called *Daemonologie* which told you how to spot a witch. The play makes reference to James as a descendant of Banquo.

Only a century before *Macbeth* was written, England had suffered under the massive disorder of the **Wars of the Roses** as two sides of the royal family fought for over 30 years over who should be king. Civil disorder was now seen as the ultimate disaster.

**The Great Chain of Being** was a strict power structure of all matter and life which was believed to have been created by God. This idea dominated 17<sup>th</sup> century beliefs. The chain starts from God and progresses downward to angels, demons (fallen/renewed angels), stars, moon, kings, princes, nobles, commoners, wild animals, domesticated animals, trees, other plants, precious stones, precious metals, and other minerals.

**The Divine Right of Kings**  
A belief that kings get their authority directly from God. Kings can't be judged by human laws and rules. As only God can judge an unjust king, any attempt to depose, dethrone or restrict his powers runs contrary to the will of God. The action of killing a king is called regicide; this is considered one of the worst crimes as it is a crime against God as well as murder.

# A Christmas Carol Knowledge Organiser

Section 1: Key Vocabulary		Ebenezer Scrooge	Bob Cratchit	Fred	Jacob Marley
Tier 3 vocabulary	Definition	<i>Miserly, solitary, covetous, stubborn, remorseful, redeemed</i>	<i>Humble, devoted, caring, loyal, downtrodden</i>	<i>Persistent, forgiving, hospitable, jovial, empathetic</i>	<i>Terrifying, remorseful, exhausted, tortured</i>
Capitalism	Trade and industry are controlled by private owners for profit, rather than by the state	<b>Ghost of Christmas Past</b> <i>Irrepressible, commanding, illuminating, ephemeral</i>	<b>Ghost of Christmas Present</b> <i>Jolly, jovial, angry, judgmental,</i>	<b>Ghost of Christmas Yet to Come</b> <i>Foreboding, Foreshadowing, ominous, silent</i>	<b>Tiny Tim</b> <i>Vulnerable, innocent, pure, thoughtful</i>
Socialism	An economic system where everyone in the society equally owns the factors of production.				
Allegory	A story that can be interpreted to reveal a hidden meaning, typically a moral or political one.				
Stave	Dickens is acting as if the book is a Christmas carol, and each chapter is part of the song	<b>Stave</b>	<b>Key Quotation</b>	<b>Info / Analysis</b>	
Tier 2 vocabulary	Definition	<b>Stave One Marley's Ghost</b>	Hard and sharp as flint	Description of Scrooge at start	
			solitary as an oyster	Simile to convey his lone existence	
"I don't make myself merry at Christmas, and I can't afford to make idle people merry."	Shows his unsympathetic attitude to the poor ('idle') people.				
"It's enough for a man to mind his own business, and not to interfere with other people's."	He is obsessed with business and money.				
"I wear the chain I forged in life" <i>Jacob Marley</i>	A warning for Scrooge: Marley created his own eternal punishment through his greed.				
		"There is no light part of my penance" <i>Jacob Marley</i>	Penance = punishment		
Hostility	Unfriendliness or opposition	<b>Stave Two Ghost of Christmas Past</b>	From the crown of its head there sprung a bright clear jet of light	Refers to Ghost of Christmas Past. The light represents truth and enlightenment	
			"Your reclamation, then. Take heed!" <i>Ghost of Xmas Past</i>	Reclamation = recovery / change Take heed = listen and learn	
"Your lip is trembling," said the Ghost. "And what is that upon your cheek?"	Scrooge visits his old schoolhouse and first shows emotion (self-pity).				
A solitary child, neglected by his friends, is left there still	Description of Scrooge as a child. How has his childhood affected him?				
"He has the power to render us happy or unhappy [...] The happiness he gives is quite as much as if it cost a fortune."	Scrooge speaking of Fezziwig's generosity. He realises how an employer can affect his employees.				
Miser	Person who hoards wealth and spends as little money as possible.	"I have seen your nobler aspirations fall off one by one, until the master passion, Gain, engrosses you."	Scrooge's ex-fiancée (Belle) when she leaves him, because he is obsessed with 'Gain'.		
Remorse	Deep regret or guilt Callous An insensitive and cruel disregard for others	"Remove me!" Scrooge exclaimed. "I cannot bear it!"	Scrooge, just before extinguishing the ghost's light (he can't bear the truth).		
			Scrooge is more subdued when he meets the second ghost (Ghost of Xmas Present).		
Fate	The outcome of a situation for someone or something	<b>Stave Three Ghost of Christmas Present</b>	Scrooge entered timidly, and hung his head before this Spirit	Scrooge shows concern and sympathy for Tiny Tim.	
			"Oh no, kind Spirit! Say he will be spared"	The Ghost reminds Scrooge of his earlier words about decreasing the population of the poor. He compares Scrooge to an insect.	
			"I am sorry for him [...] Who suffers by his ill whims? Himself, always."	Fred discusses his Uncle Scrooge with the family.	
			Uncle Scrooge had imperceptibly become so gay and light of heart	Scrooge is delighted that his family even speak of him.	
Redemption	The action of saving or being saved from sin, error, or evil.	"This boy is ignorance. This girl is Want. Beware them both."	The ghost warns Scrooge with <b>personification / symbols</b> of mankind's faults.		
			Description of the man on the deathbed.		
Ignorance	Lack of knowledge or information	<b>Stave Four Ghost of Christmas Yet To Come</b>	plundered and bereft, unwatched, unwept, uncared for, was the body of this man	Scrooge's <b>ironic</b> statement about the dead man, before he realises that he is looking at himself.	
			Avarice, hard dealing, griping cares? They have brought him to a rich end, truly!	Scrooge asks the ghost if it too late for him to <b>transform</b> and alter his future.	
Want	A desire to possess or do (something); wish for	"Are these the shadows of the things that Will be, or are they the shadows of the things that May be only?"	Scrooge realises that his past behaviour will determine his future		
		"Men's courses will foreshadow certain ends"	Scrooge discards logic and is now carefree. He is a <b>transformed character</b> .		
Hoard	A store of money or valued objects, typically one that is secret or carefully guarded	<b>Stave Five</b>	"I don't know how long I have been among the Spirits. I don't know anything. I'm quite a baby."	He spreads good-will instead of fear and hatred.	
			Scrooge regarded everyone with a delighted smile.		

## Key Themes:

### Logic and Time

Scrooge's sense of logic is continually disrupted, helping to dismantle his cold and rational view of society. He initially dismisses the supernatural appearances, before then submitting to them. The ghosts are late to visit him, and then distort time as they seem to visit him all in one night – not over three nights as planned. This discarding of logic reflects Dickens' criticism of the heartless economic logic that was used to create the New Poor Law.

### Compassion, forgiveness and Reclamation

Dickens uses different characters to demonstrate compassion and forgiveness (Fred and Bob who feel pity for him) and how these people lead happy lives. In contrast, he shows the selfish nature of mankind in the dark and sinister Stave Four. Fred shows compassion and forgiveness in Stave Five by welcoming Scrooge in for Christmas.

### Poverty and Greed

Dickens wanted to highlight the plight of the poor in Victorian England, and how they are exploited by the greed of the wealthy. He used the harshness of winter to further emphasise this. He also uses Scrooge as a vehicle to show that financial wealth does not mean contentment. Scrooge is impoverished in other ways (family, friends, happiness).

### Isolation versus Family

We learn quickly that Scrooge ('solitary as an oyster') and Marley are isolated, and unhappy characters. Scrooge was Marley's 'sole friend and sole mourner'. The warmth and emotional richness of families (Bob Cratchit's, Fred's, his ex-fiancee's) are used as a contrast to Scrooge's self-determined isolation. The disruption to Scrooge's childhood family life may have also contributed to his future behaviour. The message may be that family is the cornerstone of a happy society

### Transformation

The novella contains many examples of transformation: the transformation of young Scrooge into an embittered old man; his transformation to a benevolent man; the transformation of Marley from selfish human to eternally suffering ghost; supernatural transformation; the transformation of the future – to save Scrooge and Tiny Tim. Dickens message may have been that it is never too late to change.

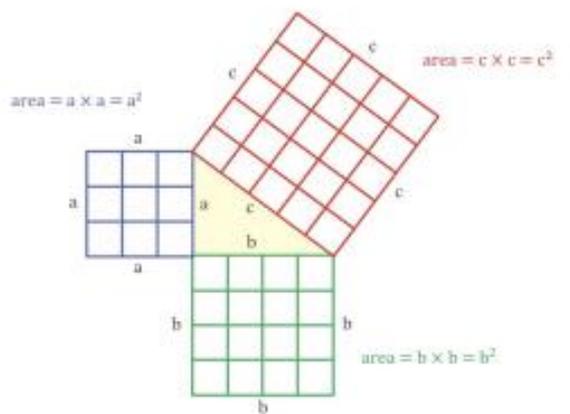
Section A: Key Vocabulary	
Pythagoras Vocabulary	Definition
Right angled triangle	A triangle in which one angle is a right angle
Square number	A number that results from multiplying an integer by itself
Square root	The inverse of squaring a number
Hypotenuse	The longest side in a right angled triangle.
Trigonometry Vocabulary	Definition
Trigonometry	The mathematical study of triangles.
ratio	Compares the size of one part to another part.
Sine (sin)	$\frac{\textit{opposite}}{\textit{hypotenuse}}$
Cosine (cos)	$\frac{\textit{adjacent}}{\textit{hypotenuse}}$
Tangent (tan)	$\frac{\textit{opposite}}{\textit{adjacent}}$
adjacent side	The side next to a named angle in a right-angled triangle, but not the hypotenuse.
opposite side	The side opposite to a named angle in a right-angled triangle, but not the hypotenuse.
SOHCAHTOA	An acronym for remembering how to use trigonometry in right-angled triangles. S, C and T represent the trigonometric functions sin, cos and tan. H, A and O represent the sides of the triangle.

**Section B: Pythagoras knowledge and examples**

Pythagoras theorem states that for any right-angled triangle:

$$a^2 + b^2 = c^2$$

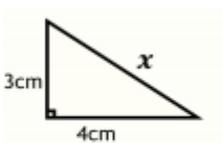
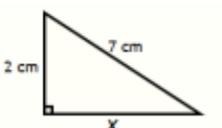
where c is the hypotenuse.



area = a x a = a<sup>2</sup>

area = b x b = b<sup>2</sup>

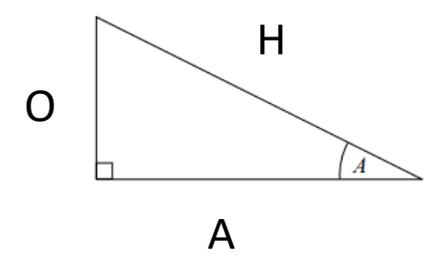
area = c x c = c<sup>2</sup>

<p>Find the missing length x in this triangle</p> 	$a^2 + b^2 = c^2$ In this case, x is the hypotenuse, so we substitute 3 and 4 in for a and b. $3^2 + 4^2 = x^2$ $9 + 16 = x^2$ $x^2 = 25$ $x = \sqrt{25} = 5$
<p>Find the missing length x in this triangle</p> 	$a^2 + b^2 = c^2$ In this case, x is one of the shorter sides, so we substitute 2 and 7 in for a and c. $2^2 + x^2 = 7^2$ $x^2 = 7^2 - 2^2$ $x^2 = 45$ $x = \sqrt{45} = 3\sqrt{5}$ (see next box)

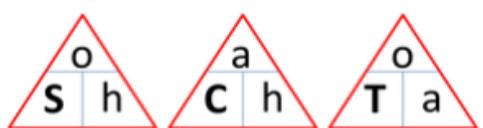
**Section C: Trigonometry knowledge and examples**

To find a missing side:

- Label the sides



- Decide which two sides to use
- Use SOHCAHTOA to decide which formula triangle to use.
- Substitute numbers into the formula triangle and calculate.



To find a missing angle use the same first four steps.

- Use the inverse function, either  $\sin^{-1}$ ,  $\cos^{-1}$  or  $\tan^{-1}$  to find the angle.

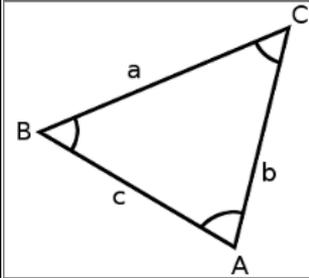
Exact values:

	0°	30°	45°	60°	90°
sin	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
cos	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
tan	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	Undefined

## Section A: Trigonometry in non-right-angled triangles

How should you properly label a triangle?

Label the sides using lowercase letters ( $a, b, c$ ). Label the angles using uppercase letters ( $A, B, C$ ). Angles and sides with the same letters must be opposite each other.



The Sine Rule: used to work out the remaining sides of a triangle when two angles and a side are known or when we are given two sides and a non-enclosed angle.

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

The Cosine Rule: -used to find a side from two sides and the included angle.

$$a^2 = b^2 + c^2 - 2bc \cos A$$

Or

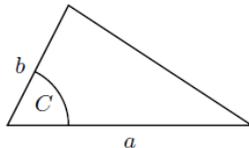
An angle when given the length of three sides.

$$A = \cos^{-1} \left( \frac{b^2 + c^2 - a^2}{2bc} \right)$$

What is the trigonometric formula for the area of a triangle?

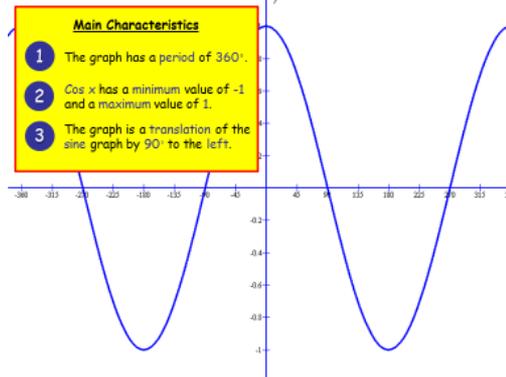
This diagram shows what information is needed.

$$\text{Area} = \frac{1}{2} ab \sin C$$

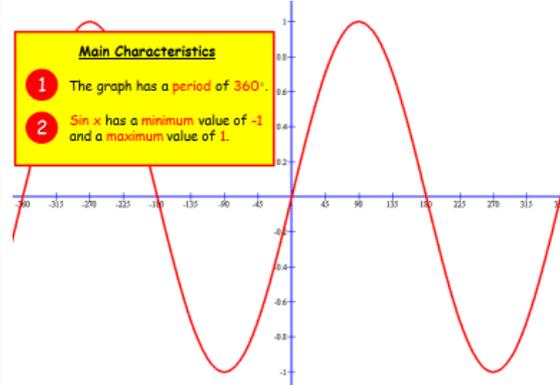


## Section B: Trigonometric Graphs

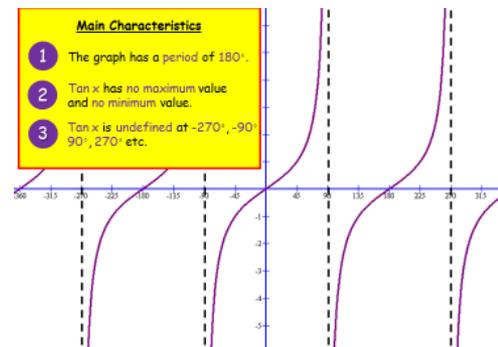
The graph of  $y = \cos x$



The graph of  $y = \sin x$



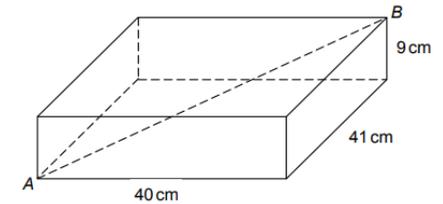
The graph of  $y = \tan x$



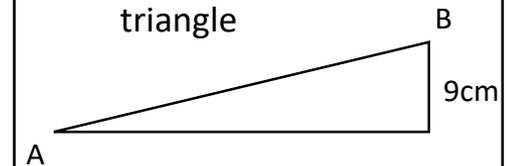
## Section C: Pythagoras in 3D

4 steps to solving problems in 3D:

1. Identify the right angled triangle



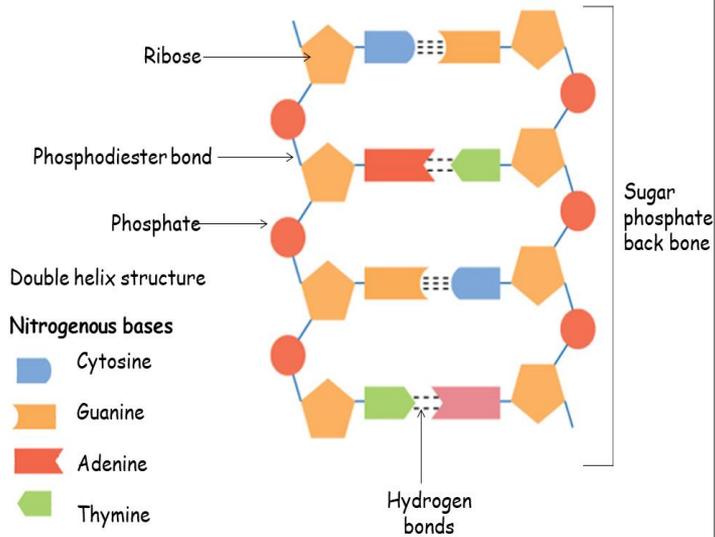
2. Re-draw and label the triangle



3. Work out which formula to use (add or subtract sides)

4. Calculate to 3 sig figs

### Section A: Structure of DNA



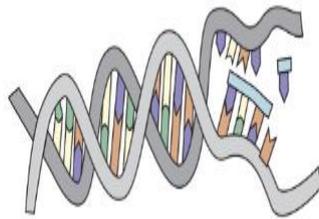
### Section B: Key Vocabulary

	Vocabulary	Definition
1	Chromosomes	Found in the nucleus of cells. Long threads of DNA
	Gene	Small section of DNA that codes for a particular sequence of amino acids to produce a characteristic
	Allele	A different version of a gene e.g. blue and brown eye colour alleles
	Protein	A chain of amino acids that carries out a function in the body
2	Mutation	A change in the sequence of DNA bases in a gene. This can change the number/order of amino acids and give the protein a different shape/function
	Gamete	A sex cell that contains half the chromosomes
	Genotype	The alleles that an organism has for a particular characteristic, usually written as letters
	Phenotype	The visible characteristics of an organism which occur as a result of its genes
	Dominant	An allele that always expresses itself whether it is partnered by a recessive allele or another like itself, usually written as a capital letter
	Recessive	An allele that is masked in the presence of a dominant allele and will only express its characteristics if partnered with another like itself, written as a lower case letter
	Heterozygous	Two alleles for a characteristic that are different e.g. an upper and lower case letter
	Homozygous	Two alleles for a characteristic that are identical e.g. two letters the same case
	Probability	The extent to which something is likely to be the case
Carrier	A person who has an allele for a disease but is not affected by the disease itself (heterozygous individual for a recessive disease)	

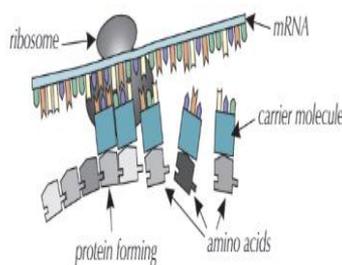
### SEPARATES ONLY

### Section C: Protein synthesis

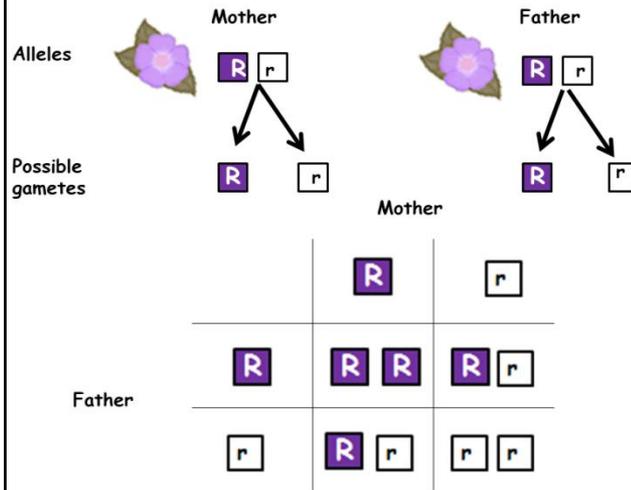
**Step 1: Transcription** – in the nucleus  
DNA unzips and complementary molecules called mRNA matches up against one strand of DNA to form a strand of mRNA which then moves out to the cytoplasm



**Step 2: Translation** – in a ribosome  
mRNA acts as a template and attaches to the ribosome. Amino acids are brought to the ribosome in the correct order and bonded together. The chain of amino acids twists and folds into a protein.



### Section D: Inheritance



### Section E: Inherited diseases

#### Cystic fibrosis

Caused by two recessive alleles and causes CF sufferers produce abnormally thick and sticky mucus making it difficult to breathe and block enzymes entering the small intestine

#### Polydactyly

Caused by at least one dominant allele which results in extra fingers/toes.

#### Genetic testing

Involves analysing a person's DNA to see if they carry alleles that cause genetic disorders. Can be done at any stage of life (including development in the womb)

Section A: Key Vocabulary	
Tier 2 Keywords	Definition
Atom	The smallest part of an element
State symbol	(l) For liquid, (g) for gas, (s) for solid and (aq) for a solution, used in symbol equations.
Atomic mass	Mass of an atom in grams.
Mass number	Mass of the protons and neutrons in an atom, added together in grams
Proton number	The number of protons in an atom, which is also the same as the number of electrons in an atom.
Balanced equation	An equation where the number and type of atoms are the same for both the reactants and products.
Molecular formula	A formula that shows the total number of the different kinds of atoms in a molecule.
Tier 3 Keywords	Definition
Titration	A method for measuring the amount of substance in a solution.
Percentage yield	The percentage of product formed in a chemical reaction compared with the maximum possible amount of product that could be formed.
Atom economy	The efficiency of a chemical reaction in terms of all of the atoms involved.
Pipette	Used to deliver a set volume of liquid accurately.
Burette	Used to deliver a variable volume of liquid accurately.
Moles	The relative formula mass of a substance in grams.

Section B: Titrations and calculations
<p><b>Titration</b></p> <ul style="list-style-type: none"> <li>• Titration is used to measure accurately how much alkali is needed to react completely with a known amount of acid (or vice versa).</li> <li>• The point at which an acid-base reaction is complete is called the end point of the titration.</li> <li>• A suitable indicator should be chosen to the end point of an acid-base titration.</li> <li>• Strong acid + strong alkali any indicator</li> <li>• Weak acid + Strong alkali use phenolphthalein</li> <li>• Strong acid + Weak alkali use methyl orange.</li> </ul>
<p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>• Number of moles = concentration x volume</li> <li>• Concentration units - mol/dm<sup>3</sup></li> <li>• Volume units - dm<sup>3</sup></li> <li>• Moles = Mass of substance(g)/ RFM</li> </ul> <p>E.g What mass of H<sub>2</sub>SO<sub>4</sub> is there in 250cm<sup>3</sup> of 1 mol/dm<sup>3</sup> sulfuric acid (H<sub>2</sub>SO<sub>4</sub>)?</p> <ul style="list-style-type: none"> <li>• Answer: In 1 dm<sup>3</sup> there would be 1 mole of H<sub>2</sub>SO<sub>4</sub> so 98g</li> <li>• In 1000cm<sup>3</sup> there would be 98g H<sub>2</sub>SO<sub>4</sub></li> <li>• So in 1cm<sup>3</sup> there would be 98/1000g</li> <li>• So in 250cm<sup>3</sup> = 98 x 250/1000</li> <li>• = 24.5 g H<sub>2</sub>SO<sub>4</sub></li> <li>• There is 24.5g of H<sub>2</sub>SO<sub>4</sub> in 250cm<sup>3</sup> of 1 mol/dm<sup>3</sup> of sulfuric acid.</li> </ul>

Section C: Percentage yield and atom economy
<ul style="list-style-type: none"> <li>• The yield of a chemical reaction describes how much product is made.</li> <li>• The percentage yield of a chemical reaction tells us how much product is made compared with the maximum amount that could be made (100%).</li> <li>• Factors affecting the yield of a chemical reaction include product being left behind in the apparatus and difficulty separating the products from the reaction mixture.</li> <li>• It is important to maximise atom economy to conserve resources and reduce pollution.</li> </ul>
Section D: Concentration and volumes of gases
<p><b>Volumes of gases</b></p> <ul style="list-style-type: none"> <li>• Equal amounts in moles of gases occupy the same volume under the same conditions of temperature and pressure.</li> <li>• The volume of one mole of any gas at room temperature and pressure (20<sup>o</sup> C and 1 atmosphere pressure) is 24 dm<sup>3</sup></li> <li>• The volume of gaseous reactants and products can be calculated from the balanced equation for the reaction.</li> </ul> <p><b>Calculating the concentration</b></p> <ul style="list-style-type: none"> <li>• Concentration = number of moles/ volume (dm<sup>3</sup>)</li> <li>• Units: mol/dm<sup>3</sup> Or</li> <li>• Concentration = mass of substance/ volume (dm<sup>3</sup>)</li> <li>• Units: grams/dm<sup>3</sup></li> </ul>

### Section A: Key Vocabulary

<b>Magnetic field</b>	The region around a magnet where a force acts on other magnets or on magnetic materials. The <b>closer the lines</b> , the <b>stronger the magnetic field</b> .
<b>Permanent magnet</b>	A magnet that always has its own magnetic field.  Attracts magnetic materials, and can attract or repel other magnets
<b>Induced magnet</b>	A material that becomes magnetic when introduced to a magnet.
<b>Poles</b>	The ends of a magnet.  Named north and south, based on which way on Earth they'd point if suspended freely. The other name is 'north seeking' or 'south seeking' as a result.
<b>Solenoid</b>	A coil of wire
<b>Electromagnet</b>	A coil of wire with an iron core
<b>Compass</b>	A small magnet that aligns with the Earth's magnetic field.
<b>Current</b>	The rate of flow of electric charge.
<b>Tesla</b>	The unit of magnetic field strength

### Section B – Magnets basics

The **magnetic force** is strongest near the magnet's poles.



#### The rules of magnetism

- **Like** poles (N-N or S-S) **REPEL**
- **Opposite** poles (N-S or S-N) **ATTRACT**

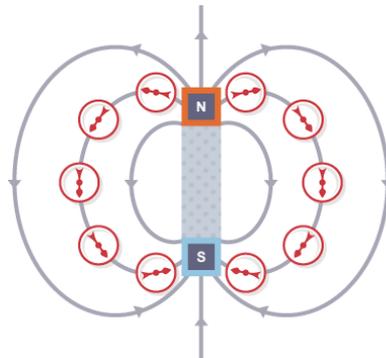
Magnetic forces are **non-contact forces** - this means that magnets affect each other without touching.

Magnets always ATTRACT magnetic materials: **IRON, NICKEL, COBALT** and **STEEL**.

### Section C- Plotting a magnetic field

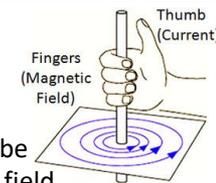
Magnetic fields can be mapped out using small **plotting compasses**:

1. Place the plotting compass near the magnet on a piece of paper.
2. Mark the direction the compass needle points.
3. Move the plotting compass to many different positions in the magnetic field, marking the needle direction each time.
4. Join the points to show the field lines.
5. The needle of a plotting compass points to the south pole of the magnet.

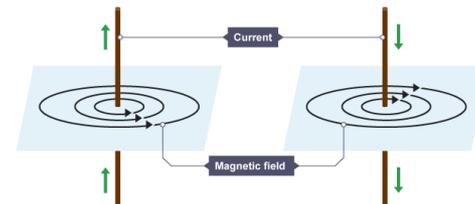


### Section D- Current and Magnetism

When a current flows through a wire, a circular magnetic field is produced around the wire.

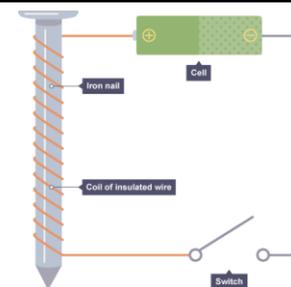


The **RIGHT HAND GRIP RULE** can be used to show the direction of the field.



### Section E- Electromagnets

An electromagnet can be made by wrapping a solenoid (coil of wire) around an iron core.

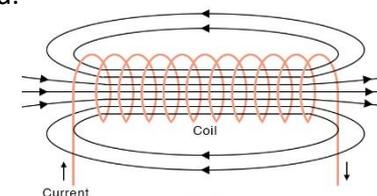


The strength of an electromagnet can be changed by:

- Increasing the current in the wire
- Increasing the number of coils

Advantages of electromagnets over permanent magnets:

- They can be turned on and off.
- The strength of the magnetic field can be varied.



### Section A: Key Vocabulary

<b>Nebula</b>	Cloud of dust and gas from which stars are made.
<b>Gravity</b>	A force that acts on an object <u>towards the centre of the more massive object</u>
<b>Radiation pressure</b>	The outward pressure produced by nuclear fusion that balances gravity in main sequence stars.
<b>Nuclear Fusion</b>	The process of light nuclei combining to releases energy in a star.
<b>Dwarf Planet</b>	An celestial body that doesn't meet the criteria to be classed a planet e.g. irregular orbit.
<b>Orbit</b>	A path an object takes around another
<b>Satellite</b>	Any object which orbits another. These could be natural or artificial.
<b>Centripetal force</b>	The force that acts <b>towards the centre</b> of the circle for a body that follows a curved path.
<b>Scientific theories</b>	A model that Scientists use to explain their observations.  Scientists <b>update their models</b> when there is <b>new evidence</b> which <b>cannot be explained by the old model</b> .



### Section B: Solar System

Our Solar system consists of:

- One star (the Sun)
- Eight planets, which orbit the Sun
- Dwarf planets e.g. Pluto
- Natural satellites: the moons that orbit some of the planets (including our moon);
- Other objects like asteroids and comets.

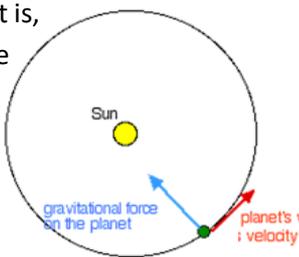


Our Solar system is a very small part of the Milky Way galaxy. Galaxies consist of millions of stars, held together by their gravitational attraction to one another.

### Section C: Orbits

If an object is travelling in circle, it is constantly changing direction which means its constantly accelerating. This means it's velocity is also changing causing a force directed towards the centre.

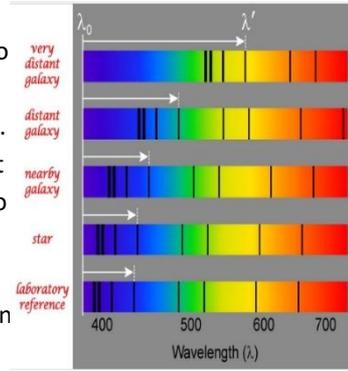
The closer to a massive object (e.g. Star/Planet) an object is, the stronger the force and the faster the object need to travel to remain in orbit.



### Section D: Stars and Red shift

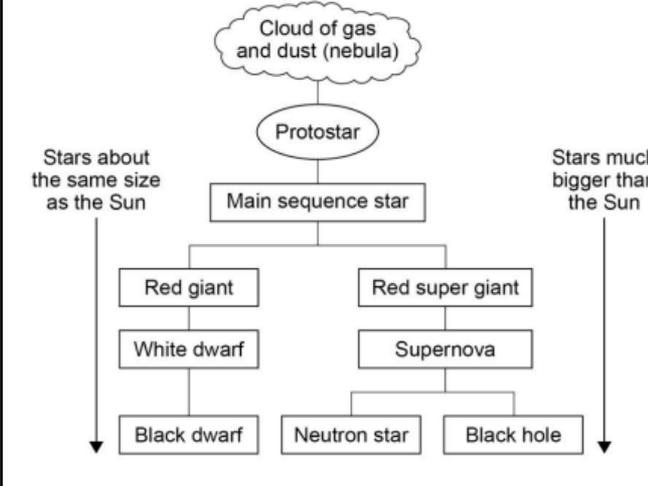
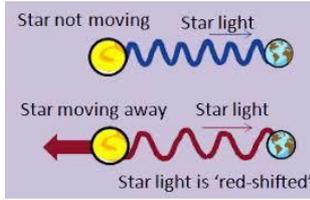
The Big bang theory is the currently accepted theory for the origin of the universe based on the observations we have.

- The universe appears to be expanding and galaxies appear to be moving away.
- The light from the most distant galaxies' appears to be 'red shifted'.
- More distant galaxies have greater red shifts than nearer ones.
- This suggest the universe in expanding.



### Star life cycles

Depending on the initial mass of the star, the star will pass through specific stages (as shown below).



Elizabeth Key Vocabulary	
<b>Treason</b>	An attempt to kill or overthrow a monarch or betray the country; punishable by death.
<b>Royal Court</b>	The nobles, advisors and others who surrounded the monarch.
<b>Parliament</b>	Country's law making body.
<b>Succession</b>	To take over the throne.
<b>Taxation</b>	Money paid by ordinary people to fund the government or monarch.
<b>Foreign Policy</b>	Decisions made about England's interaction with other countries
<b>Privy Council</b>	A monarch's private counsellors
<b>Justices of the Peace</b>	Members of the gentry who were given responsibility in a local area.
<b>Lord Lieutenants</b>	Members of the nobility who were given responsibility over local areas.
<b>Gentry</b>	High social class ranked below the nobility.
<b>Nobility</b>	The earls, dukes, lords and ladies. They owned most of the land in England.
<b>militia</b>	A non-professional army raised to fight for a particular cause.
<b>William Cecil</b>	Served as Secretary of State twice in Elizabeth's government.
<b>Francis Walsingham</b>	Served as Secretary of State. He was known as Elizabeth's 'spymaster'.
<b>Patronage</b>	Land, titles or power given to ensure an individual's support
<b>Monopolies</b>	The exclusive rights to trade in a particular product.

Elizabeth Key Knowledge	
<b>How did Elizabeth rule England?</b>	
<b>Parliament</b> – granted taxes and responsible for passing laws.	
<b>Privy Council</b> – Day-to-day running of the country. Council was led by the Secretary of State.	
<b>Justices of the Peace</b> – JPs – One in each county. Selected from the gentry. Main role was enforce laws passed by parliament.	
<b>Lords Lieutenants</b> – appointed by the queen. Collected taxes and settled disputes in a particular area. Responsible for raising militia. Position of great power and influence.	
<b>What were Elizabeth's problems?</b>	
<b>Succession</b> – Elizabeth needed to marry and produce an heir to the throne.	
<b>Mary, Queen of Scots</b> – She was next in line to the throne. From 1568 she was in England and was a focus of plots against Elizabeth.	
<b>Ireland</b> – Elizabeth believed herself Queen of Ireland but many in Ireland disagreed.	
<b>Religion</b> – Elizabeth had to decide what religion England would be. She was a Protestant. She was targeted by both the Catholics and the Puritans.	
<b>Foreign Policy</b> – France and Spain were Catholic and had the support of the Pope against Elizabeth, Netherlands was a major concern as it was important to English trade.	
<b>Taxation</b> – The government needed money but taxes were unpopular at a time when many lived in poverty.	
Marriage: For? Against?	
For	Against
Create an alliance Produce an heir Children would stop Mary Queen of Scots inheriting the throne.	Foreign marriage: Losing control of England English marriage: Lose authority Giving birth was risky and often resulted in the death of the mother Her sister's marriage had been seen as a disaster.



**19 noblemen**

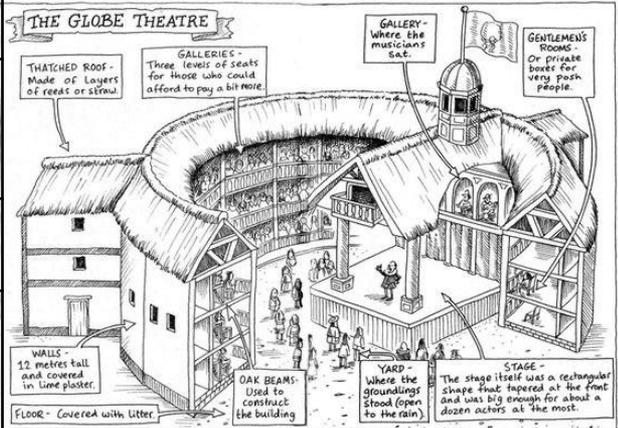
**Advise not control**

**The Privy Council**

**Domestic and foreign issues**

**Met every day**

Elizabeth Key Dates	
<b>1533</b>	Elizabeth born
<b>1554</b>	Elizabeth is imprisoned in the tower suspected of plotting against Mary I.
<b>1558</b>	Elizabeth becomes Queen Elizabeth I.
<b>1562</b>	Elizabeth nearly died of smallpox
<b>1568</b>	Mary Queen of Scots was exiled from Scotland and fled to England.

Elizabeth Key Vocabulary		Elizabeth Key Knowledge	Elizabeth Key Knowledge
<b>Gloriana</b>	Elizabeth was presented as successful and advanced and this was known as Gloriana.	<b>Why was theatre popular?</b> Elizabeth loved the theatre although only saw plays at court. Nobility liked to be patrons of the theatre – they could show how cultured they were. Ordinary people the theatre offered cheap entertainment.	<b>What did Elizabethans achieve?</b> <b>Art</b> – Portraits were popular including miniature portraits <b>Exploration</b> – Drake circumnavigated the world. Hawkins discovered new lands. <b>Theatre</b> – Very popular. Many theatres built and plays written. <b>Buildings</b> – Many stately homes were built. <b>Literature</b> – Shakespeare among others! <b>Education</b> – Increasingly important. <b>Science and Technology</b> – Breakthroughs in navigation and printing. <b>Peace</b> – Elizabeth established peace in England.
<b>The Great Chain of Being</b>	A phrase to describe the structure of society from God down to non-living things.		
<b>Renaissance</b>	The revival of European art and literature under the influence of classical civilisations in the 14 <sup>th</sup> to 16 <sup>th</sup> centuries.	<b>Why was there opposition to the theatre?</b> Seen as sinful by some Dangerous – drunks, crime and other immoral behaviour Large gatherings spread disease Puritans wanted the theatre closed completely	<p style="text-align: center;">Elizabeth Key Knowledge</p> <b>Why was Elizabethan exploration successful?</b> Higher quality ships New lanteen (triangular) sails – faster and easier to steer Improved defences and weapons made sailing through hostile waters safer Advances in navigation – Astrolabe and better compasses
<b>Patron</b>	Someone who funds the work of an artist or performing group.		
<b>Lanteen</b>	A triangular sail which English sailors adopted making their ships faster and more manoeuvrable.		<b>What was the impact of Elizabethan exploration?</b> Increased Elizabeth's income Increase in English naval power Increased international trade – Muscovy Company with Russia 1555, Eastland Company with Scandinavia 1579, Levant Company with Turkey and the Middle East 1581, East India Company with India 1600. Development of the English involvement in the Slave Trade Beginning of empire – established colonies – Walter Raleigh Roanoke
<b>Astrolabe</b>	An instrument used to pinpoint your location using the stars.		
<b>Roanoke</b>	A colony established by Raleigh in America. The colony failed after it mysteriously disappears.		



**Key exploration**  
Set up a colony on Roanoke Island

**Key impact**  
Colonisation of North America

Walter Raleigh



**Key exploration**  
Circumnavigated the globe

**Key impact**  
Piracy against the Spanish

Francis Drake



**Key exploration**  
African slave trader

**Key impact**  
Developed better fighting galleons

John Hawkins

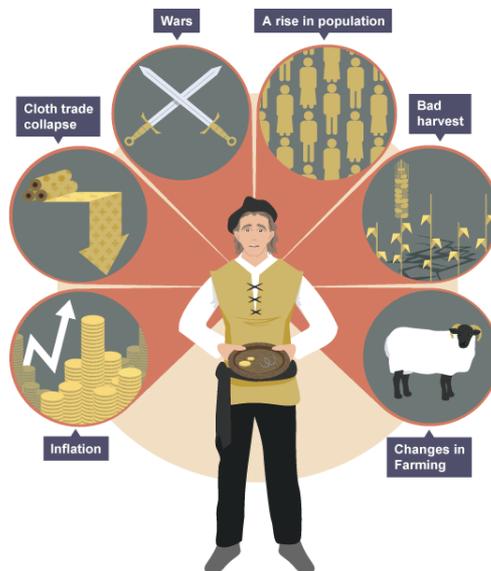
Elizabeth Key Vocabulary	
<b>Vagrants</b>	A person without a settled home or work who wanders and lives by begging.
<b>Gentry</b>	High social class ranked below the nobility.
<b>Nobility</b>	The earls, dukes, lords and ladies. They owned most of the land in England.
<b>Deserving poor</b>	Those who were able to work and wanted to find work but could not find work
<b>Undeserving poor</b>	Those who were able to work but refused to.
<b>Almshouses</b>	House built to provide accommodation for those in need.
<b>Bedlam</b>	A hospital built in London to house those who were mentally ill.
<b>Bridewell Place</b>	A shelter built in London to house the homeless.
<b>Houses of Correction</b>	A type of prison for those who refused to work.

### Almshouses built in Stamford by William Cecil



## Elizabeth Key Knowledge

### Why was poverty increasing?



### How did the rich demonstrate their wealth?

- Nobility**
- born into this group or awarded title from the monarch
  - Protected from torture and never hanged.
  - held large amounts of land
  - Very rich
- Gentry**
- also owned land
  - Live on rents not manual labour
  - JPs and MPs

- Shown wealth through:
- Building houses
  - Food – lots of meat, wine and sugar
  - Fashion – white faces (not worked outside), white ruff (difficult to keep clean shows you have staff)

## Elizabeth Key Knowledge

### How did Elizabeth tackle poverty?

- Poor divided into two groups – deserving poor and undeserving poor.
- 1572 Vagrancy Act – Vagrants can be punished by whipping and ear boring.
- 1576 Vagrancy Act** – placed responsibility for finding work for the poor in the hands of local authorities and set up Houses of Correction.
- Towns developed different ways to help the poor:
- London – Shelter built for the homeless, Bedlam built for the mentally ill
- York – created a license system for beggars, houses of correction a prison for those who refused to work.
- Ipswich – Opened a hospital which looked after the sick and old who could not afford treatment. Youth training to help children learn a trade.
- Norwich – taxed its rich citizens to pay for care.
- 1601 Poor Law** - built on the examples from towns.
1. Wealthy taxed to pay for care and support of the vulnerable poor.
  2. Fit and health poor to be given work
  3. Those who refused work were whipped and sent to a House of Correction.

### Elizabeth Key Dates

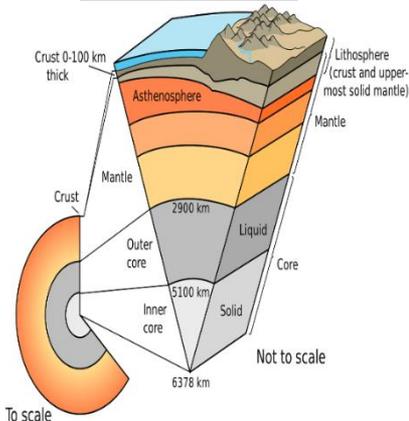
<b>1572</b>	Vagrancy Act
<b>1576</b>	Vagrancy Act
<b>1577</b>	William Harrison publishes his book about the poor.
<b>1597</b>	William Cecil builds Almshouses in Stamford
<b>1600</b>	Poor Law Act

## Section A: Key Vocabulary

<b>Andesitic lava</b>	A thick and sticky lava erupted from composite volcanoes.
<b>Asthenosphere</b>	Part of the Earth's mantle. It is a hot, semi-molten layer that lies beneath the tectonic plates.
<b>Collision zone</b>	Where two tectonic plates collide – forming mountains like the Himalayas.
<b>Composite volcano</b>	A steep-sided volcano that is made up of a variety of materials, such as lava and ash.
<b>Conservative boundary</b>	Where two tectonic plates slide past each other.
<b>Continental crust</b>	The part of the Earth's crust that makes up land, on average 30-50km thick.
<b>Convection currents</b>	Transfer heat from one part of a liquid or gas to another.
<b>Divergent boundary</b>	Where two tectonic plates move away from each other.
<b>Epicentre</b>	The point on the ground directly above the focus (centre) of an earthquake.
<b>Global circulation model</b>	A theory that explains how the atmosphere operates in a series of three cells each side of the equator.
<b>Greenhouse effect</b>	The way that gases in the atmosphere trap heat from the sun. Like the glass in a greenhouse – they let heat in, but prevent most of it from escaping.
<b>Inter-Tropical Convergence Zone (ITCZ)</b>	A narrow zone of low pressure near the Equator where northern and southern air masses converge.
<b>Milankovitch cycles</b>	The three long-term cycles in the Earth's orbit around the sun.
<b>Radioactive decay</b>	The process where natural radioactive materials in the Earth's rocks break down, giving out energy and heat as they do.
<b>Storm surge</b>	A rapid rise in the level of the sea caused by low pressure and strong winds.
<b>Subduction</b>	Describes oceanic crust sinking into the mantle at a convergent plate boundary. As the crust subducts, it melts back into the mantle.
<b>Tectonic hazards</b>	Natural events caused by movement of the Earth's plates that affect people and property.
<b>Tsunami</b>	Earthquakes beneath the sea bed generate huge waves that travel up to 900km/h.

## Section B: Key Concepts – Tectonic Hazards

### Structure of the Earth



### Plate Tectonics

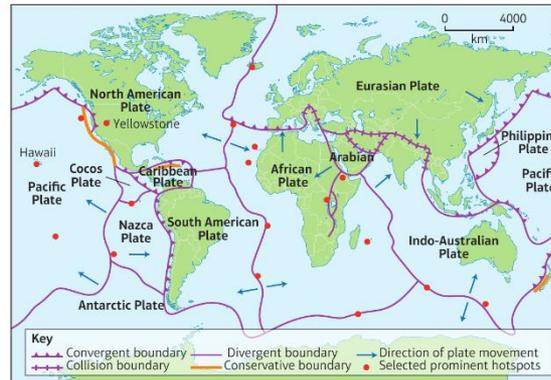
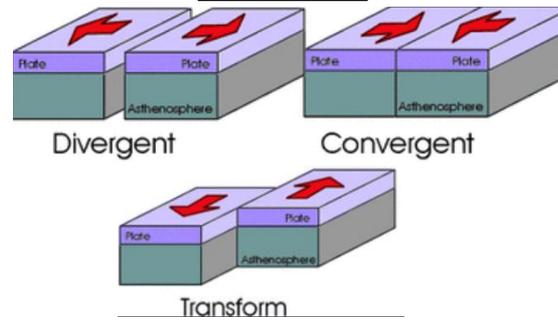


Figure 2 Global distribution of tectonic plates, boundaries and hotspots

### Plate Boundaries



## Section C: Tectonic Hazards

### Types of volcanoes

Volcanoes are formed when molten rock from a magma chamber inside the Earth erupts through a vent in the lithosphere. There are two main types of volcanoes:

**Composite volcanoes**—These are formed along convergent plate boundaries. They are steep sided, tall and conical shaped with a narrow base. They are made of alternate layers of ash and lava. Eruptions tend to be infrequent but violent, as the vent becomes blocked with lava so pressure builds up. During explosive eruptions the lava shatters into pieces producing, lava bombs and very hot flows of gas (pyroclastic flows).

**Shield volcanoes**—These are formed along divergent plate boundaries and over hotspots. They are gently sloping domes with a wide base. Eruptions tend to be frequent but gentle. Whilst lava flows destroy property and crops they rarely kill people.

**Hotspots**— These are volcanoes that are formed away from plate boundaries. They are formed by a 'plume' of superheated rock (not magma) rising slowly through the mantle. Once it reaches the upper mantle, it causes the asthenosphere and base of the lithosphere to melt.

### Earthquakes

Earthquakes are intense vibrations within the Earth's crust that make the ground shake. They are sudden events.

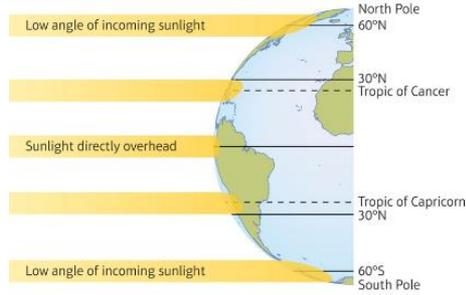
At a **convergent plate** boundary great stresses build up in the **subduction zone** as the edge of one plate sinks below the other.

Energy builds up until the **rock fractures** along a **fault** and the energy is released. The point of rupture is called the **focus**. Shockwaves or **seismic waves** radiate out from this point. These make the earth shake.

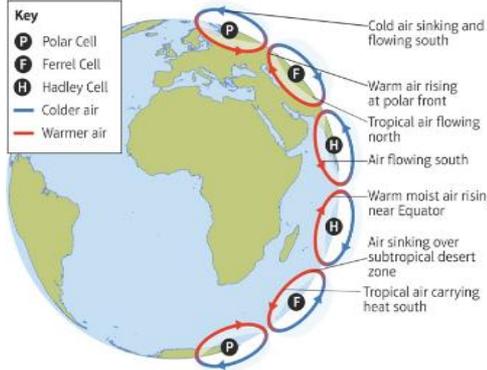
The **epicentre** is the point on the ground surface directly above the **focus**. Earthquakes also occur along conservative and divergent plate boundaries. They are caused as the plate moves and get stuck.

## Section D: Key concepts – Atmospheric Hazards

### Global Atmospheric Circulation



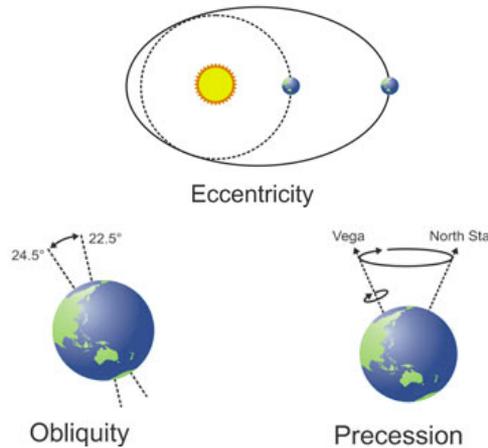
### Global Atmospheric Circulation (2)



- As the earth is roughly spherical, more solar radiation is received at the Equator, the hottest part of the Earth's surface. This means the poles are the coldest as they receive the least solar radiation as there is a larger distribution area and the radiation has travelled further and lost heat along the way.
- Winds are caused when the air moves from a high (air sinks) to low (air rises) pressure. However, because the Earth rotates, the air does not flow in a straight line, so winds flow in a curved path called the CORIOLIS EFFECT. In the Northern Hemisphere winds are deflected to the right and in the Southern Hemisphere to the left.
- JET STREAMS can also have an impact on air movement. Jet Streams form mostly at the boundaries of the main circulation cells (e.g. at the boundary of the Polar Cell and the Ferrel Cell) where there is a significant temperature difference. These are high winds that occur. These streams can affect the movement of other weather systems and can therefore change the weather for different areas.

## Section E: Key Concepts – Causes of Climate Change

### Milankovitch Cycles

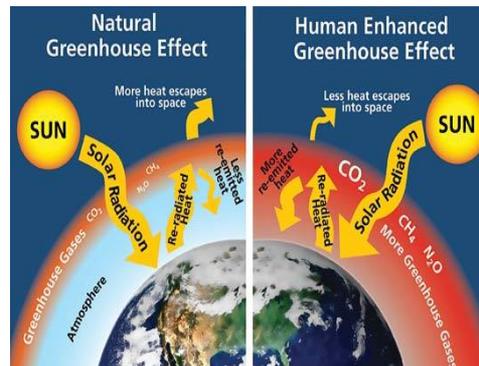


Other natural causes of climate change:

**Solar variation** - The amount of radiation the Sun produces varies over time. Periods of lower solar activity are likely to lead to glacial periods and those with higher activity to lead to interglacial periods.

**Volcanism** - Large-scale volcanic eruptions can eject huge volumes of ash and dust into the atmosphere. Some eruptions produce so much that the volcanic material partially blocks out solar radiation, reducing global temperatures and causing cooler periods.

### The Enhanced Greenhouse Effect

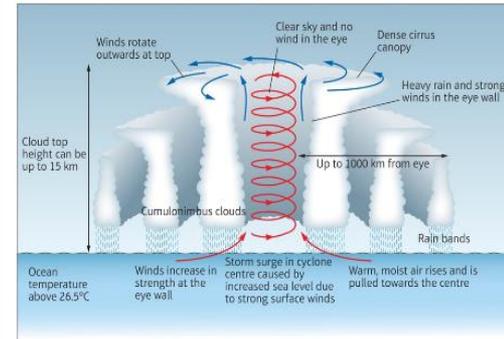


## Section F: Tropical Storms

### Formation of a tropical storm

#### Formation

- High sea temperatures (above 26.5°C) cause air to rise in a low pressure system. The rising air creates thunderstorms which group together, creating a strong flow of warm, rapidly rising air.
- As well as this several other conditions are needed for the low pressure system to become a full tropical cyclone:
- Time of year (season) when ocean temperatures are higher
- Winds converging at the ocean surface causing the air to rise
- Formation away from the Equator so Coriolis can take effect
- As the storm rotates winds accelerate inwards and upwards, making the depression stronger and forming an eye.



**Dissipation** – when cyclones lose their energy and decrease in intensity due to:

- When it reaches land it loses the fuel for energy (warm water)
- When it moves to an area of cold water (below 26 degrees)
- When it runs into another weather system where the wind is blowing in an opposite direction.

### Section A – Key vocabulary

**Contribuir** = to contribute  
**Ayudar** = to help  
**Trabajar (como voluntario)** = to work (as a volunteer)  
**Mejorar** = to improve  
**Organizar** = to organise  
**Participar** = to participate  
**Donar** = to donate  
**Recaudar dinero/fondos** = to raise money  
**Ser voluntario/a** = to be a volunteer  
**Hacer trabajo benéfico** = to do volunteer work  
**Una organización benéfica** = a charitable organisation  
**Una obra benéfica** = a charity  
**Una residencia de ancianos** = an old people's home  
**Un grupo ecologista** = an environmental group  
**Un banco de alimentos** = a food bank  
**Una tienda con fines benéficos** = a charity shop  
**La tienda solidaria** = charity shop  
**Los 'sin techo'** = the homeless  
**Un voluntario** = a volunteer  
**Un comedor social** = a soup kitchen  
**Los necesitados** = people in need  
**Voluntario** = voluntary

### Section B – Key 'I' verbs from vocab list

**Contribuyo** = I contribute  
**Ayudo** = I help  
**Trabajo (como voluntario)** = I work (as a volunteer)  
**Mejoro** = I improve  
**Organizo** = I organise  
**Participo** = I participate  
**Dono** = I donate  
**Recaudo dinero/fondos** = I raise money  
**Soy voluntario/a** = I am a volunteer  
**Hago trabajo benéfico** = I do volunteer work

### Section C – Key questions

**¿Quieres ser voluntario?** = Do you want to be a volunteer?  
**¿Trabajas como voluntario?** = Do you work as a volunteer?  
**¿Qué haces?** = What do you do?  
**¿Quieres ser voluntario en el futuro?** = Do you want to be a volunteer in the future?  
**¿Qué harás?** = What will you do?  
**¿Te gustaría ayudar?** = Would you like to help?

### Section D – Me gustaría

**Me gustaría** means 'I would like' or 'I'd like'. You add an **infinitive verb (AR, ER, IR)** to say something about the future.  
*E.g. Me gustaría ayudar = I would like to help.*

### Section E – Verbs followed by the infinitive

These verbs are all followed by an infinitive verb (AR, ER, IR).

Subject	Poder = to be able to	Querer = to want	Pensar = to think about	Ir a = going to
Yo	Puedo	Quiero	Pienso	Voy a
Tú	Puedes	Quieres	Piensas	Vas a
Él/Ella/Usted	Puede	Quiere	Piensa	Va a
Nosotros	Podemos	Queremos	Pensamos	Vamos a
Vosotros	Podéis	Queréis	Pensáis	Vais a
Ellos/Ellas/Ustedes	Pueden	Quieren	Piensan	Van a

### Section F – Volunteering opinions frame

Me gusta...	...hacer trabajo de voluntario... ...to do voluntary work...	...porque... ...ya que...	...es... ...it is... ...lo encuentro... ...i find it...	...emotivo. <i>emotional.</i> ...divertido. <i>fun.</i> ...gratificante. <i>rewarding.</i> ...satisfactorio. <i>satisfying.</i> ...útil. <i>useful.</i> ...emocionante. <i>exciting.</i>
Me encanta... ...	...ser voluntario... ...to be a volunteer...	...puesto que... ...dado que...	...vale la pena. ...it's worth it.	...la gente. ...the people. ...los dones. ...the donations.
		because of... ...a causa de... ...gracias a ...		

### Section G – Star phrase

To say how long you've been a volunteer use '**desde hace**' with the **present tense**. *E.g. I have been a volunteer for 4 years. = Soy voluntario desde hace cuatro años.*

### Pronunciation tips:

← pu = 'pw'  
 ← qui = 'key'  
 ← va = 'ba'  
 ← er = 'air'

## Section A – Key vocabulary

**Contribuir** = to contribute  
**Ayudar** = to help  
**Trabajar (como voluntario)** = to work (as a volunteer)  
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Pronunciation tips:

pu = pw  
 qui = key  
 va = ba



## Section D – Me gustaría

**Me gustaría** means 'I would like' or 'I'd like'. You add an infinitive verb (AR, ER, IR) to say something about the future. You can also use 'quisiera' which means 'I would like' or 'I'd like'. You also follow this with an infinitive verb.

*E.g. Me gustaría ayudar = I would like to help.*

*Quisiera ayudar = I would like to help.*

## Section E – Conditional tense

The conditional tense is used to say what you 'would' like to do in the future. The 'would' part is attached the end of the infinitive verb. Here are the endings and a few irregular verbs.

Subject	ENDINGS	hacer = to do	tener = to have	Deber = should
Yo	ía	haría	tendría	debería
Tú	ías	harías	tendrías	deberías
Él/Ella/Usted	ía	haría	tendría	debería
Nosotros	íamos	haríamos	tendríamos	deberíamos
Vosotros	íais	haríais	tendríais	deberíais
Ellos/Ellas Ustedes	ían	harían	tendrían	deberían

## Section B – Higher vocabulary

**La ONG** = NGO (non-governmental organisation = charity)  
**Los primeros auxilios** = first aid  
**El propósito** = aim  
**Dedicar(se)** = to be dedicated  
**El esfuerzo** = effort  
**La SIDA** = HIV  
**Seropositivo** = HIV positive  
**Provocar** = to provoke

## Section F – Key questions

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**¿Qué haces?** = What do you do?  
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**¿Qué harás?** = What will you do?  
**¿Te gustaría ayudar?** = Would you like to help?  
**¿Qué harías si fueras voluntario?** = What would you do if you were a volunteer?  
**¿Cuánto dinero darías a obras benéficas si tocaras la lotería?** = How much money would you give to charities if you won the lottery?

## Section F – Star phrase

To say how long you've been a volunteer use 'desde hace' with the present tense. *E.g. I have been a volunteer for 4 years. = Soy voluntario desde hace cuatro años.*

Section A – Key vocabulary
Los necesitados = people in need
Los 'sin techo' = the homeless
Me hace falta = I need/I'm missing
Me falta = I need/I'm missing
Necesito = I need
Busco = I'm looking for/searching for
La libertad = freedom
Un sitio/lugar = a place
Trabajo = work/job
Zapatos = shoes
Ropa = Clothing
Desempleo = unemployment
El subsidio = benefits (receiving money)
Gobierno = government
Hogar = home
Cárcel = prison
Un ladrón = a thief
Robar = to rob
Violento = violent
Un vertedero = a large bin
Maltratar = to mistreat
La calle = the Street
La vida = life
Drogarse = to do drugs
La alimentación = food
La creencia = a belief
Culpa = blame
A favor = in favor
En contra = against
Vivienda = housing
El gamberro = a hooligan
la pobreza = poverty

Section B – Key questions
¿Qué opinas de los necesitados? = What do you think about people in need?
¿Qué piensas de los 'sin techo'? = What do you think of homeless people?
¿Qué se debe hacer? = What must be do?
¿Qué se puede hacer? = What can we do?

Section C – Algo and alguien
Algo means 'something' or 'anything'. Alguien means 'someone' or 'somebody' or 'anybody'. As there words do not refer to a specific person, they do not change between masculine and feminine. You don't use these words in negative sentences. Use 'nada' to say you haven't got anything – e.g. No tengo nada. = I don't have anything. Use 'nadie' to say you don't know anyone – e.g. No conozco a nadie. = I don't know anyone.

Section D – Se puede, se debe and se necesita		
These verbs are really useful sentence starters for all topics. They all express the idea of 'one' but we would normally translate this as 'you' when we mean people in general.		
English	Spanish	Example sentence
Se puede	You/One can	No se puede dormir aquí. = You cannot sleep here.
Se debe	You/One must	Se debe hacer algo para mejorar esta situación. = Something must be done to improve this situation.
Se necesita	...is needed...	Se necesita más dinero para ayudar a los necesitados. = More money is needed to help those in need.

Section E – Homelessness opinions frame				
Creo que...			...because	...necesitan ropa.
Pienso que...		...ayudarles	...	...les hace falta agua.
Me parece que...	...deberíamos	...help them...	...porque...	...les hacen falta amigos.
En mi opinión	...	...darles dinero...	...ya que...	...no reciben el subsidio de desempleo
A mi modo de ver...	...we should...	...give them money...	...dado que...	...están enfermos.

Section F – Star phrase
Use 'merece/vale la pena' to say 'it's worth it' or 'he/she deserves it'. E.g. Ayudar a los 'sin techo' vale la pena. = Helping the homeless is worth it.

### Section A – Key vocabulary

**Los necesitados** = people in need  
**Los ‘sin techo’** = the homeless  
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English	Spanish	Example sentence
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### Section B – Higher vocabulary

**El agua corriente** = running water  
**La criminalidad** = crime  
**cualquier** = any  
**empleo** = job  
**estar en paro** = to be unemployed  
**éxito** = success  
**el indice** = the rate  
**llenar** = to fill  
**el propietario** = the owner  
**vaciar** = to empty

### Section C – Key questions

**¿Qué opinas de los necesitados?** = What do you think about people in need?  
**¿Qué piensas de los ‘sin techo’?** = What do you think of homeless people?  
**¿Qué se debe hacer?** = What must be do?  
**¿Qué se puede hacer?** = What can we do?

### Section F – Conditional tense

You can use ‘**me preocupa que**’ with the subjunctive mood to really show off your Spanish knowledge. Here are some useful subjunctive verbs and example sentences in Spanish to help you.

	Subjunctive verb	Example sentence
Me preocupa que...	haya	<i>Me preocupa que haya tanta pobreza en el mundo. = It worries me that there is so much poverty in the world.</i>
Me molesta que...	sea	<i>Me molesta que el servicio de salud sea tan malo. = It annoys me that the health service is so bad.</i>
Me fastidia que...	sean	<i>Me fastidia que los autobuses sean tan lentos. = It annoys me that the buses are so slow.</i>

### Section G – Star phrase

Use ‘**merece/vale la pena**’ to say ‘it’s worth it’ or ‘he/she deserves it’. E.g. *Ayudar a los ‘sin techo’ vale la pena. = Helping the homeless is worth it.*

# FRENCH Foundation – Homelessness

Section A - Vocabulary	Section B – Key questions	Section C – The imperative																		
<p>le chômage = unemployment  <b>Combattre</b> = to fight  <b>Construire</b> = to build  <b>Donner</b> = to give  <b>Dormir</b> = to sleep  <b>Écrire</b> = to write  <b>l'emploi</b> = job  <b>le gouvernement</b> = government  <b>le logement</b> = accommodation  <b>Malheureux/malheureusement</b> = unfortunate/ly  <b>Nul</b> = rubbish  <b>Pauvre</b> = poor  <b>la pauvreté</b> = poverty  <b>Penser</b> = to think  <b>une pièce (de monnaie)</b> = a coin  <b>Triste</b> = sad  <b>le trottoir</b> = pavement  <b>Aider</b> = to help  <b>le carton</b> = cardboard  <b>les choses indispensables</b> = necessities  <b>la couverture</b> = blanket  <b>d'accord</b> = okay  <b>Distribuer</b> = to give out  <b>Durer</b> = to last  <b>l'espoir</b> = hope  <b>Expliquer</b> = to explain  <b>fier / fière</b> = proud  <b>la nourriture</b> = food  <b>l'organisation caritative</b> = charity  <b>Permettre</b> = to allow  <b>le quartier défavorisé</b> = deprived area  <b>le sac de couchage</b> = sleeping bag  <b>Sain</b> = healthy      <b>malsain</b> = unhealthy  <b>Sans</b> = without  <b>le savon</b> = soap  <b>un SDF</b> = a homeless person  <b>le volontaire</b> = volunteer</p>	<p><b>Que penses-tu de la pauvreté ?</b> = What do you think about poverty?  <b>Que penses-tu des SDF ?</b> = What do you think of homeless people?  <b>Qu'est-ce qu'on doit faire ?</b> = What must be do?  <b>Comment on peut les aider ?</b> = How can we help them?  <b>Quelle est ton opinion sur le chômage ?</b> = What is your opinion about unemployment?  <b>Qu'est-ce qu'il faut faire pour combattre le chômage ?</b> = What must we do to combat unemployment?</p>	<p><b>Use the imperative to give advice or instructions. Use the 'vous' form of the verb (normally ending in ez).</b>  E.g. écoute<b>ez!</b> = listen!  assey<b>ez-</b>vous! = sit down  <b>Irregular verbs in the vous form are used for the imperative too:</b>  faites un effort! = make an effort!</p>																		
<b>Section D - Pouvoir</b>		<b>Section E – Homelessness opinions frame</b>																		
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<table border="1" data-bbox="595 939 1066 1353"> <thead> <tr> <th>To be able to</th> <th>Pouvoir</th> </tr> </thead> <tbody> <tr> <td>I can</td> <td>Je peux</td> </tr> <tr> <td>You can</td> <td>Tu peux</td> </tr> <tr> <td>He/She can</td> <td>Il/elle peut</td> </tr> <tr> <td>We can</td> <td>Nous pouvons</td> </tr> <tr> <td>You (all) can</td> <td>Vous pouvez</td> </tr> <tr> <td>They can</td> <td>Ils/elles peuvent</td> </tr> </tbody> </table>		To be able to	Pouvoir	I can	Je peux	You can	Tu peux	He/She can	Il/elle peut	We can	Nous pouvons	You (all) can	Vous pouvez	They can	Ils/elles peuvent	<b>Section F – Star phrase</b>				
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		<p>Use '<b>il vaut la peine</b>' to say '<b>it's worth it</b>'.  E.g. Aider les gens sans logement <b>vaut la peine</b>. = Helping the homeless <b>is worth it</b>.</p>																		

# FRENCH Higher – Homelessness

## Section A - Vocabulary

**le chômage** = unemployment  
**Combattre** = to fight  
**Construire** = to build  
**Donner** = to give  
**Dormir** = to sleep  
**Écrire** = to write  
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**Malheureux/malheureusement** = unfortunate/ly  
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**fier / fière** = proud  
**la nourriture** = food  
**l'organisation caritative** = charity  
**Permettre** = to allow  
**le quartier défavorisé** = deprived area  
**le sac de couchage** = sleeping bag  
**Sain** = healthy      **malsain** = unhealthy  
**Sans** = without  
**le savon** = soap  
**un SDF** = a homeless person  
**le volontaire** = volunteer

## Section B – Higher vocab

**Aborder** = to tackle  
**l'accroissement** = growth  
**avoir lieu** = to take place  
**le cercle vicieux** = vicious circle  
**Citer** = to quote  
**Croître** = to grow  
**Élever** = to raise  
**la faim** = hunger  
**les frais** = expenses  
**il faut** = you must / one must  
**l'illettrisme** = illiteracy  
**l'inégalité** = inequality  
**une manifestation** = a demonstration  
**Mener** = to lead  
**un milliard** = a billion  
**Moins** = less  
**le pays** = country  
**Ralentir** = to slow down  
**le rapport** = report  
**Selon** = according to  
**Sinon** = if not  
**le tiers** = third  
**Vivre** = to live  
**vouloir dire** = to mean

## Section C – Key questions

**Que penses-tu de la pauvreté ?** = What do you think about poverty?  
**Que penses-tu des SDF ?** = What do you think of homeless people?  
**Qu'est-ce qu'on doit faire ?** = What must be do?  
**Comment on peut les aider ?** = How can we help them?  
**Quelle est ton opinion sur le chômage ?** = What is your opinion about unemployment?  
**Qu'est-ce qu'il faut faire pour combattre le chômage ?** = What must we do to combat unemployment?

## Section D – The imperative

Use the imperative to give advice or instructions. Use the '**vous**' form of the verb (normally ending in **ez**). E.g. écoute**ez**! = listen! assey**ez**-vous! = sit down  
 Irregular verbs in the verb form are used for the imperative too: faites un effort! = make an effort!

## Section E - Pouvoir

Use this verb to say that something **is possible** or **can happen**. Follow this verb with any verb in the infinitive form (re, er, ir).  
 You can also avoid using **pouvoir** by using '**il est possible de**' meaning '**it is possible to**' followed by an infinitive verb (ir, re, er).

To be able to	Pouvoir
I can	Je peux
You can	Tu peux
He/She can	Il/elle peut
We can	Nous pouvons
You (all) can	Vous pouvez
They can	Ils/elles peuvent

## Section F – Star phrase

Use '**il vaut la peine**' to say '**it's worth it**'.  
 E.g. Aider les gens sans logement **vaut la peine**. = Helping the homeless **is worth it**.

## Section G – The subjunctive!!

Use the subjunctive after these expressions:  
**Il est possible que** = it is possible that  
**Avant que** = before  
**Bien que** = although  
**Pour que** = so that  
**à condition que** = provided that  
**Il faut que** = it's necessary that

## Section H – Subjunctive verbs

English	French
We make/do	On fasse
We can	On puisse
We know	On sache
We want	On veuille
We are	On soit
We have	On ait <sup>25</sup>



## Section A – Key vocabulary

à l'abri = in a safe place  
 l'association caritative = the charity  
 Combattre/lutter contre = to combat/fight against  
 Créer/être fondé = to create/to be created  
 Faire un don = to do/give a donation  
 l'égalité/inégalité = equality/inequality  
 l'exclusion = exclusion  
 la faim = hunger  
 faire du bénévolat = to do voluntary work  
 les gens = people  
 l'injustice = injustice  
 la maladie/malade = illness, disease/sick, ill  
 le médecin = doctor  
 les médicaments = medicine  
 la misère = misery / poverty  
 la nourriture/le repas = food/meal  
 la pauvreté/pauvre = poverty/poor  
 Protéger = to protect  
 la rue = street  
 le sang = blood  
 le SIDA = AIDS  
 le test de dépistage = screening test  
 Accueillir = to welcome  
 Alimentaire = dietary  
 Apporter = to bring  
 avoir les moyens = to be able to afford  
 Comprendre = to understand  
 Démuni = in need  
 l'eau potable = drinking water  
 essayer de = to try  
 j'aimerais/je voudrais = I would like  
 à mi-temps/plein-temps = part/full-time  
 le monde = world  
 Propager = to spread  
 Soigner = to treat / to care for  
 Travailler = to work  
 Triste = sad  
 Voyager = to travel

## Section B – Key questions

Voudrais-tu être bénévole? = Do you want to be a volunteer?  
 Fais-tu du bénévolat? = Do you work as a volunteer?  
 Qu'est-ce que tu fais? = What do you do?  
 Voudrais-tu faire du bénévolat à l'avenir? = Do you want to be a volunteer in the future?  
 Qu'est-ce que tu feras? = What will you do?  
 Voudrais-tu aider? = Would you like to help?

## Section C – Vouloir + infinitive

**Vouloir** means 'to want'. It's a useful verb to know for all topics. Follow it with an **infinitive verb** (ER, IR, RE) to make a sentence starter.  
 E.g. *Je veux étudier* = I want to study.

Subject	<b>Vouloir</b>
Je	<b>veux</b>
Tu	<b>veux</b>
Il/Elle/On	<b>veut</b>
Nous	<b>voulons</b>
Vous	<b>voulez</b>
Ils/Elles	<b>veulent</b>

## Section F – Star phrase

To say how long you've been a volunteer use 'depuis' with the **present tense**. E.g. *I have been a volunteer for 4 years. = Je suis bénévole depuis quatre ans.*

## Section D – Volunteering opinions frame

J'aime...		<i>because...</i>	<i>...c'est... ...it is...</i>	<i>...émotif. emotional. ...amusant. fun. ...gratifiant. rewarding. ...satisfisant. satisfying. ...utile. useful. ...passionnant. exciting.</i>
J'adore...	<i>...faire du bénévolat... ...to do voluntary work...</i>	<i>...parce que... ...car...</i>	<i>...je le trouve... ...i find it...</i>	
Je voudrais...		<i>...vu que...</i>		
J'aimerais...	<i>...être bénévole... ...to be a volunteer...</i>	<i>...étant donné que...</i>	<i>...il vaut la peine. ...it's worth it.</i>	
		<i>because of... ...à cause de... ...grâce à ...</i>	<i>...les gens. ...the people. ...les dons. ...the donations.</i>	

## Section E – The conditional of vouloir and aimer

The verbs **vouloir** and **aimer** are useful for all topics and are followed by an infinitive (AR, ER, IR). In the conditional they mean 'would' so **je voudrais** and **j'aimerais** both mean 'I would like'.

Subject	<b>Vouloir</b>	<b>Aimer</b>
Je	<b>voudrais</b>	<b>aimerais</b>
Tu	<b>voudrais</b>	<b>aimerais</b>
Il/Elle/On	<b>voudrait</b>	<b>aimerait</b>
Nous	<b>voudrions</b>	<b>aimerions</b>
Vous	<b>voudriez</b>	<b>aimeriez</b>
Ils/Elles	<b>voudraient</b>	<b>aimeraient</b>

## Section A – Key vocabulary

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 le monde = world  
 Propager = to spread  
 Soigner = to treat / to care for  
 Travailler = to work  
 Triste = sad  
 Voyager = to travel

## Section E – The conditional tense with vouloir and aimer

The verbs **vouloir** and **aimer** are useful for all topics and are followed by an infinitive (AR, ER, IR). In the conditional they mean 'would' so **je voudrais** and **j'aimerais** both mean 'I would like'.

Subject	Vouloir	Aimer
Je	voudrais	aimerais
Tu	voudrais	aimerais
Il/Elle/On	voudrait	aimerait
Nous	voudrions	aimerions
Vous	voudriez	aimeriez
Ils/Elles	voudraient	aimeraient

## Section B – Higher vocabulary

à cause de/grâce à = because of/thanks to  
 Basculer = to turn for the worse  
 le chômeur = unemployed person  
 Compréhensif = understanding  
 Déprimé = depressed  
 la dette = debt  
 la facture = bill  
 (mal)heureusement = (un)fortunately  
 il y a 2 ans = 2 years ago  
 Livrer = to deliver  
 le logement = accommodation  
 le loyer = rent  
 s'occuper de = to look after / to deal with  
 perdre le contrôle = to lose control  
 les personnes défavorisées = disadvantaged people  
 la publicité = advertising  
 Renoncer = to give (something) up  
 un sans-abri = a homeless person  
 le seuil de pauvreté = poverty line  
 Seul = alone      le soutien = support  
 le travail = work, job

## Section C – Key questions

**Voudrais-tu être bénévole ?** = Do you want to be a volunteer?  
**Fais-tu du bénévolat ?** = Do you work as a volunteer?  
**Qu'est-ce que tu fais ?** = What do you do?  
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**Voudrais-tu aider ?** = Would you like to help?

## Section G – Star phrase

To say how long you've been a volunteer use '**depuis**' with the **present tense**. E.g. *I have been a volunteer for 4 years.* = *Je suis* bénévole *depuis* quatre ans.

## Section D – Vouloir

**Vouloir** means 'to want'. It's a useful verb to know for all topics. Follow it with an **infinitive verb** (ER, IR, RE) to make a sentence starter.

E.g. *Je veux étudier* = *I want to study*.

Subject	Vouloir
Je	veux
Tu	veux
Il/Elle/On	veut
Nous	voulons
Vous	voulez
Ils/Elles	veulent

## Section F – Vouloir and the subjunctive

You can use the verb **vouloir** as seen in Section D with '**que**' which means 'that'. This is followed by the subjunctive mood. Here are some example star phrases to know using this grammar point:

**Je veux qu'on fasse plus pour aider** = I want us to do more to help.

**Je veux que mes parents donnent de l'argent aux associations.** = I want my parents to give money to charities.

**Je veux que je fasse du bénévolat l'année prochain.** = I want to do volunteer work next year. 27



# RE

# KS4

# Relationships

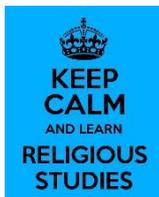


## A. Relationships Key Vocabulary

<b>Adultery</b>	Voluntary sexual intercourse between a married person and someone who is not their spouse
<b>Annulment</b>	A Catholic Church ruling that a marriage was never valid
<b>Bigamy</b>	The offence of marrying someone while already married to another person
<b>Civil Partnership</b>	Legal union of same-sex couples
<b>Cohabitation</b>	A couple living together and having a sexual relationship without being married to one another
<b>Contraception</b>	The methods used to prevent a pregnancy from taking place
<b>Divorce</b>	Legal ending of a marriage
<b>Extended</b>	A family that extends beyond the nuclear family to include grandparents and other relatives as well
<b>Family Planning</b>	Using contraception to control how many children couples have and when they have them
<b>Gender Equality</b>	The idea that people should be given the same rights and opportunities regardless of whether they are male or female
<b>Heterosexual</b>	To be sexually attracted to members of the opposite sex
<b>Homosexual</b>	To be sexually attracted to members of the same sex
<b>Marriage</b>	A legal union between a man and a woman as partners in a relationship
<b>Nuclear</b>	A couple and their dependent children regarded as a basic social unit i.e. 2 parents, 2 children
<b>Procreation</b>	Bringing babies into the world; producing offspring
<b>Polygamy</b>	The practice or custom of having more than one wife at the same time
<b>Remarriage</b>	When someone marries again while their former spouse is still alive
<b>Sex before marriage</b>	Sex between two single unmarried people
<b>Sex outside marriage</b>	Sex between two people where at least one of them is married to someone else
<b>Sexual Stereotyping</b>	Having a fixed general idea or image of how men and women will behave
<b>Stability</b>	Safety and security
<b>Stepfamily</b>	A family that is formed on the remarriage of a divorced or widowed person and that includes a child

## B. Relationships Key Knowledge

Purpose of families	Family provides stability because it is where people learn to live as part of a community: the family reflect Christ's relationship with the Church	The Qur'an addresses married people as guarded. They have a responsibility to care for their elderly parents, so many live with them. Most Muslims would not put their elderly in a care home as they value their wisdom and experience.
Marriage	Marriage is a gift from God at creation. It is a sacrament that reflects the sacrificial love of Jesus. It is a covenant before God in which the couple promises to live faithfully till death. It is a spiritual bond of trust that reflects the love of Christ for the Church.	Marriage is a faithful, lifelong commitment, intended by God for the sharing of love and companionship. It is an equal partnership under God. It is a social contract that brings two families together, impacting the whole community. It helps people devote spiritually by avoiding sexual sin and by adding value to worship.
Sex before marriage	For many Christians, sex expresses a deep, lifelong union that requires the commitment of marriage. Paul warns against sexual immorality. Some liberal Christians think that sex before marriage can be a valid expression of love for each other, particularly if the couple are intending marriage.	Muslims believe sex is a gift from God that must be managed responsibly within marriage. The Qur'an forbids sex before marriage; under Islamic law, sex before marriage is considered a serious sin, like adultery and rape.
Sex outside of marriage	Adultery breaks vows Christian couples make before God and threatened the stable relationship needed for their children's security. It is against the 10 commandments. It is against Jesus' teaching that lust is wrong.	Muslims should avoid situations that could lead to sexual sins. The Qur'an forbids adultery. Married couples should not have to go outside of marriage for fulfilment.
Contraception	Catholic and Orthodox: Artificial contraception goes against natural law. The purpose of sex is having children and expressing love. The orthodox Church agrees with the Catholic position but recognises individual needs. Anglican: People should only have as many children as they can care for. Allow contraception to enable couples to develop relationship/space out pregnancies.	In Islam: For: no direct teaching in the Qur'an. Some Hadith suggest Muhammad was aware of birth control and accepted it in appropriate circumstances. Against: some Muslims think contraception goes against God's will and God gives people strength to cope with any children.
Divorce	Christian clergy offer counselling, prayer and sacraments and may refer couples to outside agencies. Jesus taught that anyone who divorced and remarried was committing adultery. Vows made in God's presence must be kept. The Catholic Church teaches that marriage is a sacrament and is permanent.	The Qur'an encourages the couple to try to reconcile but guarantees rights of both men and women to divorce. The husband must support his children in all cases. After divorce, Muslims can remarry.
Family Planning	All Christian Churches agree that having children is God's greatest gift to a married couple. Couples are called to be responsible parents but there are some situations when it may be acceptable to avoid bringing children into the world e.g. economic, environmental, physical or psychological.	Most Muslims accept the use of contraception for family planning as long as it is not used to prevent having children altogether.
Human Sexuality	Marriage is the only valid place for heterosexual relationships because it is part of God's plan for humans. Christian views about sex before marriage vary but all are against unfaithfulness. Some Christians oppose homosexual relationships and Paul taught that the sexually immoral, including 'men who have sex with me', will not inherit the kingdom of God. The Catholic Church teaches that homosexuals should control their actions and not break God's law.	Heterosexual relationships are the normal pattern of behaviour; Muslims are expected to marry and have children. The only permitted form of sexual relationship in Islam is that between husband and wife, considered a blessing from God. Most Muslims believe the Qur'an and Hadith teach that homosexuality is against God's will and is forbidden. This is because it goes against the natural law as they cannot produce children, therefore are not what God intended. Some Muslims believe that as long as the relationship is loving and committed it is acceptable.
Nature of families	Christian families raise their children to Christian teachings, and should teach children right from wrong. There are examples of polygamy in the Bible.	Muslim families bring up their children in faith; how to pray, keep halal food, and live a good Muslim life. They will send their children to the madrassah (mosque school). There are accounts of polygamy within Islamic society
Gender Equality	All people are created equal in the image of God. Jesus respected women, welcomed them as disciples, and showed that they were capable of more than domestic tasks. Some traditional Christians interpret the Bible texts literally and think that husbands should rule over their wives.	God created all people equal, from a single soul and with the same spiritual human nature Muhammad worked to unite the tribes in Madinah into one community. Men and women have the same religious and moral responsibilities.



A. Key Vocabulary: What does this mean?	
Contrasting	Two different points
Explain	Identify at least two relevant points and demonstrate understanding by developing your points.
Evaluate	Consider different viewpoints and arrive at a judgement.
Explain different attitudes to...	Different views towards an ethical or philosophical issue or belief
Give	Two examples of... or two beliefs...
Why	Requires a reasoned consideration of a single point of view through a logical chain of reasoning
Sacred writings/scripture	Religious resources such as The Bible or The Qur'an. This is asking for quotations, a statement of belief, a prayer, a statement from a religious leader, a quotation from a religious text

Level	Criteria	Marks
4	A well-argued response, reasoned consideration of different points of view. Logical chains of reasoning leading to judgement(s) supported by knowledge and understanding of relevant evidence and information. <b>References to religion applied to the issue.</b>	10-12
3	Reasoned consideration of different points of view. Logical chains of reasoning that draw on knowledge and understanding of relevant evidence and information. <b>Clear reference to religion.</b>	7-9
2	Reasoned consideration of a point of view. A logical chain of reasoning drawing on knowledge and understanding of relevant evidence and information. OR Recognition of different points of view, each supported by relevant reasons / evidence. <b>Maximum of Level 2 if there is no reference to religion.</b>	4-6
1	Point of view with reason(s) stated in support.	1-3
0	Nothing worthy of credit.	0

B. Exam Style Questions:	
Question Type	Example Questions
1. /1 Marks  Multiple Choice, chosen out of 4 option	<ol style="list-style-type: none"> <li>Which of the following is not a reason why some marriages fail? A) domestic violence    B) adultery    C) addiction    D) Stability</li> <li>Which one of the following describes a nuclear family? A) a couple, children and grandparents    B) a couple and their children C) a couple, children, aunts and uncles    D) a couple without children</li> </ol>
2. /2 Marks  Short-answer (asking for two facts), one mark for each of two correct points	<ol style="list-style-type: none"> <li>Give two religious beliefs about gender equality</li> <li>Give two religious beliefs about cohabitation</li> </ol>
3. /4 Marks  Asking for two ways in which practices influence Christians today or two contrasting ways in which religion is practice or two contrasting beliefs in contemporary British society.	<ol style="list-style-type: none"> <li>Explain two contrasting beliefs in contemporary British society about sex before marriage.</li> <li>Explain two contrasting religious beliefs about divorce.</li> <li>Explain two contrasting religious beliefs about human sexuality</li> <li>Explain two contrasting religious beliefs about remarriage.</li> </ol>
4. /5 Marks  Asking for two Christian practices about a philosophical or ethical issue plus reference to scripture or sacred writings	<ol style="list-style-type: none"> <li>Explain two religious beliefs about the nature of marriage</li> <li>Explain two religious beliefs about the purpose of families</li> <li>Explain two religious beliefs about the role of children in a religious family</li> <li>Explain two religious attitudes towards the role of contraception</li> </ol>
5. /12 Marks  Evaluation question. See grid for the criteria about what is needed in this question. Must include sacred writings/scripture.	<ol style="list-style-type: none"> <li>'The love and care parents show in bringing up their children is all that matters; the sex of the parent is unimportant'. Evaluate this statement.</li> <li>'Marriage is the proper place to enjoy a sexual relationship'. Evaluate this statement'.</li> <li>'It is wrong for a religious couples to sue artificial contraception within marriage'. Evaluate this statement.</li> <li>'Families should do more for their elderly relatives in Britain today'. Evaluate this statement.</li> </ol>

Section 1 : Key Vocabulary	
Initial ideas	Artist research and knowledge of materials and techniques to create design ideas that meet the requirements of the client brief.
Final piece	The thing that you produce at the end of your work showing how you have met the design brief.
Annotation	Evaluating work making written notes about techniques materials and progress of ideas.
Development of ideas	Focusing on feedback from others to inform designs ideas and your final plan.
Refinement	The improvement of the idea. Make small changes which improve the work in some way. Modification of the composition
Composition	How you arrange visual elements of the page to make effective outcomes
Control	How carefully you work with a specific media
Evaluate	Commenting on work and constructively showing how ideas are coming together.
Development	Showing how initial ideas have changed and have been adapted to the brief/ client needs.

Section 2: Methods/Processes/Workflow
<b>Assessment Objective 1 – DEVELOP</b> ideas through investigations, demonstrating critical understanding of sources.
Artist Research A 5 or more picture mood board + written analysis of an image
Artist Research B 5 or more picture mood board + written analysis of an image
Artist Research C 5 or more picture mood board + written analysis of an image
Photographer research relating to your own photoshoot (if relevant)
Other source material relating to development of ideas
<b>Assessment Objective 2 – Refine</b> work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes
Development A Colour : Watercolour, Acrylic, Oil Pastel, Soft Paint, Chalk
Development B Line : Biro, Fine liner, dip pen and ink
Development C Tone : Pencil, charcoal, graphite stick
Development D Texture : Experimental Media of your choice
Development E Clay : Develop a 2D idea into a 3D outcome, Tile, Vessel, Sculpture
Development F Print : Lino, Etching, Collagraph

Section 3: Key questions and analysing art
You can show your understanding of Artworks by answering questions about the work. The following headings and questions can help you to structure a piece of writing to show understand of artwork. Always remember to use your own words to expressing what you think. <b>Step 1:</b> Start with some general information Artist (What person or group made it? If there is a name, refer to this person by their last name) Subject Matter (Does the artwork have a name?) Date (What year was it completed?) Technique and Medium (What materials is it made of? How big or small is it?) <b>Step 2:</b> Briefly describe the image in a few sentences. What does it look like? <b>Step 3:</b> Use the questions in the boxes below as starting points to structure your analysis
<b>Content – looking at the subject of the work</b> <ul style="list-style-type: none"> <li>•Does it tell a story or do you think it's merely what interested the artist?</li> <li>•Has the work been observed directly from life, remembered or imagined?</li> <li>•Is the design related to previous images or pictures?</li> <li>•Are there hidden meanings in the picture?</li> <li>•Is the work realistic, deliberately exaggerated or is it distorted? Why?</li> </ul>
<b>Materials &amp; Process – How was the piece made?</b> <ul style="list-style-type: none"> <li>•What materials did the artist use?</li> <li>•Is it s painting or a print, sculpture, video, animation</li> <li>•What tools were used?</li> <li>•What do you think the starting point was?</li> <li>•What skills has the artist used to produce the work?</li> <li>•Was the work produced quickly or over a long period of time?</li> <li>•Was it the work of an individual or a team?</li> </ul>
<b>Form – How has the design been arranged?</b> <ul style="list-style-type: none"> <li>•Is it 2D or 3D?</li> <li>•Is it large or small scale?</li> <li>•What shape and proportion does it have?</li> <li>•Is there one main shape, or a series or related or repeated shapes?</li> <li>•Is text used anywhere and how?</li> <li>•Does the work have textures?</li> <li>•Do the colours go well together or fight against each other?</li> </ul>
<b>Mood – do the images affect you? How does it make you feel?</b> <ul style="list-style-type: none"> <li>•Is the work quiet or noisy, happy or sad, relaxing or upsetting?</li> <li>•Does it capture a mood or feeling?</li> <li>•What has the artist or designer done to capture this mood or emotion?</li> <li>•What is there about the work that you like or dislike and why?</li> <li>•How does it make you feel?</li> </ul>
<b>Context – taking a wider view</b> When was it made? Where was it made? Who made it? Who was the work made for? What do you know about the artist? Does the work relate to the social or political history of the time? How does the work relate to the works around it? (inside and outside of the gallery setting) Can you link the work to other arts of the period such as film, music or literature? Does the work link to an art movement, that was their ethos about?

<b>Assessment Objective 3 – Record</b> ideas, observations and insights relevant to intentions as work progresses
Midmap of key words relating to your idea – can be added to mood boards
Photoshoot – 2 or more photoshoots based around your theme
Recording from life/ photography images / secondary images from the internet. Methods of recording: drawing / tracing / projecting your images to draw around/ working on top of photocopies /
Mood board and photo-shoot of images researched for your theme
Annotate your recordings, evaluate and reflect on ideas and media explored
Artist studies / Prints
<b>Assessment Objective 4 – Present</b> a personal and meaningful response that realises intentions and demonstrates understanding of visual language
2 or more mini outcomes which show a personal response to the exam theme. These should show imagination and the development and refinement of ideas
Final Piece – showing clear links to your research.
Mini outcome – showing development of ideas
Evaluation of Final outcome – this should link to media used, artists research and talk through progression towards the final outcome.

**Mini outcome & Final outcome**

- Should be at least A4-A3
- Bring your ideas together

Experiment with the composition by sketching ideas i.e. lay the objects out in a different order, annotate each one with pro's and con's

Link the outcome to the artists you have studied. Through use of a technique, style, process, media, content, theme, object

Every element in your mini outcome should have a page or more of experimentation e.g. photoshoot, media experiments, several observational drawings

Try to fill the page, background element are just as important and should be at the same quality level

Add your own ideas to the composition to develop your work, but make sure you back these ideas up with research



# MUSIC – AOS2: Music for Ensemble



## Section A: Styles

Baroque Music  
1600-1750

- Aristocrats employed musicians as part of their household staff. Musicians composed chamber music- music for small groups and small audiences
- Trio sonata = soloists with a basso continuo
- Basso continuo = “continuous bass”. Accompanying part played by cello, bassoon, harpsichord or organ
- Textures were often contrapuntal or polyphonic

Classical Era  
1750-1810

- String quartet = 2 violins, viola and cello. Became the most common chamber ensemble of the era
- Piano was created and so harpsichord became obsolete
- Textures simpler

Romantic Era  
1810-1910

- Chamber music became more widely performed in concert halls
- String quartet remained commonplace
- Composers experimented with different combinations of instruments
- The music became much more expressive and lyrical



## Section B: Ensembles

Vocabulary	Definition
Duet	2 players
Trio	3 players
Quartet	4 players
Quintet	5 players
Sextet	6 players
Septet	7 players
Octet	8 players



## Section C: Textures

Vocabulary	Definition
Monophonic	Music with a single line of music
Unison	Several instruments playing the same thing
Homophonic	Either melody plus accompaniment or all parts playing different notes but moving at the same time creating block chords
Polyphonic	Many lines of music interweaving. There would still be a melodic part that was more important than the other
Contrapuntal	Like polyphonic but there would be more than one melody line that was important
Counter melody	The secondary melody that is added to create contrapuntal texture
Imitation	When one part copies another

## Section D: Musical Theatre Listening

Godspell	Opening number
West Side Story	One Hand, One Heart A Boy Like That Somewhere
Guys and Dolls	Opening number
Phantom of the Opera	Act 1: Scene 7 Act 1: Scene 8

## Section E: 12- Bar Blues

I	I	I	I
IV	IV	I	I
V	IV	I	I

## Section F: Textures

Vocabulary	Definition
Lyrics	3 line verses – first line is repeated, then a different final line
Blues scale	The minor pentatonic scale with an added flattened 5 <sup>th</sup>
Blue notes	Flattened 3 <sup>rd</sup> , 5 <sup>th</sup> and 7 <sup>th</sup> notes
Improvisation	Making the music up on the spot
Swung rhythms	When 2 quavers are played as long-short instead
Riffs	Repeated patterns
Rhythm section	Drums, bass player, keyboard/guitar
Front line	Usually brass or wind players (e.g. saxophones, clarinet, trumpets, trombones). Sometimes called horns
Standard	A really popular jazz song
Head	The main theme or riff
Chorus	Chord changes or chord progressions
Chord extensions	Notes that are added to standard chords
Break	A short solo, a linking phrase to the chorus
Stop chords	Heard when the rhythm section isn't playing
Walking bass	When the bass line maintains a steady rhythm and the pitches sort of “walk” up and down
Back-ups	Short musical motifs heard behind the solo part
Kicks	Musical motifs which are played loudly and reinforced by the drums
Licks	A short series of notes that fit into the chord changes
Turnaround	A short passage of chords (sometimes a melody) found at the end of a section which brings the music back to the tonic
Lead sheet	A sheet given to performers that consists of the melody and chords
Shout chorus	The name given to a final chorus played loudly by all the front line instruments

# MUSIC – Performance and Composition



## Section A: Effective Rehearsal Logs

You should be practicing for at least half an hour, at least 3 times a week. This does not include your lessons with your teacher or the practice you do in GCSE lessons in school.

You are expected to show:

- technical control
- expression and appropriate interpretation
- accuracy of rhythm and pitch
- appropriate pace and fluency
- effective use of dynamics
- stylistic awareness
- empathy (in ensemble playing).

1. Write the date, time and location of your rehearsal
2. Decide on your SMART target that you will be working on.



This should be based on something specific like a technique that needs improving or a passage in your piece that needs work. Here is a good example of a SMART target: “To show a much bigger difference between the soft and loud parts of my piece in bars 10-24 by the end of the week.”

3. Do some exercises that will help you to improve the area you are working on.
4. Have a go at playing through the passage that you wanted to improve.
5. Reflect on whether you have achieved your SMART target and set another one for your next rehearsal if necessary.

## Section B: Effective Composition

As part of the composition process it is vital to listen to a wide range of examples in the style you are composing to gain inspiration and help you to make creative decisions.

While listening, reflect on the following:

- How effective are the ideas? Did they have allow a lot of creative development.
- How are the ideas developed?
- How has the composer created contrast?
- Describe the use of as many musical elements as possible.
- What instruments have been used and how? Are they used to their full potential?
- How is the piece organised? What is the structure?
- Is it clear what the style of the piece is?
- Is the piece coherent?

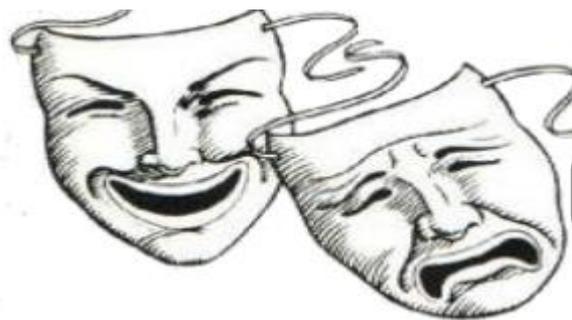
Now reflect on your own composition using the same questions. How could you improve your work? What ideas have you gained from listening to a different piece of music?

## Section C: Musical Devices

Vocabulary	Definition
Repetition	The exact repeat of a musical idea
Contrast	A change in the musical content
Anacrusis	A note (or notes) before the first strong beat
Imitation	When a musical idea is copied in another part
Sequence	The repetition of a motif in the same part but at a different pitch
Ostinato	A musical pattern repeated many times
Syncopation	“Off-beat”, accented notes on the weak beat
Dotted rhythms	A dot placed after a note increases its value by half again, giving a kind of jagged effect
Drone	A repeated note or notes held throughout a passage of music
Pedal	A held or repeated note against which changing harmonies are heard
Canon	Where a melody is repeated exactly in another part while the initial melody is still being played (e.g. a round)
Conjunct movement	When the melody moves by step
Disjunct movement	When the melody leaps from one note to another
Broken chord/arpeggio	A chord played as separate notes but in succession
Alberti bass	A type of broken-chord accompaniment (1-5-3-5)
Regular phrasing	The balanced parts of a melody, like phrases in a sentence
Motifs	A short melodic or rhythmic idea that has a distinctive character
Chord progressions	A series of chords related to each other in a particular key
Modulation	The process of changing key

## Section A: Key Vocabulary

1	<b>Vocal skills</b>	The different techniques used by an actor to communicate the distinct 'voice' of a character.
2	<b>clarity</b>	Speaking clearly so that an audience can hear you.
3	<b>pace</b>	Speed of speech.
4	<b>inflection</b>	Change in pitch or loudness of the voice.
5	<b>Pitch</b>	The particular level of a voice e.g. 'high' or 'low'.
6	<b>Projection</b>	How well the voice 'carries' to the audience.
7	<b>Articulation</b>	The clarity or distinction of speech
8	<b>Rhythm</b>	Measured flow of words or phrases in verse forming patterns of sound.
9	<b>Timbre</b>	The distinctive 'character' or quality of a voice (apart from its pitch or intensity such as in a nasal voice quality).
10	<b>Accent</b>	A distinctive way of pronouncing a language, especially one associated with a particular country, area, or social class.
11	<b>Vocal expression</b>	How an performer uses his or her voice to convey character
12	<b>Vocal projection</b>	Directing the voice out of the body to be heard clearly at a distance.



## Section B: Key vocabulary

1	<b>Physical skills</b>	The different techniques used by an actor to communicate the distinct way that an actor uses their body to portray a character.
2	<b>gestures</b>	Any movement of the performer's head, shoulder, arm, hand, leg, or foot to convey meaning.
3	<b>Facial expressions</b>	Using the face to convey emotions, develop the story and communicate the feelings and thoughts of the character to the audience.
4	<b>Stillness</b>	Not moving.
5	<b>Stance</b>	The way that a character stands. Also known as 'posture'.
6	<b>Contact</b>	Physical contact with another actor.
7	<b>Use of space</b>	How an actor uses the stage to communicate meaning to an audience.
8	<b>Spatial relationships</b>	Traditional term for 'proxemics', referring to the relationship between different performers or a performer and elements of the set which convey information about character and their circumstances.
9	<b>Proxemics</b>	The position of people in relation to each other onstage and the meaning that this communicates.
10	<b>Mannerism</b>	A peculiarity of speech or behaviour.
11	<b>Pace</b>	The speed of movement.
12	<b>Rhythm</b>	The 'flow' of a character's movement
13	<b>Gait</b>	How a person walks.



## Section C

### Creative Intentions, meaning and 'form'



1	<b>Artistic/Creative Intentions</b>	The decisions, made by theatre makers, to communicate deeper meaning through their work.
2	<b>Acting style</b>	A particular manner of acting which reflects cultural and historical influences.
3	<b>Characterisation</b>	How a performer uses body, voice, and thought to develop and portray a character.
4	<b>Performance elements</b>	These include acting, speaking and nonverbal expression.
5	<b>Proxemics</b>	Contemporary term for 'spatial relationships', referring to spatial signifiers of the relationship between different performers or a performer and elements of the set which convey information about character and circumstances.
6	<b>Role</b>	The character portrayed by a performer in a drama.
7	<b>Staging</b>	Another term for blocking; deliberate choices about where the performers stand and how they move on stage to communicate character relationships and plot and to create interesting stage pictures in relation to set, properties and audience and effects created by lighting, for example.
8	<b>Genre</b>	A category or 'type' given to plays that include a particular form, content or technique, based upon the conventions used e.g. tragedy, comedy, farce, and melodrama.
9	<b>Form</b>	Formal elements and characteristics (e.g. structure and content) of a particular play e.g. a well made play usually consists of three acts.

Section A: Key Vocabulary	
Tier 3 Vocabulary	Definition
<b>Galaxy</b>	A collection of billions of stars held together by the force of gravity.
<b>Milky Way</b>	Our Galaxy. Viewed as a luminous band crossing the sky, as we are looking along the main plane of the Galaxy.
<b>Globular cluster</b>	Hundreds of thousands of stars tightly clustered together. All the stars in the cluster are related to the group gravitationally.
<b>Local group</b>	The group of galaxies of which our Galaxy is a member. Systems in our Local group are the only galaxies not receding from ours.
<b>AGN</b>	A supermassive black hole, together with its accretion disc, at the centre of an active galaxy.
<b>Seyfert galaxy</b>	Galaxies with small, bright nuclei and weak spiral arms. Most are active, and most are radio sources.
<b>Quasar</b>	A very remote, super-luminous object; probably the core of a very active galaxy.
<b>Blazar</b>	An Active Galactic Nucleus (AGN) when one of the two jets of highly energetic particles points directly towards Earth.
<b>21cm line</b>	A wavelength of light in the radio section of the EM spectrum. Emitted by Hydrogen. This can be used for Radio astronomy.

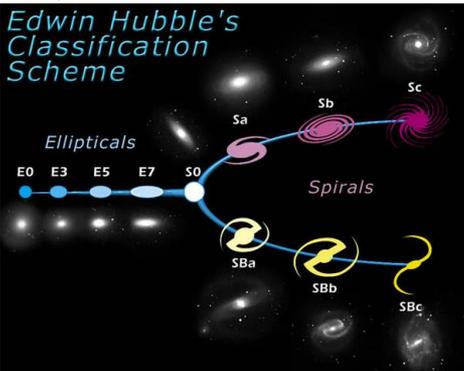
### Section B: Types of galaxies

All galaxies can be grouped into one of the following classifications:

- Spiral:** The spirals arms wind around the nucleus.
- Barred Spiral:** The spirals extend from a bar through the nucleus.
- Elliptical:** Typically they are brighter towards the centre. These come in a general **ellipse** shape.
- Irregular:** Irregular galaxies aren't regular shapes or have any obvious symmetry.

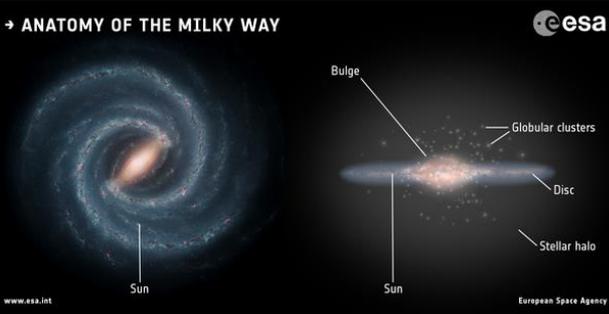
Hubble made the tuning fork diagram to explain how galaxies evolve (though this is no longer accurate). Instead astronomers use the diagram for classification.

- Ellipticals: E0 (for spherical) to E7 (elongated).
- Spirals: Sa (tightly wound, bright nucleus), Sb, Sc (open arms, dim nucleus)
- Barred Spiral: SBa, SBb and SBc.



### Section C: Our place in the Universe

#### → ANATOMY OF THE MILKY WAY



**Groups and Local Groups**

Galaxies are not always solitary bodies. They are frequently grouped together and sometimes interact or even collide.

The Milky way lies in the middle of a group of fifty galaxies that we give the imaginative name of the 'local group' including the Andromeda Galaxy, Large and Small Magellanic clouds and Triangulum.

The local group is part of a larger group again called the Virgo or Laniakea Supercluster.

#### Galaxy Evolution

We know galaxies formed over a billion years after the Big Bang because of observational evidence from the Hubble Space Telescope.

Two theories exist about their formation:

- As with star formation gas and dust gathered, collapsed, forming stars in large groups.
- 'Lumps' of matter left over from the Big Bang grouped together to form galaxies

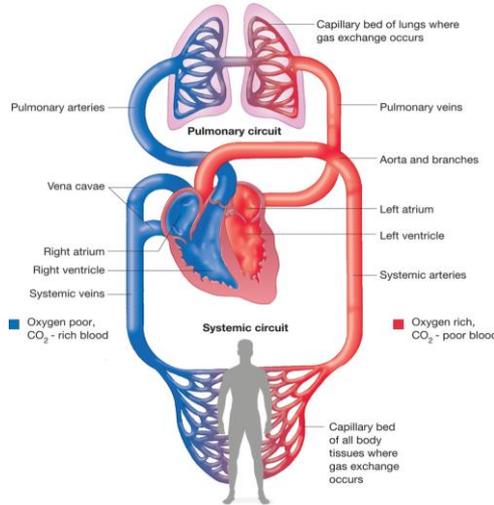
Galaxies continue to merge and collide with each other, creating larger galaxies and increasing star formation.



# GCSE PE PAPER 1: CARDIO-RESPIRATORY SYSTEMS & Paper 2 Engagement patterns

## Key Vocabulary

Word	Definition
<b>Aerobic exercise</b>	Use of oxygen for the duration of the exercise. Usually at moderate intensity at a continuous rate e.g. long distance running.
<b>Anaerobic exercise</b>	Exercise which does not allow for the predominant usage of oxygen. Usually high or very high intensity for a short period of time. E.g. sprinting up a hill.
<b>Blood vessels</b>	Tubular structures that carry blood around our bodies.
<b>Heart rate</b>	Number of heart beats per minute.
<b>Stroke volume</b>	The amount of blood pumped out of the heart (left ventricle - to the body) during each contraction.
<b>Cardiac output</b>	Cardiac output = stroke volume x heart rate. The volume of blood pumped per minute by each ventricle of the heart.
<b>Breathing rate</b>	The number of breaths taken in a minute.
<b>Tidal volume</b>	The amount of air which enters the lungs during normal inhalation at rest.
<b>Minute ventilation</b>	The volume of gas inhaled or exhaled from the lungs per minute.
<b>Gas exchange</b>	The movement of gases taking place at the alveoli and capillaries.



## Core Questions

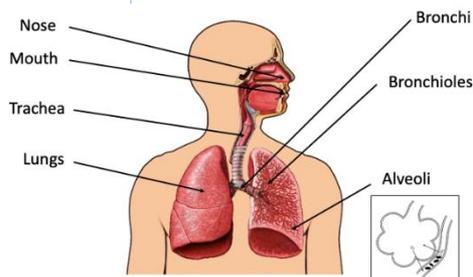
Question	Answer
<b>Identify the order of the pathway of air</b>	Nose/mouth, trachea, bronchi, bronchioles, alveoli
<b>Double circulatory system</b>	The human body has two circulatory loops in which blood circulates. One is oxygenated, and the other is deoxygenated. Systemic – the circulatory loop that controls blood flow from the heart to the rest of the working muscles and organs. Pulmonary – the circulatory loop that controls blood flow from the heart to the lungs.
<b>Identify three characteristics of veins</b>	Carry blood back to the heart (away from body or away from lungs), thinner and less elastic walls, have valves to prevent backflow of blood
<b>Identify three characteristics of arteries</b>	Have thick walls, carry blood at high pressure away from heart (to body or to lungs), have no valves, have more elastic walls, arterioles
<b>Identify three characteristics of capillaries</b>	Small, allow carbon dioxide, water & waste products to pass through, thin walls

## Key Vocabulary – Engagement patterns

Word	Definition
<b>Ethnicity</b>	A state of belonging to a specific social group with common cultural or national traditions or beliefs.
<b>Gender</b>	The state of being male or female.
<b>Role models</b>	Someone to be looked up to, (good role model) an example to follow.
<b>School</b>	Due to bad PE experience at school/ unpleasant showers/ kit/ changing facilities
<b>Low esteem</b>	Low esteem/ lack of confidence/ they don't think they are good enough/ fear of failure/embarrassment/ body consciousness
<b>Religion</b>	Some ethnic groups don't encourage sport for women
<b>Attitudes</b>	Fear among that they may be perceived as homosexual, attitude that sport is for males/ stereotyping
<b>Peers</b>	Peer pressure/friends don't participate
<b>Community</b>	Inadequate choice or provision or opportunity / eg lack of clubs/ lack of female sports leaders
<b>Discrimination</b>	The unfair treatment of individuals whereby opportunities are not available to all of the different social groups.

## TWO: Core Questions

Question	Answer
Describe the engagement patterns of the social group: Gender	Women have more body fat upto 30% more, women have 2/3 of the strength of men, flexibility tends to be greater in women, boys overtake women in height, weight and strength
Describe the engagement patterns of the social group: Age	Reaction time decreases as you get older, strength increases with age until 30s, young children cannot cope with difficult tasks, injury and disease are more common as you get older
Describe the engagement patterns of the social group: Disability	Adapted activities, adapted equipment, disability classifications, provision



## Extrinsic factors which can influence the risk of injury:

**1. Type of activity e.g. rugby:** Contact sports such as rugby are more likely to be associated with hard tackles causing injuries such as dislocations.

**3. Environmental factors**  
Weather is a risk factor e.g. lightning can be fatal for sports people playing outdoors. The second risk factor is the playing surface e.g. rocks on a ski slope could cause an individual to become injured. The final environmental factor is other participants e.g. colliding with other players during a rugby scrum could cause a head injury.



**2. Coaching / Supervision:**  
**Poor coaching and supervision** of activities can lead to performers being taught the incorrect technique e.g. a gymnastics coach teaching someone how to do a somersault could lead to a muscle sprain if they perform the technique incorrectly. If the coach has **ineffective communication** e.g. a coach is unable to simplify their language when coaching a group of children resulting in them misunderstanding instructions and then mishandling sporting equipment and injuring themselves. Coaches must also ensure that all participants are aware of the **importance of adhering to rules and regulations** to avoid injury from occurring.



**4. Equipment**  
- **Protective equipment:** Helps to reduce injury occurring e.g. gum shield in rugby, shin pads in football, helmet in cycling.  
- **Performance equipment:** Equipment required to play the sport e.g. a hockey stick or a climbing harness  
- **Clothing/footwear** which are suitable for playing the sport e.g. leotard in gymnastics or football boots for football

**5. Safety Hazards**  
**Risk assessments:** Method of looking at playing area, equipment, activities etc. and deciding on control measures to prevent injury from occurring.  
**Safety checks:** For example, the referee checking the field for glass in football, a climbing instructor checking a harness is not damaged before it is worn.  
**Emergency action plans:** Plan of how to respond if an emergency was to occur. Including information on: name of first aider on site, mobile available for calling emergency services? Is a first aid kit available? Can the ambulance access the site of the injury?

## 2. Individual variables that increase the risk of injury:

**How does each variable link to injury?**  
Gender, Age, Flexibility, Nutrition, Sleep, Previous / Recurring Injuries



**3. Psychological factors:**

## Intrinsic factors which can influence the risk of injury:

### 1. Physical preparation:

- Training** – Overtraining can put too much stress on the body when it may not be physically ready e.g. a marathon runner returning from injury and running a marathon in the first week back. Incorrect training e.g. not allowing muscles to recover from exercise can also lead to muscle pain and stiffness resulting in chronic injuries.
- Warm up** – Failing to warm up or warming up incorrectly can lead to muscle strains due to not allowing blood to flow to the muscles or increasing the flexibility of muscle fibres. The body is therefore not prepared to take part in exercise.
- Cool down** – Helps to keep the blood circulating to stop blood from pooling and helps to remove waste products from the muscles. This helps to reduce the likelihood of muscle pain and swelling from occurring.
- Fitness levels** – When individuals are involved in sport regularly they are more likely to suffer from sports injuries. This is particularly common in weight bearing exercises such as running due to the impact on the feet, ankles and shins. Lower fitness levels are linked more to an increase in medical conditions such as heart disease and diabetes rather than sports injuries.
- Overuse** – Overuse refers to using the same muscles over and over again. An **overuse injury** is any type of muscle or joint injury, such as tendonitis or a stress fracture, that's caused by repetitive trauma. An **overuse injury** typically stems from: Training errors. Training errors can occur when you enthusiastically take on too much physical activity too quickly.
- Muscle imbalance** – Muscle imbalances occur when one muscle is stronger than its opposing muscle e.g. the hamstrings and the quadriceps. When your muscles become imbalanced, the stronger muscles overcompensate for the weaker ones. Because the weak muscles can't match the strength and endurance of the stronger ones, they fatigue more easily and force the stronger muscles to work harder. Over time, the muscles begin to break down under the strain and develop overuse injuries

### 4. Posture and causes of poor posture

*Posture is the position in which you hold your body upright against gravity while standing, sitting or lying down.* Good posture involves training your body to stand, walk, sit and lie in positions where the least strain is placed on supporting muscles and ligaments during movement or weight-bearing activities. **Causes of poor posture:**

**Poor stance / gait** (walking pattern): For example, bending your knees or hunching your shoulders when standing

**Sitting positions:** For example, slumping / slouching on the sofa rather than sitting upright

**Physical defects:** For example, muscles which are weakened around an injured area from a previous injury

**Lack of exercise:** Lack of core muscle strength means less support. Another example would be when someone is overweight which puts strain on posture.

**Fatigue** (tiredness): Tired muscles are unable to support the skeleton properly and cause people to slouch.

**Emotional factors:** For example, when people have low self esteem / lack of confidence, this can affect posture. People suffering from these factors tend to slouch, look down when walking and have hunched shoulders.

**Clothing / footwear:** For example, wearing shoes with high heels causes people to lean forward which affects their posture.

## 5. Sports injuries related to poor posture

Pelvic Tilt	Lordosis	Kyphosis	Round shoulders	Scoliosis
Difference in length of legs (one is longer than the other) results in additional weight being put onto one side of the pelvis. Person may appear to be leaning to one side more than the other when they are moving.	Spine in the lower back is excessively curved. People have a visible arch in their lower backs. People with this condition often stick out their stomach and buttocks.	Curvature of the spine which causes the top of the back to appear more rounded than normal.	Shoulders appear to lean further forward than normal. Upper back also bends forward.	Abnormal curvature of the spine shape. Leaning to one side/spine bending either to the left/right or not being able to stand straight or bend properly.

## 3. Psychological factors:

- **Motivation:** Motivation is a combination of the drive within us to achieve our aims and the outside factors which affect it. Motivation has the following two forms, intrinsic motivation and extrinsic motivation.

**Intrinsic motivation** – Motivated by the feeling of pride and enjoyment when you have been successful. Inner desire to overcome a problem or task.

**Extrinsic motivation** – Motivated by external sources outside of the performer e.g. money, rewards, trophies, praise from others, recognition etc.

**Aggression:** Aggression is defined as "any form of behaviour directed toward the goal of harming or injuring another live being who is motivated to avoid such treatment" This can be divided into two parts; hostile and instrumental.

**Arousal:** Arousal is an individual's level of excitement and readiness to perform. **Over arousal** is where a performer can feel overly 'psyched up' for a game or match. **Under arousal** is on the opposite end of the continuum and would be associated with characteristics whereby a performer appears to be acting lazy, sluggish and not prepared for the activity.

**Anxiety:** Anxiety is a feeling of worry, nervousness or unease about something with an uncertain outcome. An athlete suffering from anxiety will usually underachieve. In sport anxiety is linked to a lack of concentration and focus

## Section A: Key Vocabulary

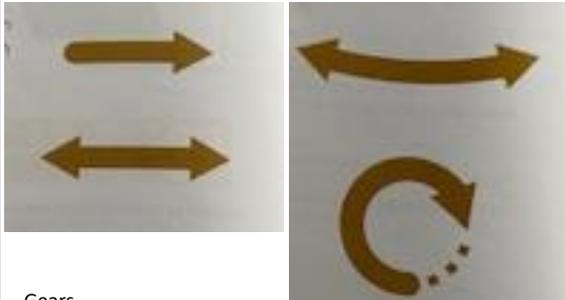
Tier 2 Vocabulary	Definition
Identify	Name or otherwise characterise
Explain	Set out purpose or reasons. This usually requires an understanding of processes.
Describe	Set out characteristics this maybe a feature, a pattern, a property or a process.
Justify	Give reasons for the validity of a view or idea why some action should be undertaken.
Tier 3 Vocabulary	Definition
Co-operative	A Business or organisation that is run by and for the benefit of its members
Crowd funding	A way for people to raise awareness and money for projects or ideas
Fair Trade	A movement that helps people in developing countries get a fair deal for the products they produce.
Fast Fashion	Fashions move quickly to the high street
Market Pull	Products developed because of market demand
Technology Push	Products developed through advancements in technology / materials / manufacturing
Ergonomics	The relationship between the product and the user and how comfortable the product is to use or how easy it is to interact with.
Anthropometrics	Study of human form and their measurements to help the design of products and making them ergonomics
Kinetic	energy which something possesses when in motion
Lever	A simple device that pivots around a fulcrum
Linkage	An assembly of parts used to transfer motion between mechanisms.
Pneumatics	Technology concerned with the mechanical properties of gases.
Oscillating	Swinging in alternate directions
Reciprocating	Moving backwards and forwards
Rotating	Moving in a circle (360°)

## Section B: Key Facts

Questions:	Answers:
Describe how might a small repairs company benefit from becoming a cooperative?	Sharing ownership gives people a personal interest in the business. This results in greater engagement and concern for the best interests of the business. Having a share in the ownership and operation of a business boosts productivity when people are emotionally and financially connected to the business.
Identify the form of motion in the sewing machine and bike pedals.	Sewing Machine – Reciprocal Bike Pedals – Rotary
what three blocks make up a system?	Input Process Output
What are the benefits of social media use for smaller businesses?	<ul style="list-style-type: none"> <li>Allows access to very large audiences</li> <li>Popular way to launch products</li> <li>Appeal to new audiences</li> </ul>
Explain how mechanical devices can change the type of movement in products. Justify your answer.	Mechanical devices all have an input motion, which transforms into force to make an output motion. Explanation of one of the following: <ul style="list-style-type: none"> <li>Lever</li> <li>Linkages</li> <li>Gears</li> <li>Pulleys</li> <li>Belt drives</li> <li>Cams</li> </ul>

## Section C: Key Diagrams

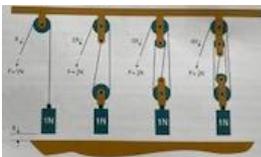
**Motion**



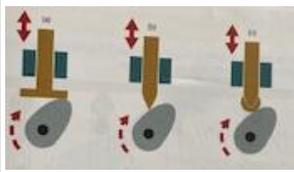
**Gears**



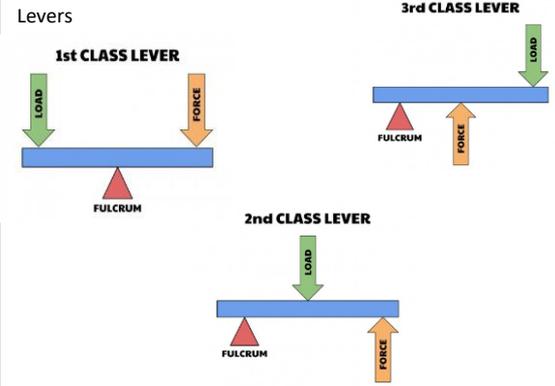
**Pulleys**



**CAMS**



**Levers**



**1st CLASS LEVER**  
 LOAD (down), FULCRUM (middle), FORCE (down)

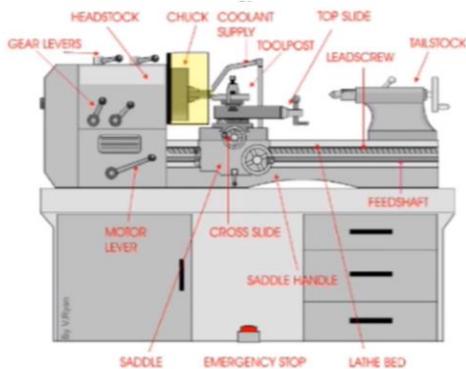
**2nd CLASS LEVER**  
 FULCRUM (left), FORCE (up), LOAD (down)

**3rd CLASS LEVER**  
 FULCRUM (left), LOAD (middle), FORCE (up)

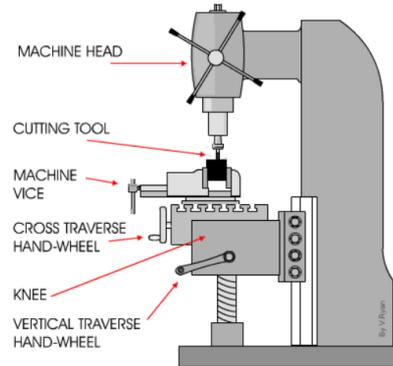
## Section A – Making Processes

Cutting	Shaping	Forming	Joining
Sawing: hacksaw, tenon saw, coping saw, bandsaw	Centre lathe: facing off, parallel turning, taper turning, knurling, centre drilling, boring, cutting threads	Casting: Die casting, sand casting, investment casting	Fabrication: Soft soldering, silver soldering, MIG welding, TIG welding, MMA welding, oxy-acetelene welding, brazing
Drilling: hand drill, battery drill, pillar drill, auger			
Filing: flat file, half-round file, round file, square file, dreadnought file, rasp	Milling: slot milling, edge milling, shoulder milling, drilling, profiling, CNC milling	Forging: Drop forging, upset forging, press forging, cold forging	
Shearing: scissors, guillotine, tin snips, blanking and piercing			

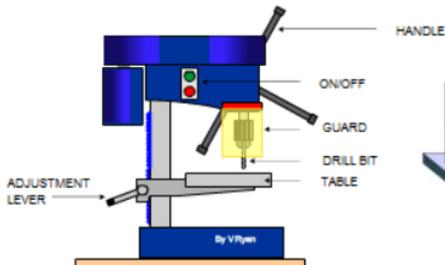
## Section B – Equipment Diagrams



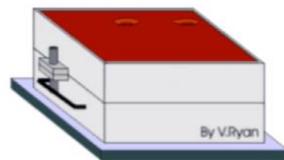
Centre Lathe



Milling Machine



Pillar Drill



Sand Casting

## Section C – Characteristics of materials

CONDUCTIVITY	is the ability of a material to conduct heat or electrical energy
STRENGTH	is the ability of a material to withstand a force without breaking or bending
TENSILE STRENGTH	is the ability of a material to withstand forces stretching it from side to side.
MALLEABILITY	is the ability of a material to permanently deform in all directions without cracking
DUCTILITY	is the ability of a material to deform, usually by stretching along its length
HARDNESS	is the ability of a material to resist wear, scratching and indentation
TOUGHNESS	is the ability of a material to withstand blows or sudden shocks without breaking
DURABILITY	is the ability of a material to withstand wear, especially as a result of weathering

Last half term the knowledge organiser was linked to Unit 1 Learning Aim A. This page focuses on Learning Aim B. Keep all knowledge organiser pages as you will need them to revise for your exam

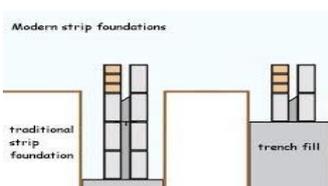
Section A - Pre-Construction Work	
Vocabulary	Definition
Health and Safety Plan	This is a legal requirement to ensure that steps are taken to ensure that the risk of harm to those who have to build, use and maintain structures is reduced.
Method Statement	sometimes called a " <b>safe system of work</b> ", is a document that details the way a work task or process is to be completed.
Risk Assessment	Identifies risks within a company and work operations. Will also state who is at risk/severity/control measures.
Section B- Site Based Pre-Construction	
Vocabulary	Definition
Demolition and clearance of existing structures	sustainable demolition and recycling on brownfield sites, tree removal, general site clearance of vegetation
Enabling work	protection of existing services (water, gas, electricity), formation of access and egress routes, installation of temporary supports

## SUBSTRUCTURE

### Functions of Foundations

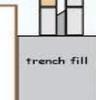
- to safely transmit the loads of the building to the sub-soil
- to settle within acceptable limits for settlement
- to support the loads of the building for its lifespan

#### Strip and Deep Strip



Modern strip foundations

#### Trench/ Mass Fill



trench fill

#### Raft Foundations



#### Short Bored Piles



#### Ground Beam



## Earthwork Supports



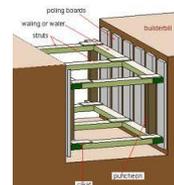
hydraulic trench supports



steel trench sheets

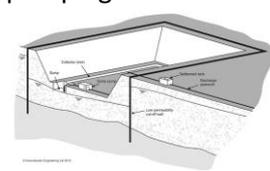


aluminum walling



timbering

### 1: Simple sump pumping



### 2: Well Points

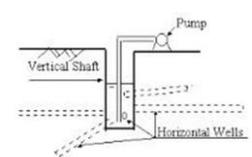
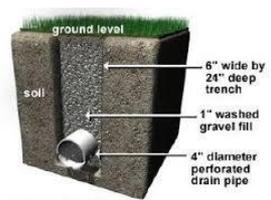


Fig. 8.7 Dewatering by Horizontal Wells

### 3: Deep Wells (French Drain)



3D art by Marty Hovey

Section C - Control of water	
Method	Overview
1: Simple sump pumping	Allows the groundwater to seep into the excavation, where it is collected in sumps and pumped away.. This method is applicable to relatively shallow excavations.
2: Well Points	Uses lines or rings of shallow wells installed around the excavation. Connected to a headerpipe and pumped by wellpoint pumps which can handle both air and water.
3: Deep Wells	The deepwell method uses bored well pumped by electric submersible pumps to lower the groundwater level below the excavation.

# Key terms / Skills Assessment for research & Planning – Food Preparation and Nutrition

Skill 1: General practical skills		Skill 3: Preparing fruit and vegetables		Skill 8: Sauce making	
Food Preparation Skills	Techniques	Food Prep Skills	Techniques	Food Prep Skills	Techniques
Weigh & Measure	<input type="checkbox"/> Accurate measurement of liquids and solids.	Preparing fruit and vegetables	<input type="checkbox"/> Mash, Shred, scoop, scissor snip <input type="checkbox"/> Crush, Grate, Peel, Segment <input type="checkbox"/> De-skin, De-seed <input type="checkbox"/> Blanch, Shape, Pipe <input type="checkbox"/> blend, Juice <input type="checkbox"/> prepare garnishes whilst demonstrating the technical skills of controlling enzymic browning spoilage and preventing food poisoning (wash and dry where appropriate).	Starch based	Sauce demonstrating starch gelatinisation such as... <input type="checkbox"/> Roux. All in one. Blended. Infused velouté. béchamel. <input type="checkbox"/> How starch/liquid ratios affect viscosity.
Prepare ingredients and equipment	Can you evenly and with attention to finished product... <input type="checkbox"/> grease/oil. <input type="checkbox"/> Line <input type="checkbox"/> flour			Reduction	<input type="checkbox"/> reduction sauce to show how evaporation concentrates flavour... <input type="checkbox"/> tomato pasta sauce. curry sauce. gravy <input type="checkbox"/> meat sauce (including meat alternatives such as mycoprotein and textured vegetable protein) to show how evaporation concentrates flavour and changes the viscosity of the sauce.
Select and adjust cooking times	<input type="checkbox"/> Select and adjust the cooking process and length of time to suit the ingredient, for example to match the cut of meat, fish and alternatives.			Emulsion	<input type="checkbox"/> make an emulsion sauce such as a salad dressing, demonstrating an understanding of how to stabilise an emulsion.
Skill 4: Use of the cooker					
Test for readiness	Use of... <input type="checkbox"/> temperature probe, knife, skewer <input type="checkbox"/> finger or poke test <input type="checkbox"/> bite <input type="checkbox"/> visual colour check or sound to establish whether an ingredient or recipe is ready.	Food Prep Skills	Techniques	Food Prep Skills	Techniques
		Using the grill	<input type="checkbox"/> Vegetables. Meat. fish or alternatives such as halloumi, seeds and nuts; char/grill or toast	Tenderise and marinate	<input type="checkbox"/> how acids denature protein. <input type="checkbox"/> marinades add flavour and moisture when preparing vegetables, meat, fish and alternatives.
Judge and modify sensory properties	<input type="checkbox"/> How to taste and season during the cooking process. Change the taste and aroma through: the use of... <input type="checkbox"/> Infusions <input type="checkbox"/> herbs and spices <input type="checkbox"/> Paste <input type="checkbox"/> Jus <input type="checkbox"/> reduction. How to change texture and flavour using... <input type="checkbox"/> browning (dextrinisation, caramelisation) <input type="checkbox"/> glazing <input type="checkbox"/> add crust <input type="checkbox"/> crisp <input type="checkbox"/> crumbs. Presentation and food styling... <input type="checkbox"/> use garnishes <input type="checkbox"/> decorative techniques to improve the aesthetic qualities	Using the oven	<input type="checkbox"/> baking . Roasting. casseroles and/or tagines <input type="checkbox"/> braising.	Skill 9: Tenderise and marinate	
		Skill 5: Use of equipment			
		Food Prep Skills	Techniques	Food Prep Skills	Techniques
		Using equipment	<input type="checkbox"/> Blender. Food processor. mixer <input type="checkbox"/> pasta machine, microwave oven.	Making a dough (bread, pastry, pasta)	Use technical skills of... <input type="checkbox"/> Shortening. gluten formation. Pastry. pasta <input type="checkbox"/> fermentation (proving) for bread
		Skill 6: cooking methods			
Food Prep Skills	Techniques	Food Prep Skills	Techniques		
Water based methods using the hob	<input type="checkbox"/> Steaming. Boiling. Simmering. Blanching. poaching.	Shaping and finishing	<input type="checkbox"/> Roll out pastry. use a pasta machine <input type="checkbox"/> line a flan ring <input type="checkbox"/> create layers (palmiers) proving and resting <input type="checkbox"/> glazing and finishing, such as pipe choux pastry <input type="checkbox"/> bread rolls. pasta, flat breads. Pinwheels. pizza <input type="checkbox"/> calzone.		
Skill 10: dough					
Skill 11: Raising agents					
Food Prep Skills	Techniques	Food Prep Skills	Techniques	Food Prep Skills	Techniques
Eggs as a raising agent	<input type="checkbox"/> create a gas-in-liquid foam. whisking egg whites, <input type="checkbox"/> whisked sponge	Chemical raising agents	<input type="checkbox"/> the use of self raising flour <input type="checkbox"/> baking powder. bicarbonate of soda	Removal of heat	<input type="checkbox"/> Gelation . Use a starch to set a mixture on chilling for layered desserts such as custard.
Steam-raising agent	<input type="checkbox"/> use of steam in a mixture (choux pastry, batter)	Biological raising agent	<input type="checkbox"/> Use of yeast in breadmaking	Use protein	Set a mixture on heating such as... <input type="checkbox"/> Denatured. Coagulated protein in eggs.
Skill 12: Setting mixtures					
Food Prep Skills	Techniques	Food Prep Skills	Techniques	Food Prep Skills	Techniques
Fruit and vegetables	<input type="checkbox"/> bridge hold & claw grip <input type="checkbox"/> Peel, slice <input type="checkbox"/> dice and cut into even size pieces (ie batons, julienne).	Prepare, combine and shape	<input type="checkbox"/> Roll. Wrap. Skewer. Mix. coat <input type="checkbox"/> layer meat, fish and alternatives <input type="checkbox"/> shape and bind wet mixtures (such as falafels, burgers, fish cakes or meatballs) <input type="checkbox"/> demonstrate the technical skill of preventing cross contamination and handling high risk foods correctly.		
Meat, fish or alternatives	<input type="checkbox"/> fillet a chicken breast <input type="checkbox"/> portion a chicken, remove fat and rind <input type="checkbox"/> fillet fish <input type="checkbox"/> slice evenly and accurately: raw and cooked meat and fish or alternatives (such as tofu and halloumi cheese).				

## A – Embedded Systems

An **embedded system** is where **hardware** and **software** are linked together for a specific purpose:

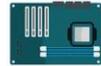
- Not usually **programmable** as **software** cannot be changed except for updates
- **Hardware** and internal **components** are not interchangeable

### Embedded

OS loads and execute only one application and piece of software

Computer and components firmly fixed deep inside the device

Software usually stored in flash memory or ROM to maximise the use of connected hardware



### Non-Embedded

OS loads and allows various applications to run, loaded, changed and customised

Internal components easily accessible and can be upgraded and changed

Software can be stored on a variety of secondary storage devices and loaded into RAM each time

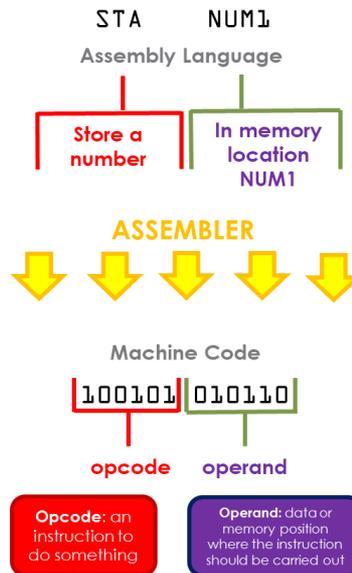
## B – Computer Languages

A **CPU** can only understand **instructions** that are written in **machine code** but there are levels before and steps in-between

- **High-level language:** is a programming language that allows programs to be written
- **Low-level language:** are close to the computer's instruction set

Computers, like people who talk in different **languages** need some process of **translation** between **high-level** and **low-level**

- **Assembly language:** keywords specific to the architecture of the CPU, easier to understand than long binary strings
- **Machine code:** only form of program instructions that the hardware can understand and execute; written in binary and different on different machines



## C – Binary Tree and Huffman Encoding

The **binary tree** is useful for storing data for rapid access, storage or deletion

- Uses **nodes** to create a hierarchy structure with the first node being the **root**
- Each **node** as a **parent** can only have 1 or 2 **child** nodes
- The sides are called the left **subtree** and right **subtree**

To **encode** the alphabet: lowercase, uppercase and punctuation you could get by with **64 different characters**

**6 bits** could be used to store 64 characters  
**ASCII** uses **7 bits** for each character

### ABRACADABRA

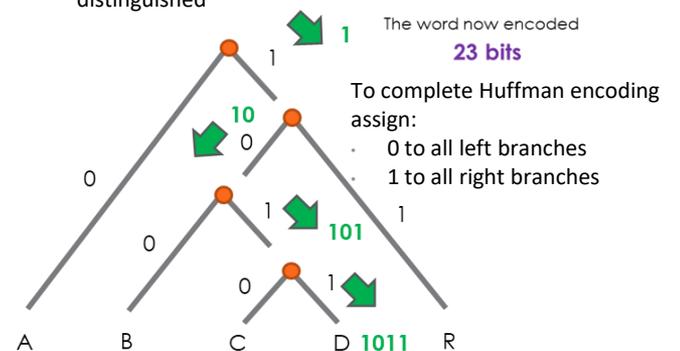
The word above uses 11 characters with **ASCII** storing **7-bits** per character

**77 bits**

1. **Find Frequency:** how many times are the letters repeated
2. **Assignment:** give each character a binary number that is unique and easily distinguished

Letter	Frequency	Assignment
A	5	0
R	2	11
B	2	100
C	1	1010
D	1	1011

**01001101010010110100110**



Letter	Frequency	Assignment
A	5	0
R	2	11
B	2	100
C	1	1010
D	1	1011

## A Malware Vocabulary

Keyword	Definition
<b>Adware</b>	Adware generates revenue for it's author
<b>Bot</b>	Bots take control of a computer system
<b>Bug</b>	Bugs are connects to software and are a flaw that produces an unwanted outcome
<b>Ransomware</b>	Ransomware hold a computer system captive and demands a ransom, usually money, to release it
<b>Rootkit</b>	A rootkit is designed to remotely access or control a computer system without being detected by the user or software
<b>Spyware</b>	Spyware can collect data from an infected computer, including personal information like websites visited, user logins and financial information
<b>Trojan horse</b>	A Trojan horse is a standalone malicious program designed to give full control of an infected PC to another PC
<b>Virus</b>	A virus attempts to make a computer system unreliable
<b>Worm</b>	A worm is a standalone computer program that replicates itself so it can spread to other computers

## B Social Engineering Vocabulary

Keyword	Definition
<b>Phishing</b>	Phishing tries to get users to input their credit or debit card numbers, or security details or log-in details into a fake website
<b>Pretexting</b>	Pretexting is when a cybercriminal lies to get data or information
<b>Bating</b>	Baiting tries to get victims to give cybercriminals the information they need
<b>Quid pro quo</b>	Quid pro quo tries to disable anti-virus software so that software updates usually malware, can be installed to gain access to a computer system
<b>Phishing</b>	Phishing tries to get users to input their credit or debit card numbers, or security details or log-in details into a fake website

## C – Consequences of Loss

- 1. Financial** – **accounts** may be lost, **invoices** from that day corrupted, **records of debts**. Potential **compensation** to pay if personal information is targeted. Increased costs for **new security**. Customer **confidence** affected moving them onto new businesses
- 2. Data** – Timing of data meaning **transactions** or **tasks** cannot now be complete, **time delay to restore** back up and replace work, **emails** attacked losing contact details, possible **identity theft**
- 3. Reputation** – Not seen as **safe** or **trustworthy** with customer data

## D – Consequences of Disruption

- 1. Operational** – Time to **reinstall** applications and **backup data**, **recovering** data lost, **checking data** and systems are restored and safe
- 2. Financial** – Loss of **customers** and hence **revenue**, possible **compensation**, increased **security** costs
- 3. Commercial** – cannot **function** or run the business, possible **safety** issue if a power station (Sellafield)

## E – Consequences of Safety

- 1. Individuals** – **Targeted government website attack** could risk **national security** e.g. prison service and release dates. Transport attack controlling rail network. **Identify theft** and black market on **dark web**
- 2. Equipment** – Devices used as bots in a DDoS attack that run safety applications, cannot access data needed to maintain safety or help public services
- 3. Finance** – personal safety if finances attacked, lack of funds to pay for essentials

## Business - COMPONENT 3 - Finance

## Financial documents **B1**

- **Learning Aim B** : Financial records

Enterprises use a range of financial documents throughout the buying and selling process to record the sale and purchase of goods and services.



Document	Description	Document	Description
Purchase order	<ul style="list-style-type: none"> <li>• Completed by buyer (the customer)</li> <li>• A legal offer to buy goods from the supplier</li> <li>• List items required, including price agreed and quantity</li> <li>• Sent to the supplier requesting products</li> </ul>	Receipt	<ul style="list-style-type: none"> <li>• Completed by supplier and sent to the customer</li> <li>• A record of payment made by the customer</li> <li>• Rarely used when enterprises sell goods on credit (see statement of account)</li> </ul>
Delivery note	<ul style="list-style-type: none"> <li>• Completed by supplier</li> <li>• Sent to customer when goods delivered</li> <li>• Lists details about the order, including contents of delivery</li> <li>• Lists any goods not supplied, with reasons for non-delivery</li> <li>• Used by the customer to check that goods delivered match goods requested on the purchase order</li> </ul>	Credit note	<ul style="list-style-type: none"> <li>• Completed by supplier and sent to the customer</li> <li>• Lists any goods that may have been returned by the customer</li> <li>• Confirms money refunded to the customer or may be used against the purchase of other goods by the customer in the future</li> </ul>
Invoice	<ul style="list-style-type: none"> <li>• Completed by supplier</li> <li>• A request for payment – sent to customer, either on receipt of goods or shortly after</li> <li>• List price of goods delivered, delivery charges and amounts owed to supplier</li> <li>• States date by which money must be paid</li> <li>• Explains how to pay, for example by bank transfer</li> </ul>	Statement of account	<ul style="list-style-type: none"> <li>• Completed by supplier and sent to customer</li> <li>• A financial summary of the goods ordered, purchased or returned by the customer over a period of time, usually a month</li> <li>• Some enterprises pay their invoices only after receiving the statement</li> </ul>

## Section A: Key Vocabulary

Tier 2 Vocabulary	Definition
Professionalism	Using the correct tone , manner wit clients and staff
Consultation	Gain information from the client on the hair and skin

Tier 3 Vocabulary	Definition
Hydrogen bonds	These are temporarily broken during the setting or blow-drying process
Salt bonds	Salt bonds are also physical side bonds. Strong acidic or alkaline solutions break salt bonds because they are affected by changes in pH.
Humidity	This is moisture in the air and as hair has the ability to absorb moisture in a very humid environment this would attack a hairstyle and it would loose its shape due to the hair shaft swelling taking the hair back to alpha keratin
Hygroscopic	Ability to absorb moisture from the atmosphere.
Porosity	Checking the condition of the cuticle.

## Section B2: Key Facts

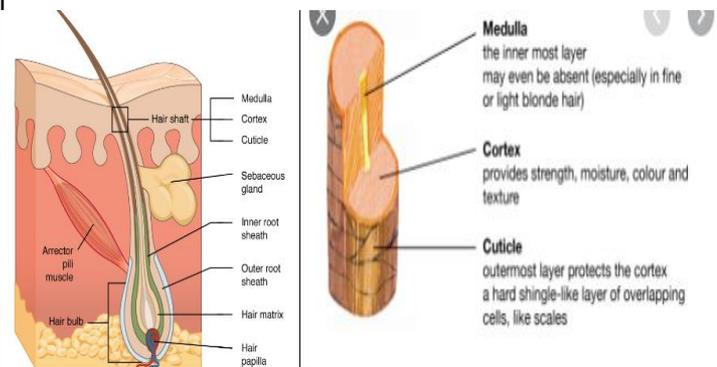
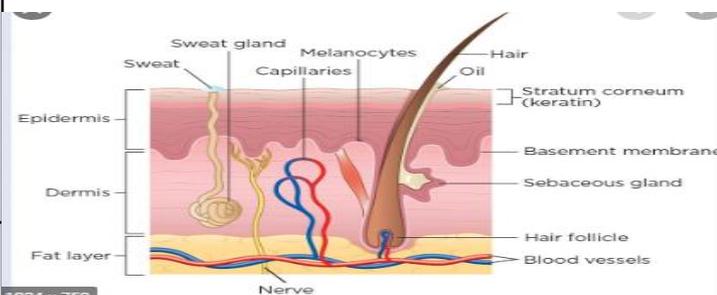
Questions:	Answers:
What are the 3 main hair conditions?	Normal, dry, oily
Why do we use conditioner?	Closing and smoothing the cuticle, adding shine.
What is Alpha keratin	Hair in its natural unstretched state
What is beta keratin?	Hair which has been stretched in a new position

What does PETA stand for?	People for the ethical treatment of Animals
What does RSPCA stand for?	Royal Society for the prevention of cruelty to animals.
What do they use instead of animal testing today?	Episkin and volunteers

Explain how depilatory products affect the hair structure?	Has the effect of breaking the linkages between polypeptide chains in the cortex, The high alkalinity of the product (12-14 pH), swells the hair and will dissolve the hair.
Identify two possible negative effects of a depilatory product.	Irritation to the skin, Swelling, Redness, Blisters, Allergic reaction.

## Section C

Shampoo	A Product for cleaning the hair and scalp.
Conditioner	A product applied to the hair after shampooing to make it more manageable.
Hairspray	A holding spray to hold it in place and add shine.
Mousse / gel / lotion / wax / serum	Substances used to set or style hair.
Hair mask	A product applied to the hair as a specialised treatment to deep condition.





**Learning Outcome 3 - Understand how legislation impacts on care settings.**

<b>Discrimination</b>	judging other people because of their differences to create disadvantage. It can be based on race, disability or gender.
<b>Vulnerable</b>	a person who is unable to take care of themselves against harm or exploitation. It may be because of mental or physical disability or illness.
<b>Dementia</b>	a condition causing memory loss, confusion and difficulty doing daily tasks.
<b>Disabilism</b>	abusive or discriminatory behaviour directed at people with a disability making them feel inferior or less valued.
<b>Sexualism</b>	negative attitudes towards individuals on the basis of their sexual orientation or behaviour
<b>Transphobia</b>	discriminatory behaviour against transgender or transsexual people because of a belief that they don't conform to societies expectations on gender.
<b>Redress</b>	to get justice after being discriminated against or not having been given adequate care. This can be in the form of compensation or having rights restored.
<b>Protected characteristic</b>	this refers to the nine characteristics identified in the Equality Act. It is unlawful to discriminate against someone who has a protected characteristic.
<b>Victimisation</b>	bad treatment to someone who has made a complaint.
<b>Harassment</b>	behaviour that violates a person's dignity or intends to humiliate or intimidate them

**KEY KNOWLEDGE**

**Who does legislation support and protect?**

- Men and women
- Older adults
- Children and young people
- Vulnerable adults
- Minority ethnic groups
- People with disabilities



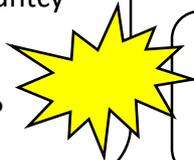
**What is legislation?**

It protects all groups of people in society and gives people rights which they are entitled to, through laws passed by parliament. Law is upheld through courts.

Legislation provides a framework to maintain and improve quality of practice. It provides guidance for those who work in the health, social care and early years sectors and sets out the standard of practice and conduct that care providers should meet.



- Identify the key aspects of the **Children's Act 2004**
- Explain what the Paramourncy principle means.
- What is the role of the Children's Commissioner?



**Exam Practice**

- Identify the key aspects of the **Mental Health Act 2007**

**Quick Questions**

- What is meant by the term legislation?
- Identify four groups of individuals that are protected by legislation
- List five key aspects of the Mental Health Act

- Identify the key aspects of the **Equality Act 2010**
- How does the Equality Act support the rights of service users with disabilities?
- Why do you think some organisations do not make "reasonable adjustments" to give better access for people with disabilities?

**Health and Safety at work Act 1974**

- Outline the responsibilities of employers
- What are the responsibilities of employees?



**Exam Practice**

- Explain what the **Data Protection Act 2018** states about information and data.
- What is meant by a "need to know" basis?

# Health and Social Care RO21: Essential values of care for use with individuals in care settings



**Learning Outcome 4 :** Understand how personal hygiene, safety and security measures protect individuals

**ACTIVITY:**

- Make a list of everything you have touched since you have got out of bed this morning.
- Highlight everything that someone else could have touched as well as you.
- List any hygiene measures you have used since waking up.
- Which hygiene measures could be taken to reduce the spread of bacteria and infections between individuals?

Fire Safety Measures
Fire safety notices visible in setting
Signs indicating fire doors and assembly points
Fire doors kept clear
Appropriate number of fire extinguishers, fire blankets etc.
Regular fire practices and drills.
Fire equipment checked regularly



Security Measures
Staff wearing ID lanyards
Electronic security keypads with PIN code entry
External doors and gates locked
Manned reception desk
Window locks or restraints.
Signing in/out for staff and visitors
CCTV monitoring external entrances.
Monitoring of keys
Visitor badges

Personal Hygiene Measures
Correct handwashing procedures
Hair tied back or covered
Regular brushing of teeth
Appropriate protective clothing
Open wounds covered
Regular showering and hair washing
Correct disposal of used tissues and wipes etc.
No jewellery or nail polish



**Quick Questions**

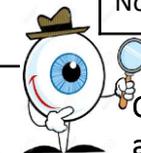
1. How does good personal hygiene protect individuals in care settings?
2. Gives four examples of when a care worker should wear disposable gloves and explain why it is important.
3. Describe some fire safety measures.
4. What procedures should a residential home have in place for visitors?
5. What are the five stages of carrying out a risk assessment?



Moving and Handling Procedures	
Protection of care workers	Protection of service users
Staff have guidance for good practice and know correct procedures	Prevents injury to service users
The environment, equipment and load will be risk assessed to make sure the correct number of people are involved for safety	Improves the service users comfort and dignity
Prevents injury to care workers and helps them do their job safely	Shows the care worker respects the service user
Care workers develop confidence because of improved knowledge	Service user feels confident and safe knowing the care worker is trained and qualified
Training protects workers from accusations of bad practice	The service user will develop trust in the care worker.



1. Look for hazards
2. Decide who might be harmed and how
3. Consider the level of risk and the precautions needed to reduce the risk
4. Make a written record of the findings
5. Review the risk assessment from time to time and improve precautions if necessary.



**Carrying out risk assessment**  
**This is a legal requirement under the Health and Safety at Work Act.**

# Health and Social Care RO21: Essential values of care for use with individuals in care settings

**Learning Outcome 4 :** Understand how personal hygiene, safety & security measures protect individuals

## RESEARCH ACTIVITY

- Find out the correct technique for washing hands.
- Write out a set of illustrated step-by-step instructions for the correct method of hand washing.

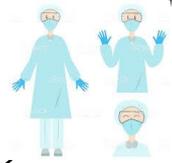


## GENERAL CLEANLINESS

- Floors should be vacuumed or mopped
- Spillages and vomit cleaned up
- Walls, windows and blinds cleaned regularly
- Furniture cleaned daily
- Toys washed frequently
- Cleaning cloths changed regularly
- Bins emptied daily
- Remove and wash dirty crockery
- Clean worktops cookers and equipment
- Ensure there are no pests like mice or cockroaches
- Dispose of sharps, soiled linen and clinical waste correctly.

## Protective clothing

Aprons, hairnets gowns and masks which have been worn/used once should be disposed of immediately to prevent the spread of infection.



## Gloves form a barrier to infections and should always be used when;

- Changed soiled bed linen
- Dealing with body fluids like blood, urine and vomit.
  - Dressing wounds
  - Clearing up spillages
  - Before and after eating
- Food preparation and serving

## Correct food preparation

- Use correct colour chopping boards to keep raw and cooked food separate
- Store food correctly
- Check “use by” and “eat by” dates
- Cook food at the correct temperature to kill bacteria
- Wash fruit and vegetables before use
- Cover food to protect from insects.



# MEDIA STUDIES GCSE

## Todorov

We could analyse the Reveal front cover using Todorov's narrative stages:

**Equilibrium** – before viewing the magazine.

**Disruption to the equilibrium** – the cover disrupts our equilibrium with the open questions and a congested/confused layout.

**New equilibrium** – reading the magazine answer these questions and give us a new equilibrium.

## Propp

**Hero** – Who are the heroes? Some of the celebrities living the aspirational life could be the heroes.

**Villain** – is Katie Price portrayed as a villain?

**Princess** – are the celebrities with 'perfect' constructed lives Princesses (e.g. Lauren)

**Donor** – is Reveal the donor. We pay money to have the answers donated to us.



## Barthes Enigma Codes

Linguist Roland Barthes described 5 Codes which are woven into any narrative:

**The Hermeneutic Code** refers to any element of the story that is not fully explained and hence becomes a mystery to the reader. "One single trick for your best skin ever".

**The Proairetic Code** also builds tension, referring to any other action or event that indicates something else is going to happen, and which hence gets the reader guessing as to what will happen next. "Katie plots secret meetings"

**The Semantic Code** refers to connotation within the story that gives additional meaning over the basic denotative meaning of the word. "Cheryl becomes a very posh mum" which is particularly enigmatic for this famously working-class Tyneside star.

**The Symbolic Code** This is very similar to the Semantic Code, but acts at a wider level, organizing semantic meanings into broader and deeper sets of meaning. This is typically done in the use of antithesis, where new meaning arises out of opposing and conflict ideas.

**The Cultural Code** This code refers to anything that is founded on some kind of canonical works that cannot be challenged and is assumed to be a foundation for truth.

Typically this involves either science or religion, although other canons such as magical truths may be used in fantasy stories. The Gnomonic Code is a cultural code that particularly refers to sayings, proverbs, clichés and other common meaning-giving word sets.



## Tabloid

Examples: The Sun, The Mail, The Mirror, The Express - Smaller newspapers aimed at a large audience. News is reported in less depth. The language level is lower, more use of images. Includes more celebrities, gossip.

**Broadsheet** - Large format newspapers that report news in depth, often with a serious tone. News heavy focus, international affairs.

**Media Bias** - Where the personal views of owners, editors and journalists dictate the news agenda. Usually dictated by political affiliations, donations and connections.

**Active Reader** - Thinks critically about the material being read; they question it and learn from a text. They chase after the knowledge and will try to remain interested until the end.

**Passive Reader** - Take in messages blindly without working out reliability/ bias and also expect the writer to be responsible for keeping their interest using their writing style (rather than the story itself).