ISCA ACADEMY

INSPIRATION FOR LIFE

SUMMER 2020

KNOWLEDGE BOOKLET

YEAR 10

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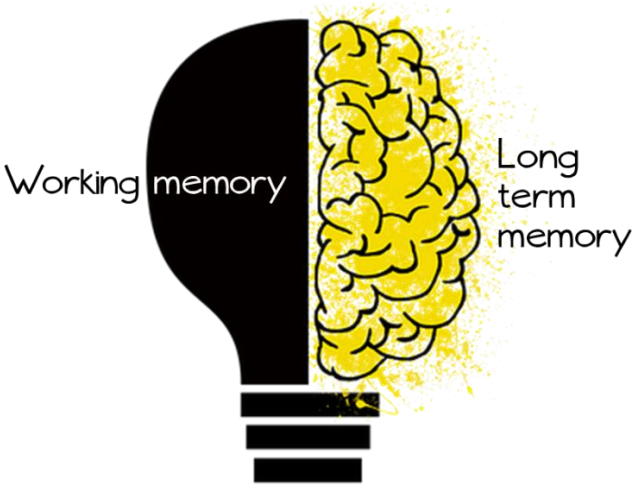
WHAT IS A KNOWLEDGE ORGANISER?

Your mind is split into two parts: the working-memory and the long-term memory. Everybody's working-memory is limited, and can very easily become overwhelmed this is known as overload. Your long-term memory, on the other hand, is effectively a limitless storehouse for information.



You can support your working memory by storing key facts and processes in your long-term memory. These facts and processes can then be retrieved to stop your working memory becoming overloaded:

Let's look at an example, the basic number fact: 7 x 8 = 56

If you can instantly recall that 7 x 8 = 56, your working memory has more space to think about a more difficult problem, like 37 x 8. The answer of 56 comes effortlessly, and you can focus on 30 x 8, then add the product to the 56 in your head.

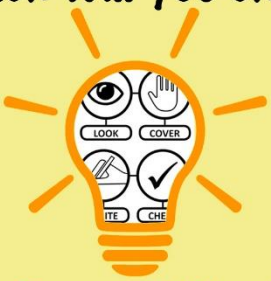
If you do not know that 7 x 8 = 56 straight away, you are more likely to become confused and frustrated. Being able to very quickly recall key facts is a way of hacking your working memory, making thinking about difficult stuff much easier.

This booklet contains knowledge organisers for all of your subjects for the summer term. Each knowledge organiser has the key information, which needs to be memorised to top up your long-term memory in order to help you master your subject and be successful in lessons. You will be expected to follow the homework schedule on page 4.

HOW TO USE YOUR KNOWLEDGE ORGANISER

Challenge yourself

Which will you choose?

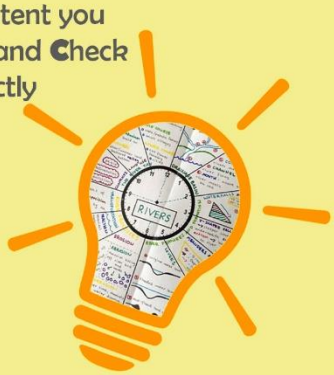


Look Cover Write Check

Look at your knowledge organiser, **C**over a section of it, **W**rite out the content you have just covered from memory and **C**heck you have recalled it correctly

Mindmaps

Place the key word/concept in the middle. Go wild with colourful, flowing shapes that link the key definitions and concepts.



Revision Clock

Draw a clock and add the topic in the middle. Then, break it down into 10 minute sections. Add notes in each segment. Cover the clock and recite all the information out loud.

Mnemonics

Creating mnemonics is a great way for remembering groups or lists of words. For example, to remember the order of planets in the solar system:
My Very Excited Mother Just Served US Nachos

Flash Cards

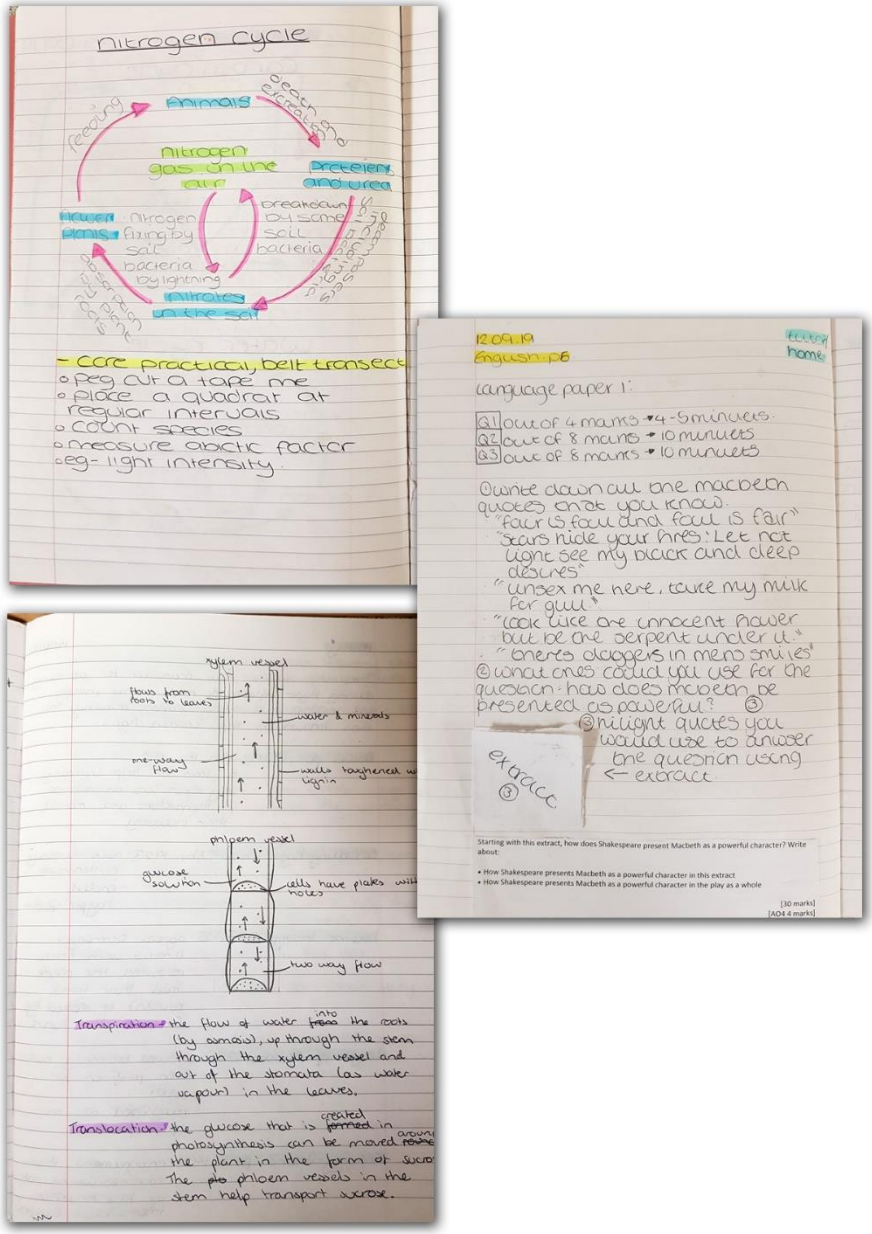
Write down the word/term on one side and a definition/explanation on the other side. Once you have notes written in your own words and summarised – move onto testing yourself quickly.

EXPECTATIONS OF YOU

1. Check the schedule on the next page to see which knowledge organisers you should use each day for your homework
2. Complete **one full page for each subject** on the schedule in your knowledge book **every day**
3. Use your knowledge organiser after you have finished to **mark and correct** your own work
4. **Sign your self-check sheet at the end of each week** after you have finished your full page each day
5. Get your self-check sheet **signed by your tutor** during your knowledge organiser tutor time session

T	on Time
A	Accurate
N	Neat
C	Complete

Homework should be **TANC**. Below is an example of homework that would meet the expected standard. If it does, your tutor will sign your log on the morning you are working in silence on your knowledge organiser.



YOUR SCHEDULE

Day	Subject	Subject
Monday	Numeracy – online	Literacy - online
Tuesday	Maths	Option A
Wednesday	English	Option B
Thursday	Science	Option C
Friday	Science	RE

Every Monday you will have Numeracy and Literacy homework. This will not be using your knowledge organiser, numeracy will be using SPARX and literacy will be using Doddle, both of which are online. Your English and Maths teachers will set these tasks.

Below are the option subjects you are currently studying:

Option A	Option B	Option C
History	**Art**	**PE**
Drama	**Catering**	**History**
French	**Geography**	**Futsal**
Computer Science	**History**	**Geography**
Dance	**Drama**	**Spanish**
Geography	**French**	**Catering**
Resistant Materials	**Spanish**	**Music**
	Photography	

Week commencing	Self Check	Tutor Sign	Week commencing	Self Check	Tutor Sign
20/4/2020			1/6/2020		
27/4/2020			8/6/2020		
4/5/2020			15/6/2020		
11/5/2020			22/6/2020		
18/5/2020			29/6/2020		

You will notice on each knowledge organiser that there are green and blue edged boxes with text in. Text in a green edged box is key vocabulary you need to learn and writing in a blue edged box are the key concepts/knowledge you will need to learn.

Key Vocabulary will be written in a green edged box like this.

Key concepts/ideas will be written in a blue edged box like this

GCSE English Language Paper 1: Explorations in creative reading and writing

5 ENGLISH

Question 1

List 4 things…in a given section. Write in full sentences.

X4

Question 2 = LANGUAGE

The writer presents ____ as ____ by using _____.

"Evidence"

Use the Isca Way

X3

Question 3 = STRUCTURE

- In the beginning the writer focuses on…
- The first lines establishes…
- The paragraph/sentence foreshadows…
- The writer establishes…
- The viewpoint/ perspective…
- The focus shifts to/focus narrows to…
- In the second half…
- The idea is further emphasised when…
- The tone changes when…
- Concludes with…
- The last line interests the reader because…
- The juxtaposition of…

X3

Question 4 = LANGUAGE and STRUCTURE

Agree/disagree with the statement

I agree / disagree that…

Use the Isca Way

Therefore / consequently / subsequently I agree / disagree…

X3

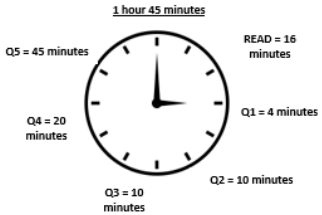
Question 5 = WRITING

Creative writing based on an image or title

Remember to plan!

Ingredients for Fantastic writing:

1. Ambitious Vocabulary
2. Structure
3. Punctuation
4. Language Features
5. Sentences



Writer's methods:

Simile – comparison using like or as
Metaphor – comparison saying one thing is another
Personification – giving inanimate objects human qualities
Juxtaposition – two things with contrasting effects placed close to each other
Cyclical – a repeated idea / word (at the beginning and end of a text/extract)
Imagery – creates a picture in the reader's head
Foreshadowing – a hint or indication of something to come
Focus shift – the focus of the writing changes
Adjectives – describing words
Verbs – action or state
Adverbs – describes how the verb is done

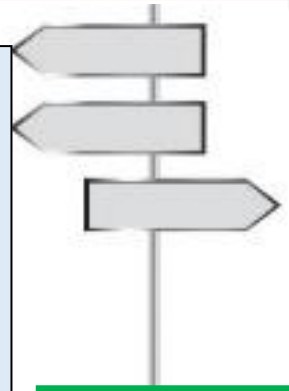
Introduce your idea → THEN → ***Get the marks***

The beginning of a text
Initially…
Instantly…
As the text develops
Over the course of the text…
Plausibly…
Perhaps…
Evidently…
What stands out?
Interestingly…
Of importance here is…
This idea is accentuated…
This is further emphasised…
This is reinforced…
This is juxtaposed against…
What else could it mean?
In addition…
It is worth considering…
At a deeper level…
The ending of the text
Consequently…
Towards the end of the text…
Ultimately…

The Isca Way

Use these words and phrases in whichever order to analyse and respond to the writer's methods: language, structure, character, symbol, theme…
You can use the phrases in whichever order. You do not have to use each one in every paragraph:

- the writer uses/establishes…by…
- this suggests / conveys / depicts / portrays…
- the word / image / phrase "---" has connotations of…
- at a deeper level / this seems to be a metaphor for…
- This becomes a symbol for…
- The writer is … challenging / delivering a message about / advocating…
- The reader / audience…



Key vocabulary:

Tone
Connotations
Establishes
Suggests
Conveys
Portrays
Evokes
Shifts
Viewpoint
Perspective
Furthermore
Emphasised

GCSE English Language Paper 2: Writers' viewpoints and Perspectives

Question 1

List 4 things…in a given section. Write in full sentences.

X4

Question 2 = SUMMARISE the differences
Identify a difference: **In Source A…**
Evidence: **For example…**
Effect: **This suggests / this conveys / this demonstrates…**
Compare: **Whereas in Source B…**

X3

Question 3 = LANGUAGE

The writer presents ____ as ____ by using _____.
"Evidence"
The connotations of the word/image/phrase "-----" are…
At a deeper level
This makes the reader understand/ think/feel…
This links to…

X3

Question 4 = COMPARE the writers viewpoints

In Source A, the writer presents ____ as ____ by using _____.
Use the Isca Way

X3

Question 5 = WRITING
Creative writing based on an image or title
Remember to plan!

Ingredients for Fantastic writing:

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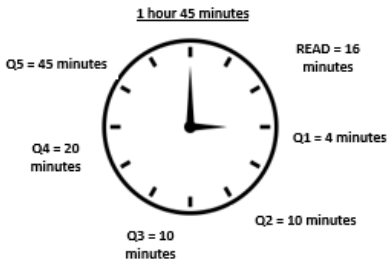

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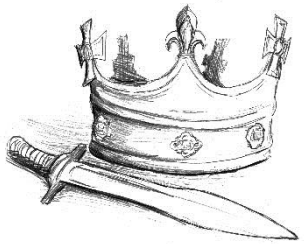
Key vocabulary:
Tone
Connotations
Establishes
Suggests
Conveys
Portrays
Evokes
Shifts
Viewpoint
Perspective
Furthermore
Emphasised

‘Macbeth’ Knowledge Organiser

7 ENGLISH



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1 The play opens as three witches plan a meeting with the brave Scottish nobleman Macbeth, who at that moment is fighting in a great battle. When the battle is over, Macbeth and his friend Banquo come across the witches who offer them three predictions: that Macbeth will become Thane of Cawdor and King of Scotland, and that Banquo's descendants will become kings.

Banquo laughs at the prophecies but Macbeth is excited, especially as soon after their meeting with the witches Macbeth is made Thane of Cawdor by King Duncan, in return for his bravery in the battle.

2. He writes to his wife, Lady Macbeth, who is as excited as he is. A messenger tells Lady Macbeth that King Duncan is on his way to their castle and she invokes evil spirits to help her do what must be done next. Macbeth is persuaded to kill Duncan by his wife and stabs him to death. No-one is quite sure who committed this murder; no-one feels safe. Macbeth is crowned king.

3. Macbeth is king - the second prediction from the witches has come true, but he starts to fear the third prediction (that Banquo's descendants will also be kings). Macbeth decides to have Banquo and his son killed, but the plan goes wrong. Banquo is killed but his son Fleance escapes. Macbeth sees Banquo's ghost at the feast and it seems that he is losing his mind as he hallucinates for the second time in the play. He seeks out the witches for more predictions. Their promises make him think that he is invincible.

4 He becomes more ruthless and orders the murder of the family of Macduff, a lord who seems to be challenging him. In England, forces begin to gather together to fight Macbeth.

5. Macbeth still thinks he is safe but one by one the witches' prophecies come true. Lady Macbeth is obsessed with guilt over the death of Duncan, becomes deranged and kills herself. A large army marches on Macbeth's castle. Macbeth is killed by Macduff, and his head is placed on the battlements of the castle.

Tyrant / tyranny
Ambition
Regicide
Malevolent
Corrupt / corruption
Usurper / usurped
Jacobean
Supernatural
Soliloquy
Equivocal / equivocator

Ambition
Evil
Order/disorder
Appearance & reality
Guilt
Loyalty/disloyalty
Kingship
The Supernatural
Manhood/courage
Fate vs Free will
Revenge

Key images (motifs)
Some ideas occur many times and have more significance:
Blood
Darkness and night
Sleep
Daggers
Animals, birds and insects
Heaven & Hell

'An Inspector Calls' – J.B. Priestley

Introducing Your Idea

The beginning of a text
Initially…
Instantly…

As the text develops
Over the course of the text…
Plausibly…
Perhaps…
Evidently…

What stands out?
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This is reinforced…
This is juxtaposed against…

What else could it mean?
In addition…
It is worth considering…
At a deeper level…

The ending of the text
Consequently…
Towards the end of the text…
Ultimately…

8 ENGLISH

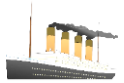
Contextual Timeline

- 1912 - The play was set
  - The Titanic sunk
  - The Miner's Strike
- 1914-1918 – WWI
- 1926 – General Strike
- 1928 – All men and women over 21 could vote
- 1930 – The Depression
- 1939-1945 – WWII
- 1945 – The play was written

The story:
A police inspector interrupts the Birling family's celebration of the engagement of Sheila and Gerald. The story unravels to show each of the family's involvement with the death of a young working girl, Eva Smith.

Characters:
Mr Arthur Birling: A wealthy businessman, capitalist
Mrs Sybil Birling: his wife and social superior
Sheila Birling: their young daughter (younger generation)
Eric Birling: their son (younger generation)
Mr. Gerald Croft: engaged to Sheila, son of Lady Croft and Sir Croft
Inspector Goole: socialist
Eva Smith / Daisy Renton: a young working-class woman

Important Quotations:



"Unsinkable…absolutely unsinkable"
"Nobody wants war"
"Community and all that nonsense"
"Like bees in a hive…""
"I accept no blame for it at all"
"Now look at the pair of them – the famous younger generation who know it all"
"If men will not learn that lesson, when they will be taught it in fire and blood and anguish."
"The point is, you don't seem to have learnt anything."
"There are millions and millions and millions of Eva Smiths and John Smiths…"
"Cold"
"But these girls aren't cheap labour – they're people"
"Girls of that class"
"We are all to blame"
"You're not the kind of father a chap could go to when he's in trouble"
"It's better to ask for the earth than to take it."

Key concepts

- **Social responsibility**
- **Social Class**
- **Young and Old Generation**
- **Gender**
- **Society**
- **Wealth**
- **Family**
- **Love**

The Isca Way: use these sentences, in whichever order, as a *guide* to help organise your thinking in the exam:

- **The writer establishes / uses / creates ____ to …**
- **This suggests / conveys / portrays…**
- **The word / image / phrase "----" has connotations of…**
- **At a deeper level… Perhaps…Possibly…Metaphorically…**
- **-----becomes a symbol for…Symbolically…**
- **Priestley is challenging…Advocating… …Is trying to cha**
- **The audience thinks…Feels…Is made to understand… Wonders whether…Is left questioning…**

Important Stage Directions:

"The lighting should be pink and intimate…then becomes brighter and harder"
"The sharp ring of the front door bell"
"An impression of massiveness, solidity and purposefulness"
"Cutting in"
"He moves nearer a light"
"With a little cry…runs out"

Priestley
Birling
Responsibility
Socialism
Capitalism
Welfare State
Socialism
Capitalism
Conscience
Omniscient
Microcosm
Cyclical
Patriarchal
Society
Redemption
Remorseful

'A Christmas Carol' – Charles Dickens

Contextual Timeline

- 19th century = Industrial Revolution
- 1834 – Poor Law was introduced
- 1843 – The novel was written

Characters:

Scrooge – A selfish business man who transforms into a charitable philanthropist.
Fred – Scrooge's nephew whose party invitation he declines
Jacob Marley – Scrooge's dead partner who returns as a ghost to warn scrooge to change his ways.
Bob Cratchitt – Scrooge's clerk who doesn't have much money. He loves his family and is shown to be happy and morally upright.
Tiny Tim – Bob's ill son whose story plays a part in inspiring Scrooge's transformation.
Mrs Cratchitt – Bob's wife
The Ghost of Christmas Past – A strange combination of young and old, wearing white robes and looking like a candle.
The Ghost of Christmas Present - A portly, jovial gentleman surrounded by a warm glow. He brings joy to the neediest.
The Ghost of Christmas Yet To Come – A robed and hooded spirit who confronts Scrooge with his own tombstone.
Fezziwig – Scrooge's ex-employer
Belle – A woman who scrooge was in love with; she left him due to his greed.

Important Quotations:

"Hard and sharp as flint"
"As solitary as an oyster"
"I wear the chain I forged in life"
"He could not hide the light"
"Are there no prisons…are there no workhouses…"
"I'm not the man I was. I'm not the man I must have been"
"Beneath a ragged sheet, there lay a something covered up"
"Glowing"
"Ogre of the family"
"As good as gold"
"It is not my business"
"Mankind was my business"
"I don't know anything. I'm quite a baby."
"Another idol has displaced me… a golden one"
"Show me no more!"
"The mention of his name cast a dark shadow"
"They are Man's. This boy is Ignorance. This girl is Want. Beware for I see that written which is Doom."
"Yellow…wolfish"

The story:
Ebenezer Scrooge lives a cold and selfish life. He is visited by ghosts, who show him why he needs to change his ways. By the end of the novella – he redeems himself.

Dickens
Society
Enlightenment
Redemption
Parsimonious
Misanthropic
Benevolent
Victorian
Cyclical
Solitary
Apparition

Social responsibility
Social Class
Society
Wealth
Family
Love
Redemption
Supernatural
Ignorance and Want
Christmas
Education

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- **Priestley is challenging…Advocating… …Is trying to change…**
- **The audience thinks…Feels…Is made to understand…Wonders whether…Is left questioning…**

9 ENGLISH

10 ENGLISH

Language Methods linked to Poetry	
Stanza (A verse)	A Stanza is a set amount of lines grouped by rhythmical pattern
Enjambment	The continuation of a sentence or phrase from one line to the next, without pause.
Personification	Giving inanimate objects human qualities to bring them to life
Alliteration	Repetition of one sound at the beginning of words.
Sibilance	Repetition of the S or SH sound at the beginning of words.
Half-rhyme	Words in which the consonants rhyme, rather than the vowels.
Simile	Comparing one thing to another using 'as' or 'like'
Metaphor	Describes a <u>person</u> or <u>object</u> by referring to something that is <u>considered</u> to have <u>similar</u> <u>characteristics</u>
Rhyming Couplets	Two lines following one another which rhyme
Rhythm	The arrangement of words to form a regular beat through a pattern of stresses.

'Unseen' means you have most likely have NEVER seen the poems in this section of the exam, ever… in your life… it does not mean they are invisible on the page!

You need to analyse the first Unseen Poem in response to the question.

What you need to write about in Section C:

<u>Theme</u> – the message the writer is conveying to their reader.

<u>Language</u> –write about how words and phrases are used to convey the writer's message. You should focus on the methods the writer uses.

Structure – how the poem has been 'built'. You could analyse how the rhythm; enjambment; stanzas; line number and length help to convey the key theme.

Comparing connectives

Likewise
Similarly
Equally
Likewise
As with

Contrasting connectives

However
Whereas
On the other hand
Alternatively
Although

Remember to write using The Isca Way and The Signpost Starters

The beginning of a text Initially… Instantly…
As the text develops Over the course of the text… Plausibly… Perhaps… Evidently…
What stands out? Interestingly… Of importance here is… This idea is accentuated… This is further emphasised… This is reinforced… This is juxtaposed against…
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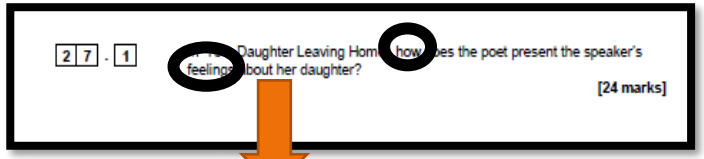
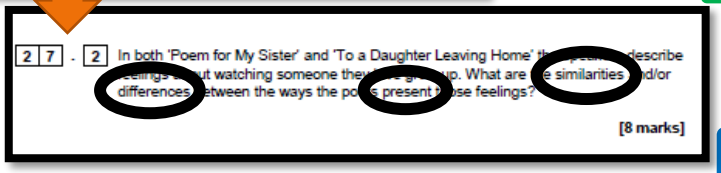

2 7 . 1 Daughter Leaving Hom how es the poet present the speaker's feelings bout her daughter?
[24 marks]


2 7 . 2 In both 'Poem for My Sister' and 'To a Daughter Leaving Home' describe ut watching someone the p. What are similarities d/or differences etween the ways the po s present se feelings?
[8 marks]

The second Unseen Poem response expects you to focus on just the effects of methods in **<u>both</u>** Unseen Poems.

General subject terminology used in poetry: simile, metaphor, personification, onomatopoeia, oxymoron, juxtaposition, emotive language, pathetic fallacy, alliteration, dissonance, imagery, symbolism, semantic field, tone, sensory imagery, synaesthesia, form, ambiguity, connotation, theme.

<u>Advice from AQA:</u>
"In preparing for the unseen poetry section of the examination students should experience a wide range of poetry in order to develop their ability to closely analyse unseen poems. They should be able to analyse and compare key features such as their content, theme, structure and use of language."

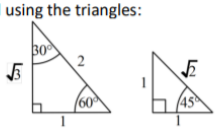
11 MATHS

Foundation

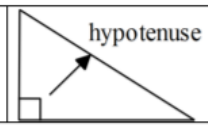
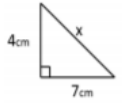
Simplifying Ratio	Divide each part of the ratio by a common factor	eg 12:18 simplifies to 2:3
Simplest Form	Divide each part of the ratio by the highest common factor, so it cannot reduce further	
	All parts must be integers	
Divide in a given ratio	Divide an amount so the ratio of the final values simplifies to the given ratio.	eg Divide £350 in the ratio 3:4 between Amy and Bob. 3+4 = 7 (There are 7 parts.) 350 ÷ 7 = 50 (Each part is worth 50) 3 x 50 = £150 for Amy 4 x 50 = £200 for Bob

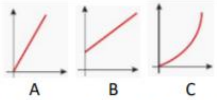
θ	0°	30°	45°	60°	90°
Sin θ	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
Cos θ	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
Tan θ	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	

These can be found using the triangles:

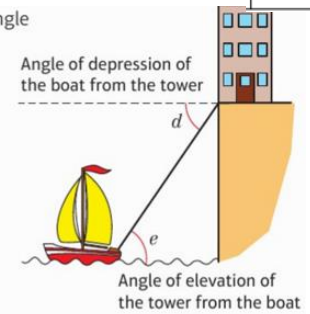


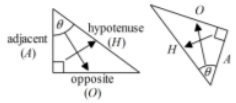
$speed = \frac{distance}{time}$	
The distance travelled in an amount of time	
Usually measured in m/s (metres per second) or km/h (kilometres per hour) or mph (miles per hour)	D S T

Hypotenuse	The longest side of a right angled triangle. It is opposite the right angle	
Right-angled triangle	A triangle that contains a right-angle.	
Pythagoras' Theorem	$a^2 + b^2 = c^2$	
To find the hypotenuse		$x^2 = 4^2 + 7^2$ $x^2 = 16 + 49$ $x^2 = 65$ $x = \sqrt{65} = 8.06$ cm
To find a short side		$17^2 = x^2 + 5^2$ $289 = x^2 + 25$ $289 - 25 = x^2$ $x^2 = 264$ $x = \sqrt{264} = 16.25$cm

Directly Proportional graph	The graph of two quantities in direct proportion will go through the origin and have a positive gradient	
Direct proportion	- the graph is a straight line - that goes though the origin - if one variable is multiplied by n, so is the other	 A B C A is in direct B and C are not
Constant of proportionality	Represented by a *k*	Its value stays the same
Direct proportion	Two quantities increase at the same rate	"*y* is proportional to *x*" $y \propto x$ $y = kx$
Indirect Proportion	One variable increases at a constant rate as the second variable decreases	"*y* is inversely proportional to *x*" $y \propto \frac{1}{x}$ $y = \frac{k}{x}$

The **angle of elevation** is the angle measured upwards from the horizontal. The **angle of depression** is the angle measured downwards from the horizontal.



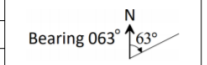
Trigonometry	The ratios between the sides and angles of triangles		
Labelling the triangle	H = hypotenuse O = Opposite A = Adjacent θ is the angle involved		
Sine	$\sin\theta = \frac{O}{H}$	$\theta = \sin^{-1}\frac{O}{H}$	O S x H
Cosine	$\cos\theta = \frac{A}{H}$	$\theta = \cos^{-1}\frac{A}{H}$	A C x H

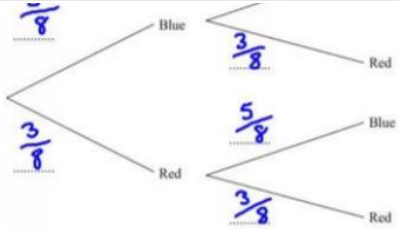
Calculating probabilities	For equally likely outcomes the probability that an event will happen is $P = \frac{number\ of\ successful\ outcomes}{total\ number\ of\ possible\ outcomes}$	
	e.g. The probability of rolling a 6 on a dice is $\frac{1}{6}$	
	The probabilities of all possible outcomes add up to 1.	
If the probability that something WILL happen is **p** The probability that it WILL NOT happen is **1 - p**		e.g. Probability it will rain = 0.3 Probability it will not rain = 1 - 0.3 = 0.7
P(A) + P(NOT A) = 1	If the probability that something WILL happen is ***p***	The probability that it WILL NOT happen is $\mathbf{1 - p}$
	They are mutually exclusive	e.g. P(rain) = 0.3 P(not rain) = 1 - 0.3 = 0.7

P( ) Notation	P() means the probability of the thing inside the brackets happening	e.g. P(Tails) is the probability of getting a tails
AND Rule	If two events are independent, multiply the probabilities	P(A AND B) = P(A) × P(B)
OR Rule	If two events are mutually exclusive, Add the probabilities	P(A OR B) = P(A) + P(B)

Bearing

Is the direction of a line in relation to the North-South line	
Angle measured clockwise	Bearing 063°
Measured from north	
Always written using 3 digits	



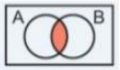


Venn diagrams:

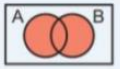
A ∩ B ∩ C means the **intersection** of A, B and C.
A ∪ B ∪ C means the **union** of A, B and C.
P(A ∩ B | B) means the probability of A and B given B.

Curly brackets { } show a set of values.
∈ means 'is an element of'.

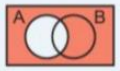
A ∩ B means 'A intersection B'. This is all the elements that are in A *and* in B.



A ∪ B means 'A union B'. This is all the elements that are in A *or* B *or* both.



A' means the elements *not* in A.

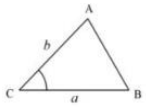
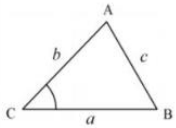


ℰ means the universal set – all elements being considered.

Year 10 Higher Summer

12 MATHS

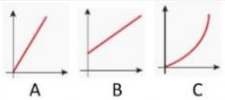
Sine, Cosine, Area of non-right angle triangles

Area of a triangle	Area = $\frac{1}{2}ab\sin C$ You can use this formula if you know two sides and the angle between them	
Sine Rule – calculating a side	$\frac{a}{\sin A}=\frac{b}{\sin B}=\frac{c}{\sin C}$ You use this rule if you know one angle and the opposite side, and one angle and you want to work out the length of its opposite side	
Sine Rule – calculating an angle	$\frac{\sin A}{a}=\frac{\sin B}{b}=\frac{\sin C}{c}$ You use this rule if you know one angle and the opposite side, and one side and you want to work out the size of its opposite angle	
Cosine Rule – calculating a side	$a^2=b^2+c^2-2bcCosA$ You use this rule if you know two sides and the included angle and want to work out the missing side	
Cosine Rule – calculating an angle	$\cos A=\frac{b^2+c^2-a^2}{2bc}$ You use this rule if you know all three sides and want to work out an angle	

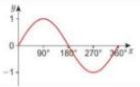
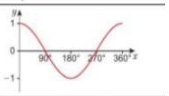
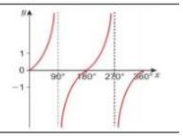
Accuracy and Bounds

Error interval	An error interval of x% means that the measurement could be x% larger or smaller than the one given
Error in measurements	Measurements rounded to the nearest unit could be up to half a unit smaller or larger than the rounded value If x is 3.4 correct to 1 dp the error interval is $3.35 \le x < 3.45$
Upper Bound	The upper bound is half a unit greater than the rounded number. If x = 13 to the nearest whole then the upper bound is 13.5
Lower Bound	The lower bound is half a unit lower than the rounded number. If x = 14.8 correct to 1 dp then the lower bound of x is 14.75
Appropriate Accuracy	The accuracy when both the upper bound and lower bound are rounded by the same amount and give the same value If UB = 12.3512 and LB = 12.3475 Rounded to 1dp: UB = 12.4, LB = 12.3 Rounded to 2dp: UB = 12.35, LB = 12.35 Rounded to 3dp: UB = 12.351, LB = 12.348 **So the appropriate accuracy is 2dp**

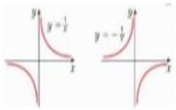
Direct and Inverse Proportion

Directly Proportional graph	The graph of two quantities in direct proportion will go through the origin and have a positive gradient	
Direct proportion	- the graph is a straight line - that goes though the origin - if one variable is multiplied by n, so is the other	 A B C A is in direct B and C are not
Constant of proportionality	Represented by a k	Its value stays the same
Direct proportion	Two quantities increase at the same rate	"y is proportional to x" $y \propto x$ $y = kx$
Indirect Proportion	One variable increases at a constant rate as the second variable decreases	"y is inversely proportional to x" $y \propto \frac{1}{x}$ $y = \frac{k}{x}$

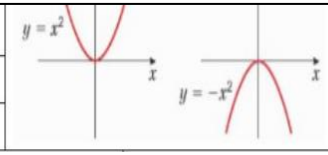
Equation of Straight Lines

Sine function	The sine graph repeats every 360° in both directions.	
Cosine function	The cosine graph repeats every 360° in both directions.	
Tangent function	The tangent graph repeats every 180° in both directions. The tangent graph is not defined for angles of the form (90° ± 180n°)	

Reciprocal Graphs

Reciprocal functions	Reciprocal graphs have the form $y = \frac{k}{x}$ where k is a number	
	It will have 2 asymptotes	

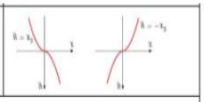
Quadratic Graphs

a parabola $y = ax^2 + bx + c$	
A positive x^2 term will give a ∪ shape	
A negative ($-x^2$) term will give a ∩ shape	

Exact Trig Values

Θ	0°	30°	45°	60°	90°
Sin Θ	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
Cos Θ	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
Tan Θ	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	

Cubic Graphs

Cubic functions	A cubic function contains an x^3 but no higher power of x. It can have an x^2 and x term	
	A cubic equation can have 1, 2, or 3 solutions	

Converting Compound Units

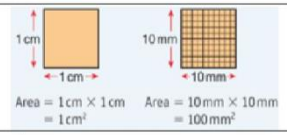
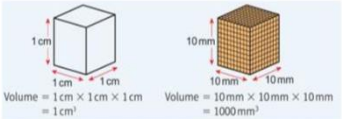
To convert between measures of speed you need to convert one unit first then the other. Write the new units at each step of your working. To convert 72 km/h into m/s:

72 km/h → 72 × 1000 = 72 000 m/h

72 000 m/h → 72 000 ÷ 3600 = 20 m/s

1 hour = 60 × 60 = 3600 seconds

Metric conversions

Area units	1 cm^2 = 100 mm^2
	1m^2 = 10000 cm^2
	
Volume units	1 cm^3 = 1000 mm^3
	1 m^3 = 1000000 cm^3
	
Capacity	Is measured in *ml* and *litres*
	1cm^3 = 1*ml*
	1000cm^3 = 1 *litre*

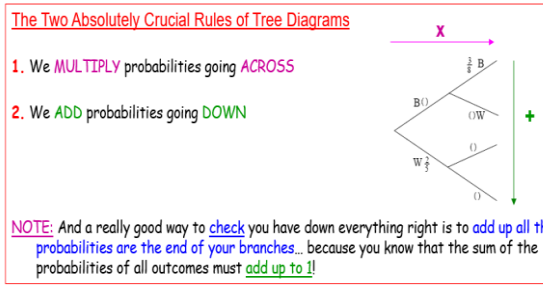
YEAR 10 HIGHER SUMMER

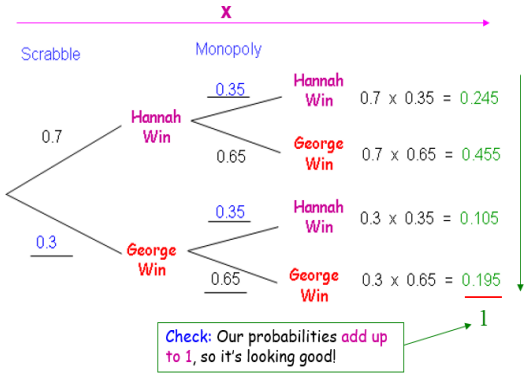
13 MATHS

PROBABILITY TREES

Example

Hannah and George play Scrabble and Monopoly. The probability that Hannah wins at Scrabble is 0.7, and the probability that George wins at Monopoly is 0.65. One rainy day they sit down for another fierce battle. What is the probability George wins both games?





Question: What is the probability George wins both games?

Well, we just follow the bottom branch…

$$P(\text{George wins both}) = 0.3 \times 0.65 = 0.195$$

VENN DIAGRAMS

A Venn Diagram shows the **relationship between a group of different things** and how they overlap.

P(A) refers to the **probability that event A will occur**.

P(A') refers to the **probability that event A will not occur**.

P(A ∪ B) refers to the **probability that event A or B or both will occur.**

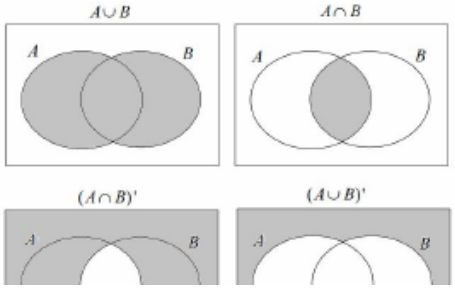
P(A ∩ B) refers to the **probability that both events A and B will occur.**

P(A') refers to the **probability that event A will not occur**.

P(A ∪ B) refers to the **probability that event A or B or both will occur.**

P(A ∩ B) refers to the **probability that both events A and B will occur.**

You will be asked to shade the different probabilities.



Conversion of area and volume units

Remember: When you convert to area units you multiply or divide by the SQUARE of the conversion. CUBE for volume.

Example 1: Convert 43cm² to m² (Area conversion)

There are 100cm in 1m so we divide by 100^2 so $0.0043m^2$

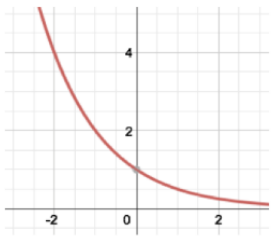
Example 2: Convert 3.6cm³ to mm³ (Volume conversion)

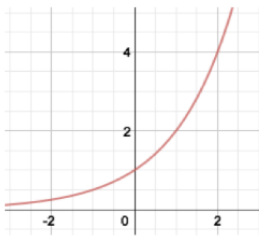
There are 10mm in 1 cm so we multiply by 10^3 so $3600mm^3$

GROWTH AND DECAY

	Definition	Example
Exponential Growth	When we **multiply** a number **repeatedly** by the **same number** ($\neq 1$), resulting in the number **increasing by the same proportion** each time. The original amount can grow very quickly in exponential growth.	$1, 2, 4, 8, 16, 32, 64, 128 \ldots$ is an example of exponential growth, because the numbers are being multiplied by 2 each time.
Exponential Decay	When we **multiply** a number **repeatedly** by the **same number** ($0 < x < 1$), resulting in the number **decreasing by the same proportion** each time. The original amount can decrease very quickly in exponential decay.	$1000, 200, 40, 8 \ldots$ is an example of exponential decay, because the numbers are being multiplied by $\frac{1}{5}$ each time.
Compound Interest	Interest paid on the **original amount and the accumulated interest**.	A bank pays 5% compound interest a year. Bob invests £3000. How much will he have after 7 years. $3000 \times 1.05^7 = £4221.30$

EXPONENTIAL GRAPHS





The equation is of the form $y = a^x$, where a is a number called the **base**.

If $a > 1$ the graph **increases**.

If $0 < a < 1$, the graph **decreases**.

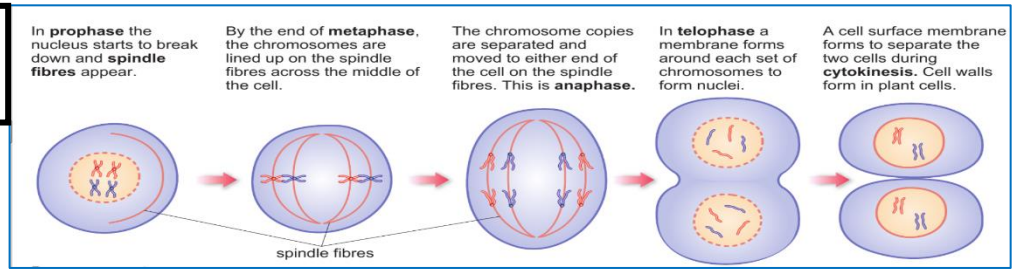
The graph has an asymptote which is the **x-axis**.

The **y-intercept** of the graph $y = a^x$ is $(0, 1)$. **X is always 0.**

14 SCIENCE

CB2

Asexual Reproduction	Producing new organisms from one parent only. These organisms are genetically identical to the parent.
Cancer	Disease caused by the uncontrolled division of stem cells in a part of the body
Cell Cycle	A sequence of growth and division that happens in cells. It includes interphase and mitosis
Differentiation	When a group of similar things, such as cells, become different in form from each other.
Diploid	A cell with two sets of chromosomes
Haploid	A cell with one set of chromosomes.
Meristem	A small area of undifferentiated cells in a plant, such as near the shoot tips and root tips, where cells are dividing rapidly by mitosis.
Mitosis	The process of cells dividing to produce two daughter cells that are genetically identical to the parent.
Neurone	A cell that transmits electrical impulses in the nervous system.
Reflex	Response to a stimulus that does not require processing by the brain. The response is automatic
Stem Cell	Unspecialised cell that continues to divide by mitosis to produce more stem cells and other cells that differentiate into specialised cells.
Synapse	Point at which two neurones meet. There is a tiny gap between neurones at a synapse, which cannot transmit an electrical impulse.

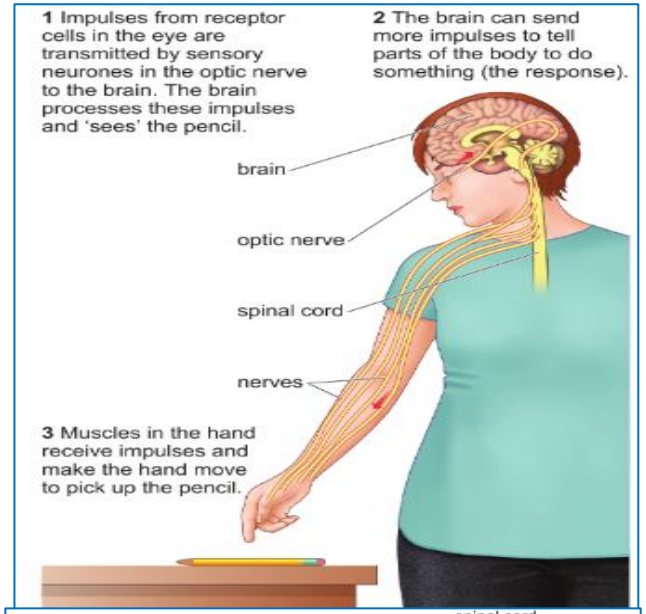


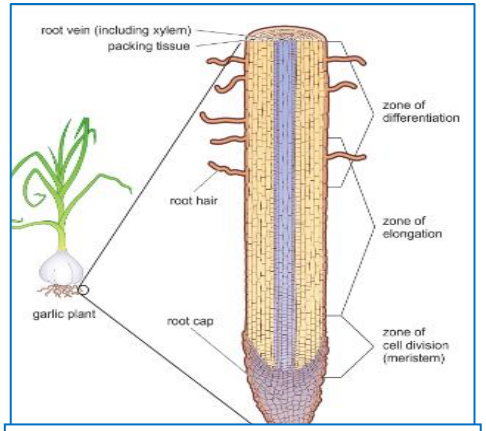
Types of Neurone:

Sensory- takes impulse from sense organ to spinal cord/brain

Relay- shortest neurone, transfers impulse between other neurones

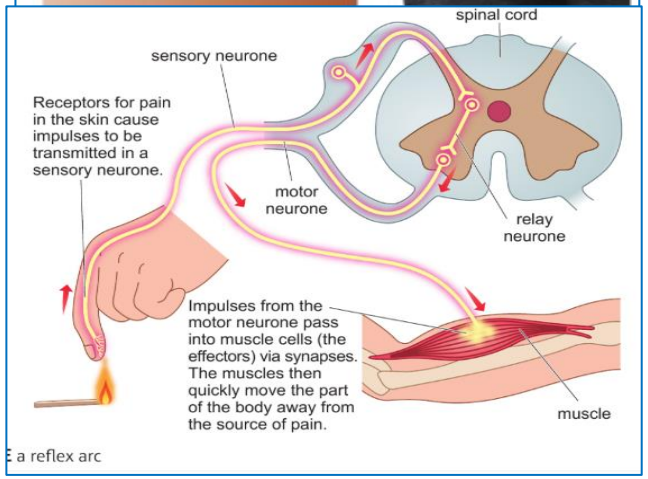
Motor- takes impulse to effectors



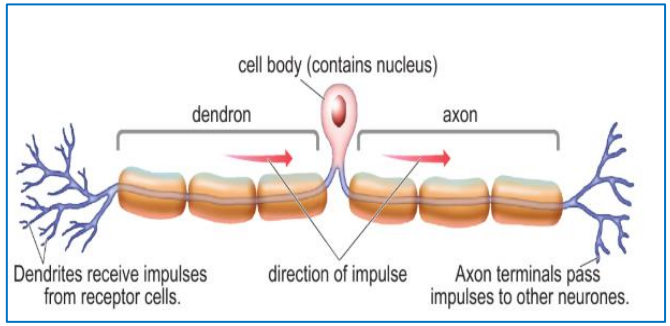


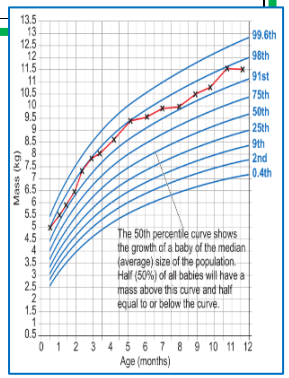
Embryonic Stem Cell: found in embryos, can differentiate into all types of cell

Adult Stem Cell: can only differentiate into a few types of cells from the tissue it is found in



a reflex arc

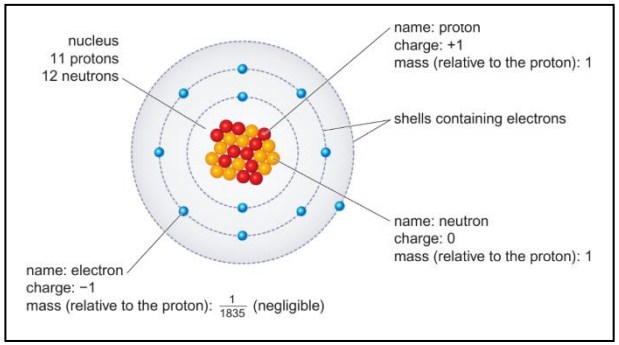




CP9 or SP10

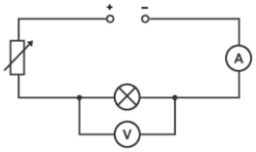
Potential difference (voltage) is the energy transferred per unit charge passed and therefore the volt is a joule per coulomb

Electric current is the rate of flow of charge. The current in metals is a flow of electrons



Ammeters measure **current** in **amps** and are connected in **series**

Voltmeters measure **potential difference** in **volts** and are connected in **parallel**.



Direct current (d.c.) is the movement of charge in one direction only e.g. in batteries

Alternating current (a.c.) the movement of charge changes direction e.g. mains electricity

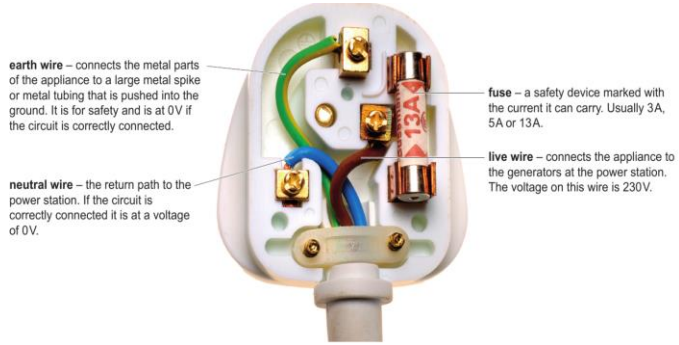
In parallel circuits:

- the total current supplied is split between the components on different loops
- potential difference is the same across each loop
- the total resistance of the circuit is reduced as the current can follow multiple paths

In series circuits:

- current is the same through each component
- the total potential difference of the power supply is shared between the components
- the total resistance of the circuit is the sum of individual resistors

15 SCIENCE



energy transferred (J) = charge moved (C) × potential difference (V)

E = Q×V

charge (C) = current (A) × time (s)

Q = I ×t

potential difference (V) = current (A) × resistance (Ω)

V = I × R

power (W) = energy transferred (J) ÷ time taken (s)

P = E/t

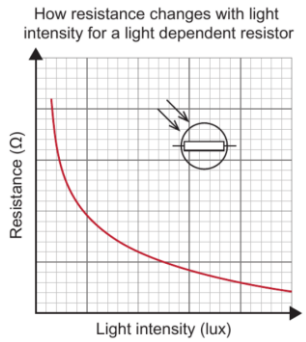
electrical power (W) = current (A) × potential difference (V)

P = I ×V

electrical power (W) = current² (A²) × resistance (Ω)

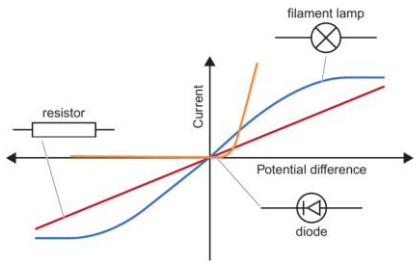
P = I² × R

As the light intensity increases the resistance of the LDR decreases



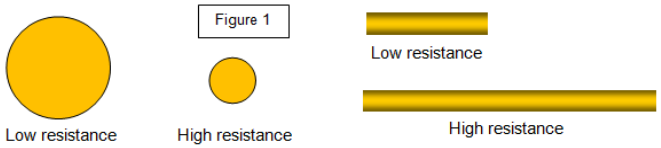
For a **fixed resistor** the current and potential difference are **directly proportional** so the resistance stays the same.

Filament lamps and **diodes** have **resistances** that **change** when potential difference changes.



UK domestic supply is a.c. 50 Hz and 230 V

Length and thickness of a wire will effect resistance



When there is an electric current flowing, there is an energy transfer which has a heating effect. It is the result of collisions between electrons and the ions in the lattice.

This can be reduced by using wires made of metals with low resistance e.g. copper, using thicker wires or by cooling the wires.

SP8-9 or CP7-

Energy can only be transferred from store to store. It cannot be created or destroyed.

Energy can be transferred – through work done by forces, in electrical equipment, in heating.

Energy transferred (J) = Work done (J)

When an object is lifted up it stores Gravitational Potential Energy.

Kinetic energy is the energy stored by a moving object.

Energy can be lost (**dissipated**) from a system meaning it is stored in less useful ways. Most often energy is lost to surroundings by **heating**.

Power: The rate at which energy is transferred, measured in watts (W). 1 watt means 1 joule of work per second.

Efficiency: The proportion of input energy that is transferred to a useful form. A more efficient machine wastes less energy.

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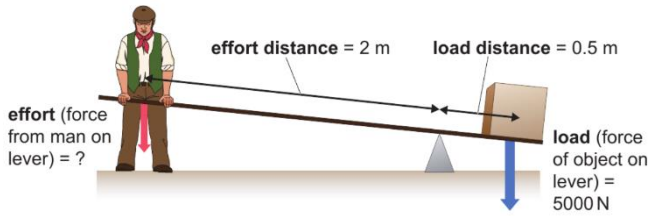
Work done (J) = force (N) x distance (m)
E = F X d

Gravitational potential energy (J) = mass (kg) x gravitational field strength (N/kg) x height (m)
GPE = m x g x h

Kinetic energy (J) = ½ x mass (kg) x speed ² (m/s)
KE = ½ m v^2

Power (w) = work done (J) / time (s)
P = E/t

Efficiency % = useful energy supplied to device / total energy supplied to device



TRIPLE ONLY

Moment (Nm) = Force x distance from pivot

Sum of clockwise moments = sum of anticlockwise moments

Contact force: Between objects are touching e.g. Friction

Non-contact force: When objects act on each other at a distance, e.g. magnetism, gravitational potential energy.

Action- reaction force: Pairs of forces on interacting forces

Vector: A quantity that shows both size and direction e.g. weight

Scalar: A quantity showing size (magnitude) only e.g. mass

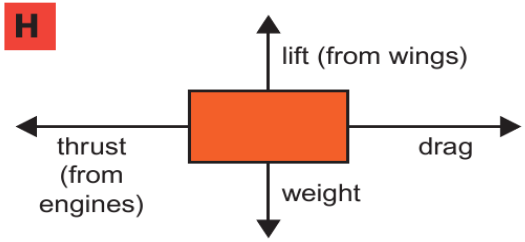
Friction: A force between 2 surfaces that resists motion and is always opposite to the direction of the moving object.

Reducing friction: Use a lubricant to reduce unwanted energy transfer.

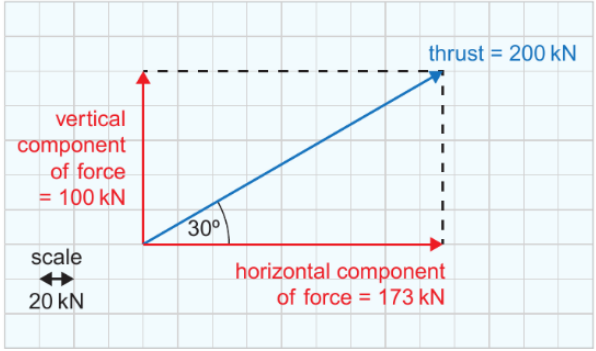
SEPARATES ONLY

Levers and gears transmit the rotational effect of a force.

H



A A free body force diagram for an aeroplane. The arrows represent force vectors. The direction of the arrow shows the direction of the force and the length of the arrow represents its size. The simplest aeroplane to sketch is a box!



- Draw a force arrow to scale at the correct angle.
- Draw a rectangle with the sides in the directions you are interested in (e.g. horizontal and vertical).
- The resolved forces are the sides of the rectangle.

D A scale diagram can be used to resolve the forces on an aeroplane.

17 GEOGRAPHY

Development Issues

Globalisation:
Globalisation is the process of places around the world becoming more connected. Globalisation is driven by:

- Trade
- Culture
- Multinational companies
- Communication

Multinational Companies (MNCs):
MNC are companies which operate in multiple countries around the world, such as Nike. They often make their goods in NICs as they have a large, cheap workforce. This means they can keep costs of producing products down. This can result in cheaper products, particularly for European consumers but can also lead to higher profit margins for the company. Company HQ are usually still in HICs where there is a well-educated workforce.

Advantages	Disadvantages
• Lower unemployment rates in NIC • Cheaper good for Europe and Asia • Higher profits for MNC • Improved infrastructure • Multiplier effect	• Few workers rights in NICs • Long hours for workers • If workers rights are introduced the MNC may move elsewhere

Newly Industrialised Countries (NICs):
NIC economies have rapidly grown, usually in part to having large populations at working age. NICs have policies to encourage investment in factories/ industry. Labour is much cheaper in NICs. Wages in Bangladesh were 95% lower than in Europe in 2015.

Development indicators:
Development indicators are economic and social statistics that are used to judge a country's level of development. They link as wealthier countries tend to have better health care and education.

- GNI (Gross National Income) and PPP (Purchasing Power Parity) are economic indicators. They give an idea of how much money people have on average in a country. There is a general divide between the rich north and the poorer south.
- Doctors per 1,000, percentage who read and write are social indicators. They are used to see if the wealth is being invested in a way which benefits others. They give an idea of what life is actually like.
- HDI (Human Development Index) is a mix of economic and social indicators including measures of wealth, education and health. It is expressed as a number between 0 and 1. The closer to one the number, the more developed the country.

Trade:

Trade can reinforce inequality. LICs often export raw materials which only have small profit margins. The global market means they must keep their prices low to stay competitive. HICs hold the power and can add taxes to certain products to deter LICs making them. This means LICs are stuck with low profit margins. Raw materials are very vulnerable to the weather- e.g. not enough rain may mean crops don't grow.

Fairtrade:

Fairtrade can help by ensuring fair, stable pay which is not affected by global market changes. They encourage long-term partnerships and have a community premium to support local projects e.g. schools.

AID:
Short term/ emergency aid is used to help after natural disasters and medical outbreaks. Can come from governments or by individuals through charities such as Oxfam. E.g. The Ebola outbreak in West Africa, received aid in the form of medical help and education about the disease.
Long term/ developmental aid regular payments to a country for development/ improve life. E.g. Japan → Middleshire, Malawi, COVAMS. Aiming to prevent soil erosion through afforestation. This improves relations between countries.

Key terms:
GNI: The average income in a country.
Manufacturing: making something
Multiplier effect: how one good thing in an area can have wider benefits
Outsourcing: when a company pay a factory they don't own to produce their goods
PPP: A way of comparing the average wealth of a country by taking the cost of living in those countries into account
Raw materials: materials that have not been changed
Subsidy: a payment to produce something to enable it to be sold more cheaply
Tariff: a tax put on certain products to make them more expensive

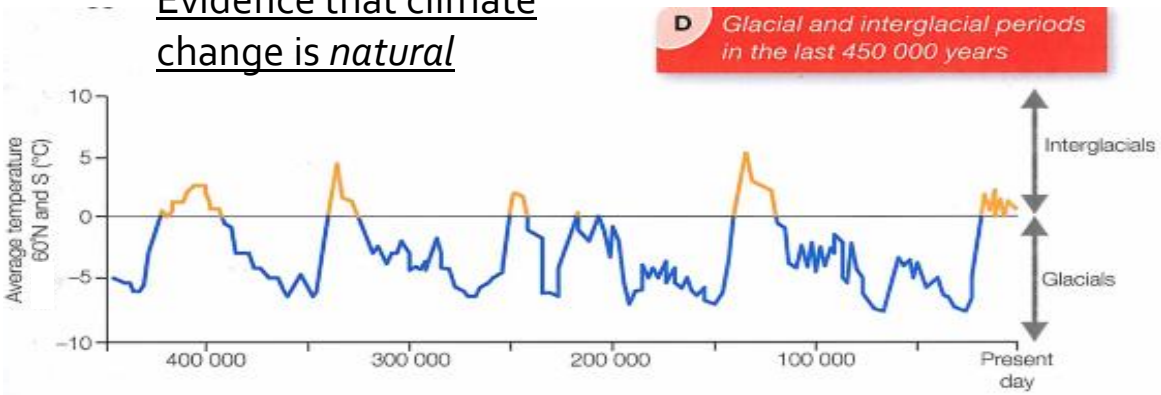
Climate definition = *typical long-term patterns of weather over time.*

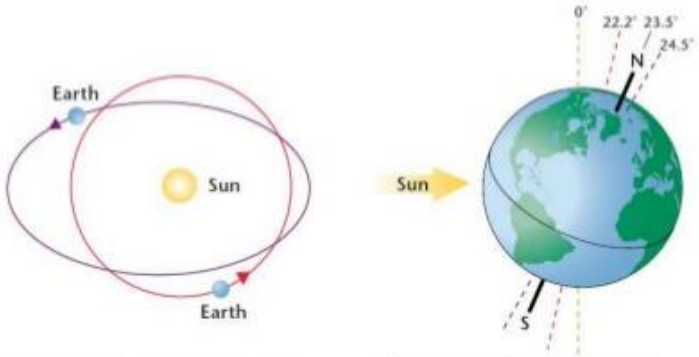
Climate Change - Causes

OVERALL STATEMENT

The world's climate has changed **naturally** over time, but that change has recently been accelerated by **human activities**.

Evidence that climate change is *natural*





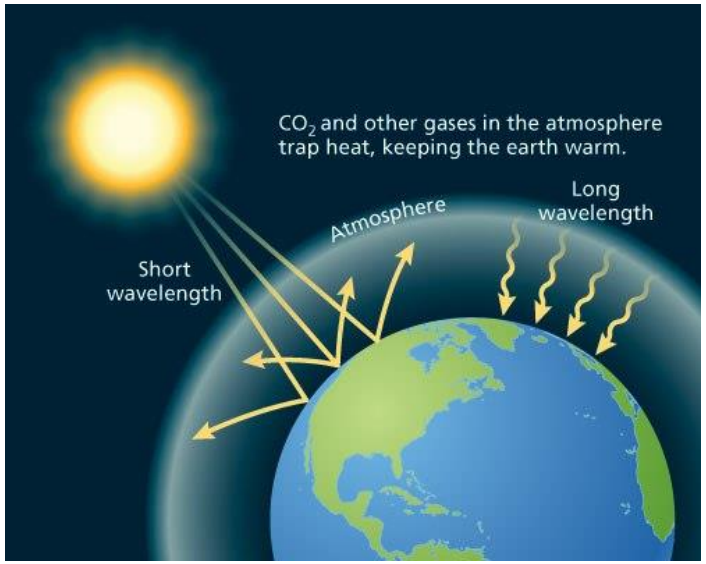
Eccentricity Earth encounters more variation in the energy that it receives from the sun when Earth's orbit is elongated than it does when Earth's orbit is more circular.

Tilt The tilt of Earth's axis varies between 22.2° and 24.5°. The greater the tilt angle is, the more solar energy the poles receive.

There have been 6 **glacial periods** (*colder* - permanent ice sheets across the world) and 6 **inter-glacial periods** (*warmer* – permanent ice sheets are only at the north and south poles) in the last **450,000 years**. There have been **60** periods of each during the last 2.6 million years (the '**Quaternary period**').

Other **natural** causes of climate change: **The Milankovitch Cycles –** the changing orbit shape and tilt of the earth.

Evidence that climate change is *caused by humankind*



Global Warming

We are currently in an **inter-glacial period** therefore the warming of the globe is partly natural. But how is there more heat trapped around the earth than there was previously? The natural *'Greenhouse Effect'!*

Are Humans to Blame?

Earth's average temperature has increased 1 degree Celsius in the last 100 years. Humans are causing an "enhanced greenhouse effect" by adding more and more greenhouse gases into the atmosphere, trapping more and more heat and increasing temperatures at an unsustainable rate.

The "Greenhouse" Gases are:

CARBON DIOXIDE (CO2) – is increasing because of deforestation (trees absorb CO2), car exhausts and burning fossil fuels (coal, gas, oil) to make electricity.

METHANE – is increasing due to landfill sites and farm animals, especially cows, which emit methane from both ends.

HALOCARBONS – in Air Conditioning units, fridges and some aerosols.

NITROUS OXIDE – from farm fertilisers and car exhausts

18 GEOGRAPHY

Climate Change – Effects & Responses

19 GEOGRAPHY

The IMPACTS of global warming

- The coast, tourism and population movement: although rising temperatures are arguably good for tourism, especially in UK, rising sea levels and extreme weather are threatening coastal lands. Increased erosion of beaches, flooding, and movement of populations further inland.
- Wildlife and habitats: Loss of habitats and species e.g. polar bears under threat due to diminishing polar ice caps.
- Water and water supplies: decline in quality and quantity of drinking water due to saltwater intrusion from coastal flooding, overflowing of sewer systems during extreme rainfall events, and increasing drought in some parts of the world.

What has been done to reduce global warming?

Global level –

1) Kyoto Protocol 1997 – developed countries promised to limit their greenhouse gas emissions. FAILED: USA did not agree to sign up, so China also did not sign. Without these two biggest players on the world stage, the agreement was not worth the paper it was written on.
2) Copenhagen Accord 2009 was an abject failure as it was not adhered to by most countries
3) Paris Agreement 2015 – all countries and many big businesses signed up to limit greenhouse gases and change to renewable energy sources, not fossil fuels. However, Donald Trump has withdrawn the USA from the Agreement, and nine other countries of the 197 who attended have also not signed.

National level –

Governments are increasingly urging people to limit their electricity use, e.g. switching to energy efficient lightbulbs, using electric cars etc. But this is COSTLY, and most people cannot afford a new car very often if at all, so change will be slow.

PROTESTS

Climate protesters like Extinction Rebellion have made high-profile attempts to complain that Governments are not acting fast enough to stop what is now known as a "Climate Emergency". Greta Thunberg, a 16 year old school girl from Sweden, has sparked a worldwide "climate strike" campaign by refusing to go to school on Fridays and sitting outside the Swedish Parliament in Stockholm.

The Arguments

Low Income Countries (LICs) who rely on agriculture or tourism (*especially on the coast which they don't want to flood*!) are more likely to argue that climate change is ***MAN-MADE*** and so something needs to be done to reduce global warming!
Example – The Maldives

Newly Industrialised Countries (NICs) like India (*and to an extent Donald Trump's USA*) whose economy relies on environmentally harmful industry for their economic development, are more likely to argue that climate change has always happened and is just ***NATURAL!***

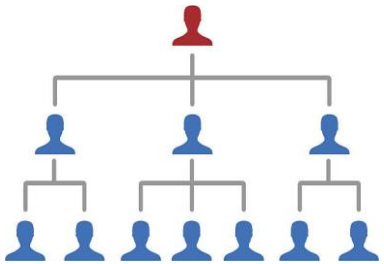
How was **Society** and **Government** organised when Elizabeth came to the throne in **1558**?

Introduction:
Life in 1558 was very different from today. **Life expectancy** was only between 28 and 41. People were still expected to follow the official Christian **religion** of the monarch or else be punished for committing treason and heresy. England was a very **violent** place with no **police force** or permanent **army**. 90% of the population lived in the **countryside** and the ownership of land was key to how rich or how much power a person had. One key feature of Elizabethan England was how clear the **boundaries** were between rich and poor. Nobody believed in equality and there was a **strict hierarchy** based on how rich and powerful people were. In addition, Elizabethan government was also **strictly structured** and had many key features to help Elizabeth rule the country.

20 HISTORY

Features of Elizabeth Society

Elizabethan people had a very clear idea of where everyone belonged in society. The **monarch** was at the top of the scale. The monarch was followed by the **nobility** who were other royals and people with important titles. Then came the **gentry**. These were people who owned most amounts of land. It was the ownership of land that reflected the amount of power a group in society had. **Yeomen** were men who owned smaller amounts of land or an estate where others worked. **Tenant farmers** rented land from the Yeomen and then employed the next group down called the **labouring poor**. At the bottom of the hierarchy were the **vagrants** (those without work) and the homeless.
In the towns, **merchants** (people who traded goods from abroad) were at the top, followed by **professionals** such as lawyers and doctors. These would always be **men** as they were the group who had access to education.



One feature of Elizabethan society was the structure in a home. The **husband and father** was the head of the home and the wife and children were expected to be obedient to him at all times. Few questioned this rule and expectation as they knew no different.

Whoever you were, it was expected that you **fully respected** your place in society and did not challenge the group above. Doing this could result in punishment.
It was be impossible to move into a higher section of society.
However, it was also expected that a person had a **duty of care** to the group of people below them.

Features of Elizabeth Government

In Elizabeth's government, there were **different roles** to make sure the country ran smoothly.
The monarch believed in the **Divine Right** of monarchs – this meant that **God** had given
Them the right to rule. For this reason, Elizabeth could make decisions on her own such as declaring **war on her own**. These orders were called '**proclamations'**. Elizabeth had the right to stop government discussing any issue she wanted.

The **most important** person in Elizabeth's government was **the Secretary of State**.
The name of Elizabeth's first Secretary of State was **Sir William Cecil**.
He was the **closest person** to Elizabeth, had a key role in giving **her advice** and was
Elizabeth's most **trusted** member of the Privy Council.

FEATURE	PURPOSE/JOB
Court	They lived with the monarch and were members of the nobility. They were **close friends** and **advisors** to Elizabeth. They had a strong influence over the decisions Elizabeth made.
Privy Council	There were **19** members of the Privy Council and they were **chosen by Elizabeth**. They met **3 times a week**. They would discuss and advise Elizabeth. They would make sure Elizabeth's decisions were carried out. The Secretary of State, **William Cecil** was the key member of the Privy Council.
Parliament	There were two 'houses', **The House of Commons** and the **House of Lords** (made up of bishops). Parliament gave permission for Elizabeth to **tax** her people more, they voted on **laws** and offered further advice to Elizabeth. They were called to meet 10 times during Elizabeth's reign. They rarely voted against what Elizabeth wanted.
Justices of the Peace	These were **landowners** such as the gentry or Yeomen who kept **law and order** in their area. They were unpaid and reported to the Privy Council. They made sure all laws were followed and taxes were paid. They could put a person on **trial** and decide on a **punishment** if the crime was bad enough.

French Year 10 Summer

21 MFL

20 Key Words – Holidays and Travel

1. **un séjour** – a *stay*
2. **l'auberge de jeunesse** – youth hostel
3. **à l'étranger** – abroad
4. **cher** – expensive
5. **une promenade** – a stroll
6. **une randonnée** – a walk
7. **l'année dernière** – last year
8. **l'année prochaine** – next year
9. **heures d'ouverture** – opening hours
10. **le patron** – the boss / owner
11. **printemps** – Spring
12. **été** – Summer
13. **automne** – Autumn
14. **hiver** – Winter
15. **les saisons** – the Seasons
16. **à la campagne** – in the countryside
17. **à la montagne** – in the mountains
18. **au bord de la mer** – at the seaside
19. **la plage** – the beach
20. **en avion** – by plane

Prepositions for countries (in/at/to) and modes of transport (by/on)

En – feminine countries *e.g. En France*
Au – masculine countries *e.g. Au Canada*
Aux – plural countries *e.g. Aux États-Unis*
À – towns *e.g. à Paris*
Transport – You usually put '**En**' in front of the noun e.g en voiture – by car
Exceptions: *à pied – on foot*
à vélo – by bike

Depuis + present tense

Used to say how long you have been doing something.

Je vais en France **depuis six ans** - *I have been going to France **for six years.***
Je fais du ski **depuis l'âge de dix ans** - *I have been skiing **since I was 10 years old**.*

Revision of the imperfect tense 'avoir', 'être' and 'faire'.

	avoir	être	faire
I	j'**avais**	j'**étais**	je **faisais**
You	tu **avais**	tu **étais**	tu **faisais**
He/she	il/elle **avait**	il/elle **était**	il/elle **faisait**
We	nous **avions**	nous **étions**	nous **faisions**
You (pl)	vous **aviez**	vous **étiez**	vous **faisiez**
They	ils/elles **avaient**	ils/elles **étaient**	ils/elles **faisaient**

10 Key Verbs – Holidays and Travel

1. **voyager**– *to travel*
2. **louer** – *to hire*
3. **rester** – *to stay*
4. **loger** – *to stay*
5. **se bronzer** – *to sunbathe*
6. **passer** – *to spend time*
7. **lire** – *to read*
8. **prendre** - *to take*
9. **accueillir** – *to welcome*
10. **s'amuser** – *to have fun*

Impress the examiner :

Si j'aurais beaucoup d'argent j'irais aux Caraïbes – If I was rich I would go to the Caribbean.
L'année prochaine j'aimerais aller en vacances – Next year I would like to go on holiday.
Je veux qu'on fasse des vacances en famille / entre amis – I want to go on holiday with familly / friends.

Using negatives – wrap the two parts around the verb.

ne…pas - not
ne… jamais - never
ne… plus – no more / no longer
ne… rien - nothing
ne… que - only
ne… guère – hardly / barely
e.g: *Je ne suis jamais allé(e) en France = I have never been to France.*

Après avoir / être + past participle = 'After doing' or 'having done' something.

Après avoir visité la Tour Eiffel, j'ai visité l'Arc de Triomphe – ***After visiting*** *the Eiffel Tower, I visited the Arc de Triomphe.*

Après être allé (e)(s) en vacances j'ai partagé les photos sur Instagram – ***After going*** *on holiday, I shared photos on Instagram.*

Key weather expressions – Holidays and Travel

il fait du soleil – it is sunny
il fait beau – it is nice
il fait mauvais – it is not very nice
il pleut – it is raining
il fait du vent – it is windy
il y a de l'orage – it is stormy
il neige – it is snowing

'**Y**' = there.
The pronoun '**y**' goes in between a subject and a verb.
J'**y** vais – I go **there**.
J'**y** suis allé(e) - I went **there.**

Spanish Year 10 Summer GCSE Units 6+7

22 MFL

12 Key words on Social Issues	
borracho	drunk (adj)
los botellones	street drinking parties
el corazón	the heart
el cuerpo	the body
dañoso / nocivo	harmful
el estrés	stress
mal(sano)	(un)healthy
una obra benéfica	a charity
la salud	health
el sida	Aids
una tienda solidaria	charity shop
voluntario	voluntary

Si + present tense + future tense
'If' phrases to talk about possibilities in the future:
Si te duchas, ahorrarás agua– *If you shower, you will save water.*
Si monto en bici, voy a esatr en forma – *If I ride my bike, I'm going to be fit.*

Se debe, se puede, hay que, tener que (+ infinitive)
What you must, can or have to do e.g.
Se debe ahorrar energía – ***You must*** *save energy*
Se puede ayudar los ancianos– ***You can*** *help the elderly*
Hay que reciclar plástico – ***You have to*** *recycle plastic*
Tengo que beber más agua - *I have to drink more water*

10 Key words on Global Issues	
La basura	rubbish, waste
El cambio climático	climate change
El desarrollo	strangers
El gobierno	The government
Los incendios	Fires
El medio ambiente	the environment
Los necesitados	Those in need
La pobreza	poverty
La selva	The rainforest
Los sin techo	The homeless

5 key verbs on Social Issues	
dormir ocho horas	to sleep for 8 hours
estar en forma	to be fit / in shape
fumar	to smoke
hacer ejercio	to do exercise
tomar drogas	to take drugs

Preterite Tense talks about single completed actions in the past

-AR verbs e.g. ayudar		-ER + -IR verbs e.g. proteger	
Ayudé	I helped	Protegí	I protected
Ayudaste	You helped (s)	Protegiste	You protected
Ayudó	He/she helped	Protegió	He/she protected
Ayudamos	We helped	Protegimos	We protected
Ayudasteis	You helped (pl)	Protegisteis	You protected
Ayudaron	They helped	Protegieron	They protected

10 key verbs on Global Issues	
ahorrar	to save (energy)
aumentar	to increase
ayudar	to help
desaparecer	to disappear
faltar	to be missing
matar	to kill
proteger	to protect
recoger	to collect
(re)utilizar	to (re)use
salvar	to save (animals)
tirar	to throw away

Verb of emotion + que + subjunctive
me encanta - *I love*
me preocupa - *It worries me*
me molesta - *It bothers me*
me irrita - *It annoys me*
me fastidia - *It annoys me*

e.g Me preocupa **que** haya mucha contaminación
- *It worries me that there is a lot of pollution.*
Me irrita **que** mi padre fume
- *It annoys me that my dad smokes*

Pluperfect Tense talks about what had happened
It requires the imperfect tense of haber + the past participle
The past participle is formed from the verb stem + -ado/ido

Había reciclado las latas	I had recycled the tins
Habías protegido los árboles	You had protected the trees
Había decidido usar su bici	He had decided to use his bike
Habíamos recogido la ropa	We had collected clothes
Habíais ahorrado agua	You had saved water
Habían ayudado a los sin techo	They had helped the homeless

Quizlet: IscaLanguages

23 RE

Theme B- Religion and Life

1. Key Christian beliefs

- You cannot love both God and money
- We're all made in the image of God (So we shouldn't pre-judge people- prejudice)
- We're all one in Christ
- Only God can take life (Life is sacred- sanctity)
- Love your neighbour (Mark 12:31)
- Follow the example of Jesus

2. Key Buddhist beliefs

- "Give even if you only have a little" (The Buddha)
- Show metta (loving kindness)
- Keep the 5 Moral Precepts eg do not harm life
- Show karuna (compassion)
- Produce good karma
- Avoid Greed, Hatred and Ignorance (the Buddhist 3 Poisons)

3. Abortion

FOR-

- A woman should have the right to choose, it's her body.
- A foetus is not human until 24 weeks
- We shouldn't have unwanted babies

AGAINST-

- Life begins at conception (when the sperm fertilizes the egg)
- Adoption is better than abortion
- Only God can take life
- Abortion produces bad karma

4. Euthanasia

For	Against
→ People should die with dignity	→ People can get pain relief
→ Why prolong pain?	→ The elderly will face pressure to be euthanised
→ Quality of life is better than sanctity of life	→ Life is a gift from God
→ Show God's money	→ Life is sacred (sanctity)

5. Animal Rights

For using animals / Against using animals

F- Humans are more important

A- Meat is bad for the environment

F- Animals in experiments can have pain relief

A- Factory farms and experiments on animals are cruel

F- Love your ill neighbour (find cures experimenting on animals)

A- Be a good steward of God's animal kingdom

6. The Environment

No to Global Warming
No to Pollution
No to deforestation
No to plastic waste
Life is a gift from God

Yes to meat production
Yes to clothes and fashion
Yes to the economy
Yes to being rich
If it feels good do it

7. Religious Quotes

Abortion-	"I formed you in your mother's womb"	*(Jeremiah 1:5- The Bible)*
Euthanasia-	"Blessed are the merciful"	*(Matthew 5:7- The Bible)*
Animal Rights-	"Be kind to all creations, this is the true religion"	*(The Buddha)*
The Environment-	"The Earth is the Lord's"	*(Psalm 24- The Bible)*

8. Where did we all come from?

Atheist → *Big Bang* → *Stars* → *Planets (Earth)* → *Evolution* → *US*

Fundamental Christians → *God* → *Universe* → *Earth (6 days)* → *Adam + Eve* → *US*

Liberal Christians → *God* → *Big Bang* → *Stars* → *Planets (Earth)* → *Evolution* → *US*

9. Key Words

What do the following mean?

Sanctity; sacred; steward; karuna; metta; enlightened; foetus; conception; euthanasia; deforestation; atheist; fundamental; liberal; evolution.

10. Key Questions

a) Name **3** key Christian beliefs and **3** key Buddhist beliefs.

b) Using Christian beliefs what would a Christian attitude be to **abortion; euthanasia; animal rights** and **the environment?**

c) Using Buddhist beliefs what would a Buddhist attitude be to **abortion; euthanasia; animal rights** and **the environment?**

Theme D- Religion, Peace and Conflict

24 RE

Martin Luther King- A Christian pacifist.

1. Key Christian beliefs

- Only God can take life (Life is sacred- sanctity)
- Be a good steward of God
- Love your neighbour (Mark 12:31)
- Follow the example of Jesus
- Forgive your enemies
- Follow the 10 Commandments

2. Key Buddhist beliefs

- Keep the 5 Moral Precepts eg do not harm life
- Become enlightened (know the truth)
- Show karuna (compassion)
- Show metta (loving kindness)
- Produce good karma
- Give up selfish cravings (4 Noble Truths/ 8 Fold Path)

3. Is it OK to use violence?

	YES	NO	MAYBE
To stop a child kidnap			
To fight as a soldier			
To get revenge			
To protest for a cause			
To do a combat sport			
To defend yourself			
To win an argument			
To punish prisoners			

"Forgive your enemies" (Jesus)
"Life is a gift from God" (The Bible)
"Do not repay evil with evil" (The Bible)
"Neither kill, nor get others to kill" (The Buddha)

"An eye for an eye, a tooth for a tooth" (Deuteronomy 19)

4. Terrorism

"One man's terrorist is another man's freedom fighter"

"Terrorists are soldiers fighting back"

"The cause justifies the means"

"Only God can take life"

"Follow the example of Jesus"

"10 Commandments- Do not murder"

5. War

Pacifists do not believe in any form of violence

AGAINST

- Forgiveness is better than revenge
- War= millions of deaths
- War= millions of injuries
- War= destruction of the planet
- War causes food rations
- War= a bankrupt country
- War= fear/ mental stress
- Let us reconcile enemies
- ***"Those who live by the sword, shall die by the sword" (Matthew 26)***
- ***"Follow the example of Jesus"***

FOR

Just Wars- War is OK if:

- It is good over evil
- Innocent people are not targets
- You use minimum force
- You get UN approval
- It is a last resort

- To defend our country
- To help other countries abroad
- A holy war to defend a religion

Christian Aid... Help victims of war providing food, medicines and protection to ease human suffering.

6. W.M.D s

(Weapons of Mass Destruction)

Should a country have nuclear missiles??

YES

→ We need a nuclear deterrent (to warn off others)
→ We need justice against bad countries who use a nuclear bomb ie ability to strike back
→ Nuclear bombs have kept the world safe

NO **Campaign for Nuclear Disarmament.**

→ WMDs can kill millions
→ WMDs can get into the wrong hands (eg terrorists)
→ They could be set off accidentally
→ They would destroy the environment
→ They cost billions of pounds

7. Key Words

What do the following mean?

Pacifist; just; justifies; minimum; force; holy war; deterrent; WMD; reconcile.

8. Key Questions (Give reasons)

a) Is it OK to use violence? Religious views?
b) Are Christians/Buddhists against WMDs?
c) Give 3 arguments for and against war.
d) Should Britain have a nuclear deterrent?
e) Would you become a pacifist?

GCSE OCR Computer Science 1.1 System Architecture

Key Vocabulary	
CPU	Central Processing Unit
MAR	Memory Address Register: which holds memory addresses (locations) for data and instructions which the CPU needs
MDR	Memory Data Register
Program Counter	The address (location) of the instruction
Accumulator	Holds values for the ALU
ALU	Arithmetic Logic Unit: It is the part of the CPU which does all the calculations
CU	Control Unit: Controls the flow of data within the CPU
Cache	Stores frequently used instructions & data, that can be accessed faster than RAM.
Clock Speed	The number of processes a second the CPU can perform
Number of Cores	The number of processors in a CPU
Embedded System	A computer system with a dedicated function
General Purpose Computer	A computer system which is not embedded system. I.e A laptop

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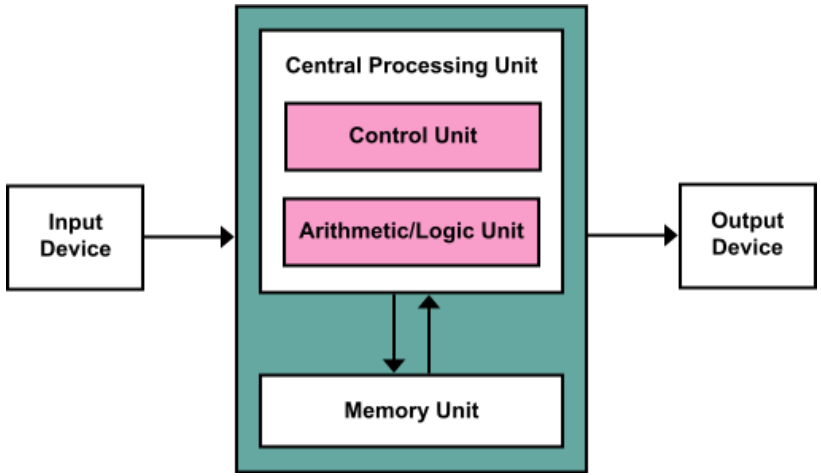

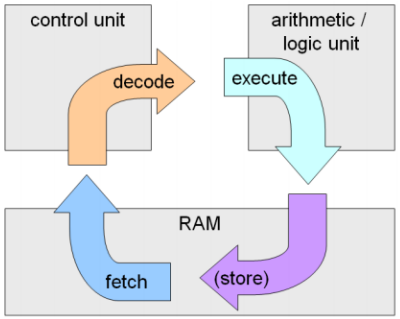

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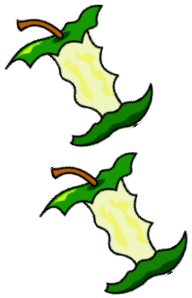

More than one core?

When describing the cores of a Computer System; you need to talk about .

1. The notion of the processors acting **at the same time**
2. More Cores means more **parallel processing**
3. **State exactly how many cores** are there, i.e. a dual core has 2 cores a quad core has 4 cores
4. Each core can **work independently** of each other

Have you applied?

Definitions **must** be applied to the scenario otherwise you will receive 0 marks.

Example: Is a Smart watch an embedded system? *2 Marks*
Yes it is because it is not a general purpose computer and it has a dedicated function which is **to tell the time.**

GCSE OCR Computer Science 1.2 Memory

Key Vocabulary	
Volatile	Data is lost when there is no power to the storage
RAM	Random Access Memory—It stores currently running programs and a small piece of the operating system. Can store data
ROM	Read only memory— Holds the BIOS which allows the computer to boot up. It cannot be edited. Can store data.
BIOS	Basic input output system—Another name for the boot up sequence program.
Virtual Memory	Memory which is used when RAM is full. This is taken from secondary storage.
Disk Thrashing	Overusing the hard drive with virtual memory—which over time damages the disk.
Flash Memory (non-volatile)	Memory which retains data in the absence of power. USB drive.

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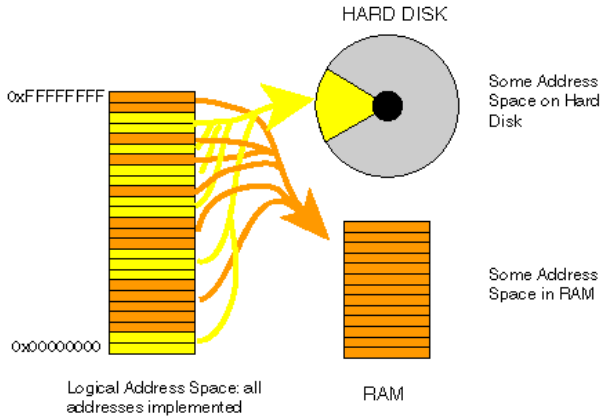
The CPU will first search for data in the Cache memory and then move further away until it finds what it is looking for. The further away from the CPU, the longer data will take to transfer.

Flash Memory

USB is not accepted—it has to be USB drive; USB pen drive; Flash drive.



Ram VS Rom	
RAM	**ROM**
Volatile memory	Non-volatile memory
Stores data	Stores data
Stores running programs & part of the operating system	Used to store the BIOS and bootstrap
Memory can be written to or read from	Memory can only be read from and not written to

APPLIED

Have you applied?

Definitions **must** be applied to the scenario otherwise you will receive 0 marks.

Example: How can John increase the performance of his computer? (3)
Answer: They could increase the number of cores, as this will increase parallel processing. He could also increase the RAM as this will allow more temporary storage for running programs and allow the processor more time to process data, and will reduce disk thrashing.

GCSE OCR Computer Science 1.3 Storage

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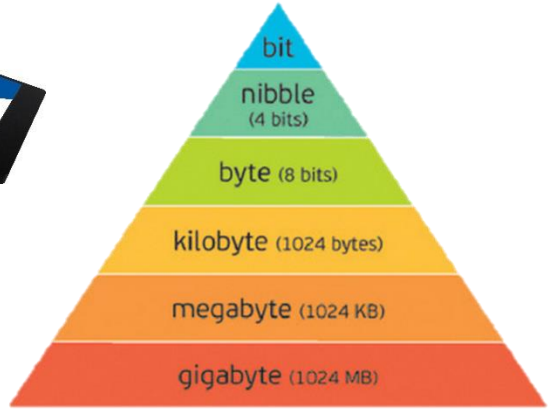
Key Vocabulary	
Secondary Storage	Storage which is not directly connected to the motherboard. Non—volatile. Needed to store persistent data.
Primary Storage	Storage which is connected to the motherboard.
Magnetic Storage	Storage which is cheap per MB; not very durable as it has moving parts, not very portable. A hard drive.
Optical Storage	Storage which is cheap per MB, not very durable as it can be damaged by scratches, is portable. A CD
Solid State Storage	Storage which is expensive per MB, very durable as they are shock resistant and have no moving parts, very portable. A USB drive, or a solid state drive.

Device	Capacity	Speed	Portability	Durability	Reliability	Cost
Magnetic	High > 1TB	Medium data access	Not very; it is not easy to move a hard drive	Not very durable, it has moving parts and is easy to break	Mid reliability due to moving parts being easy to break.	Cheap per MB
Optical	Low <1GB	Slow data access	Very portable. It's a disk	Not very, it is easy to scratch and snap	Mid reliability as it is fairly robust but can be damaged and prevents reading data	Very cheap per MB
Solid State	Medium <1TB	Fast data access	Very, solid state drives have no moving parts and are fairly small	Very durable, as they are just microchips on a board.	High—although they do have a limited number of read and writes	Very expensive per MB
Cloud Storage	Within reason unlimited	Dependant on network access speed	Very portable, as long as you have internet access	Very durable, can be accessed on any device with internet access	It is not possible to break cloud storage	Mid range expensive. Depends on how much space you have.



APPLIED

Have you applied?

Definitions **must** be applied to the scenario otherwise you will receive o marks. **Here the photos have been mentioned.**

Example: John is transferring camera files from one computer to another. Discuss the advantages and disadvantages of using a flash drive.
Answer: A flash drive has high transfer speeds, and is very robust however has limited storage when compared to a hard drive, or cloud storage. So to move the photos I would recommend cloud storage.

GCSE OCR Computer Science: 1.4 Wired and Wireless Networks

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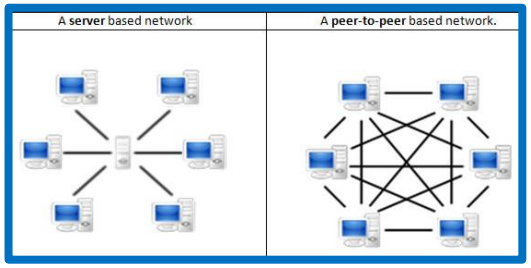
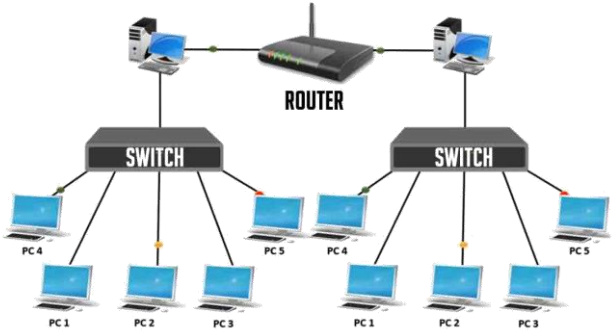
Network Organisation	
Client – Server	One or more computers are designated as servers, providing a service to clients on a network.
Peer-to-peer	A distributed system where functionality can be divided among the nodes on the network. All computers have an equal status and may partially act as a server to other devices. Peers are both suppliers and users of network data and services.



Network Scale	
LAN	A local Area Network. All devices are connected on one site. The network may be in a single building or campus. A small geographical area. Usually maintained by a group of network administrators.
WAN	A Wide Area Network. Covers a large geographical area, this could be cities or world-wide. Connections are provided by large companies such as Virgin or BT. The largest example of a WAN you use is the internet. Your mobile phone network is another example of a WAN.
VPN	A Virtual Private Network. Requires a username and password to access this network. It can be accessed anywhere in the world; and is generally secure and or an encrypted connection. It is not a physical network.



Key vocabulary	
Network	A collection of computer systems that are linked together and can share data.
Node	A device connected to a network via a link.
Links	The interface on which multiple devices can communicate. Such as a cable or wireless.
Client	A client is a piece of computer hardware or software that accesses a service made available by a server.
Server	A server is an instance of a computer program that accepts and responds to requests made by another program, known as a client.

Connection Type	
Ethernet	Sometimes called twisted copper pair – this is the "normal" cable you would use to connect a computer to a router. Speeds are up to 100 MB/s.
Coaxial	These contain a single solid copper centre cable. The most common use for these are for cable broadband, or satellite connections for Sky.
Fibre	Also known as fibre-optic cable. It contains lots of threads of glass which carry electrical impulses in the form of light. Speeds are measured in GB/s and are improving all the time.



Routers Vs Switches	
Routers	If you have access to the internet in your house; you will have a router. It routes traffic around your network. It assigns IP addresses to all devices on the network, and knows all devices connected to the network. It can provide wireless and wired connections
Switches	Extends a network by allowing more devices to connect to it. This device uses MAC addresses to send packets around the network; it is not aware of how many devices are on the network. Usually wired only.

GCSE OCR Computer Science: 1.5 Network Topologies and Protocols

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Protocols

Protocols are a set of rules which govern how data is transmitted around a network

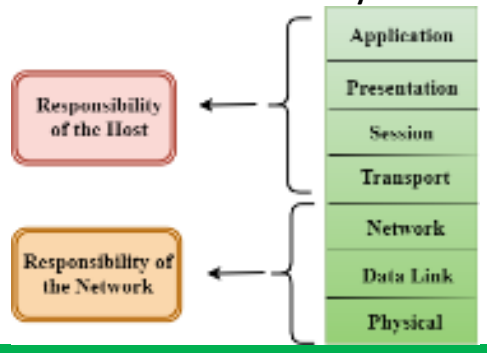
Protocol names and purposes

TCP/IP	Transmission Control Protocol / Internet Protocol	Provides a way for two routers to communicate without any errors. Involves packet switching.
HTTP	Hyper Text Transfer Protocol	Used to send and view webpages over the internet usually within a browser such as chrome.
HTTPS	Hyper Text Transfer Protocol Secure	Used to send and view secure webpages over the internet and to create a secure encrypted connection between the client and server.
FTP	File Transfer Protocol	Used when transmitting a file from a client to a server.
POP	Post Office Protocol	Used to download an email to your computer.
IMAP	Internet Messaging Application Protocol	Used to download an email to your computer.
SMTP	Simple Mail Transfer Protocol	Used to send an email from one mail server to another.

Layers

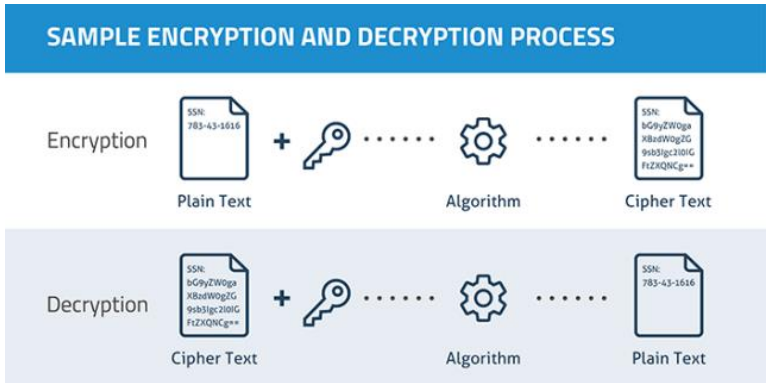
Layers exist so:

- A layer can be removed without affecting other layers
- Each layer has its' own purpose and is self-contained
- It does not need to consider the other layers
- Different layers interact with different hardware
- **You do not need to know the layer names**



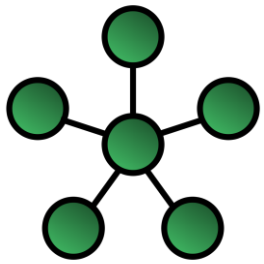
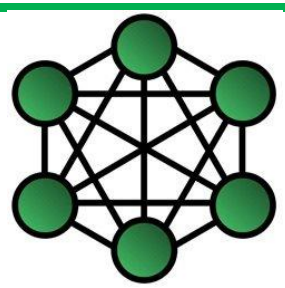
Encryption

Uses an algorithm to jumble /scramble the data.
It cannot be understood without a key.
A specific key is used to decrypt it.



Network Topologies

Two exist you need to be able to draw / recognise:

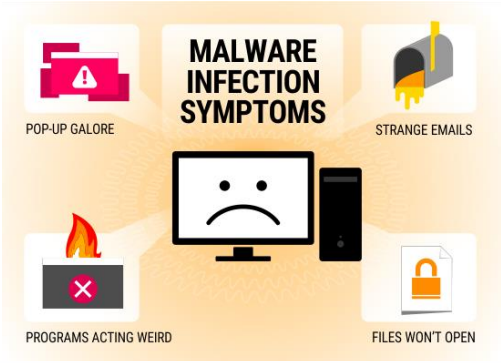
Star	Mesh
	

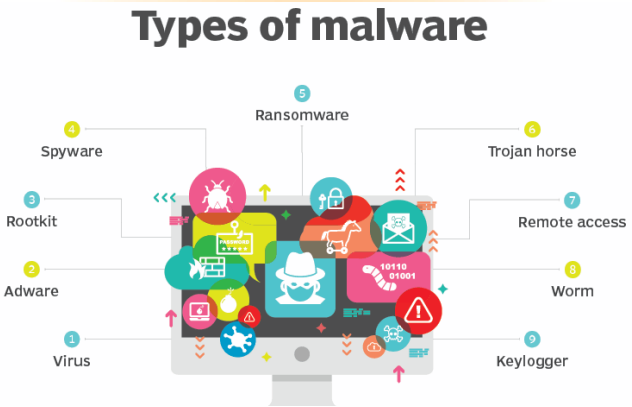
Factors which affect network performance

Number of devices connected	Bandwidth available	Hardware specifications and types of cable	Wired or Wireless	Interference such as walls for wifi

GCSE OCR Computer Science: 1.6 System Security

Security Threats To Computer Systems		
Threat	Explanation	How to prevent
Social Engineering / Phishing	This is where information is given freely usually over the phone or by email by someone pretending to be a company or someone else	Staff training and having appropriate spam filters on email inboxes.
Computer Virus	This is where a computer program is installed onto a computer which causes the data on the computer to be damaged.	Anti-virus software and scanning email attachment software.
Weak & default passwords	This is where passwords are left unchanged and potentially very easy to guess	Staff Training and Network Policy.
Brute Force Attack	This is where every possible combination of password is attempted to gain access to a system.	Limit the number of attempts at a password.
Malware	Short for Malicious Software. This is where software which looks genuine is installed and can be used to take control over the computer or cause it to malfunction.	Anti-Malware software Staff Training
Hacker	This is where an unauthorised internet user attempts to gain access to a computer system.	Firewall – which blocks unwanted incoming and outgoing connections to the internet.
SQL injection	This is where SQL structured Query Language is inserted into a website which can be used to damage the database running the website.	SQL sanitation and appropriate access rights on the database.

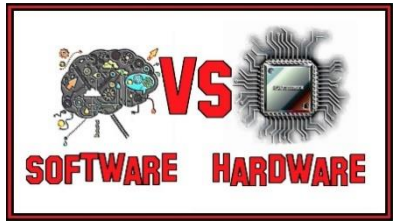




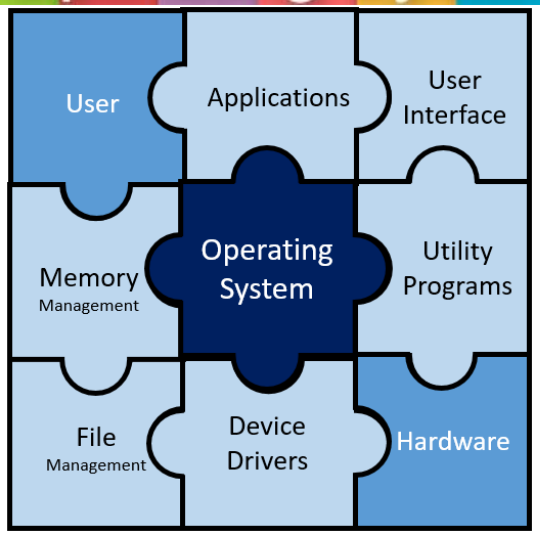
Identifying and Preventing Vulnerabilities	
Threat	Explanation
Penetration Testing	This is where a computer system is tested to see if it can be "broken into" by a computer user in order to help identify weaknesses in the system
Network Forensics	This is where traffic on a network is closely monitored and captured in order to ascertain what data has been sent over a specific network. This could be restricted to a LAN or could include internet traffic (WAN) as well.
Network Policies	This is a set of rules which everyone who uses the network must abide by. These have to be built well and will outline the penalties of breaking the rules in place.
Firewalls	A piece of software used to block and incoming or outgoing connections to a computer system which could be harmful to it.
Anti-Virus	A piece of software which is used to scan for and remove viruses from a computer system.
User Access Levels	This is a security settings which prevents users at certain levels accessing information. Some Examples are: Standard User, Admin, Super Admin
Passwords	Need to be a set length, contain special characters, can contain two step verification

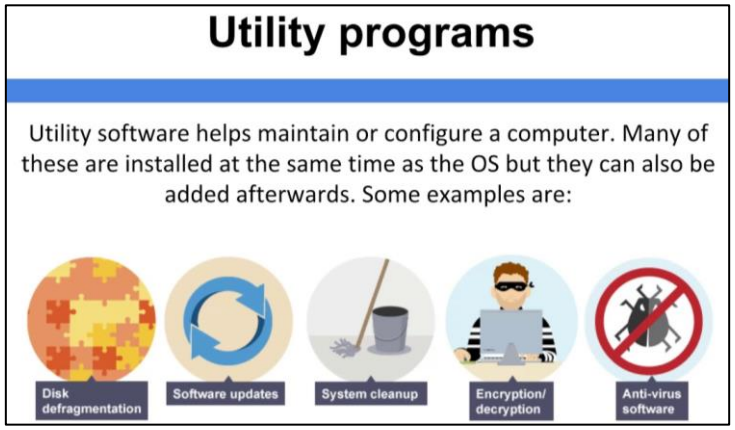
GCSE OCR Computer Science: 1.7 Systems Software

Hardware Vs Software	
Hardware	Is a physical part of a computer system and its related devices both internal and external. Anything you can "touch" is hardware; motherboard, RAM, monitors etc
Software	Term used to cover computer programs, most software falls into either an application, system or utility software.



2 Types of Systems Software





Utility Programs	
Disk defragmentation	Re-organises files on a hard drive to put fragments of files back together. This reduces the time needed for a disk head to locate data. You do not need to defragment a SSD; this will actually reduce their life expectancy.
Backup Software	Does what it says on the tin. It is used to take a copy of files to help prevent loss of data. Backups can be full or incremental. Full = everything backed up Incremental = only recently updated files are backed up
Encryption	Uses an algorithm to scramble text so that it is not understood; and requires a key to decrypt.
Compression Software	Reduces the size of a file so it takes up less disk space, and is quicker to download over the internet. Compressed files must be extracted before they can be read. Within sound Lossless – Is how youtube works! It can compress a file without losing any of the information and is reversible. Not all files can be compressed with this. Lossy – It can compress a file but will permanently lose some of the data. It can produce much smaller files than lossless.

Music Unit 1

32 MUSIC

Venues

- Small and medium sized venues
- Large multi-use venues
- Health and safety
  - Risk assessment – the process you go through to ensure an event is safe.
  - Capacity – maximum number of audience members
  - Fire precautions
  - Policies and procedures – that all venues should have
- Performance roles

Production and Promotion:

- Record labels
  - Major – sponsored and more money.
  - Independent – going it alone and on a budget.
- Music Publishing – anything involving the distribution of music to an audience.
- Promoting (marketing)
- Broadcasting – TV, Radio, Internet
- Marketing and distribution

Commonly Confused Job Roles:

Producer – have artistic overview of a project

Promoter – is responsible for advertising of a product.

Mastering Engineer – Puts the finishing touches to a recording once it is all finished.

Manager – NEVER write this without clarifying the type of manager (tour manager, venue manager, band manager etc.)

Unions

- Musicians Union (MU) – for performers, instrumental teachers and composers.
- Equity – For actors, dancers, and choreographers.
- BECTU (Broadcasting Entertainment Cinematograph and Theatre Union). – for media and production roles.
- Monitor employment conditions
- Give advice on employment and contracts
- Support in relation to fair working conditions
- Handling of disputes

Employment:

Freelance – working for yourself.

Contracted – Having a boss, a monthly salary, and terms to work to.

Short Term – a short amount of time (one gig or one day)

Long Term – months or years.

Tax / National Insurance – the amounts you have to pay to the government regardless of whether you are freelance or contracted.

Services, Companies, and Agencies

- Royalty Collection Agencies
  - Performing Rights Society (PRS) – collects for composers
  - Phonographic Performance Limited (PPL) – collects for performers
- Artist Representation
  - Management – deals with finances, bookings, organisation.
  - Agent – books gigs.
  - Public Relations (PR) – marketing.
  - Stylist
- Hire companies – for equipment.
- Transport Companies – to transport band and equipment.

Relationships within the industry:

- How promoters match acts to venue, e.g. location and type of venue, size and scale of performance area, facilities, technical equipment/support available, audience capacity, type and intention of performance, timing and availability, financial considerations
- The importance of effective communication between those working in the industry
- How promoters and musicians evaluate the advantages and disadvantages of hiring and buying equipment
- How promoters and musicians find and select suppliers and installers of equipment
- How trade bodies such as the Music Producers Guild (MPG), the Association of Professional Recording Services (APRS), PRS for Music and PLASA support their members and their industries
- How promoters and musicians find and select transport companies for touring
- How promoters secure funding for and market events.

Btec Performing Arts – Acting

Component 2: Developing skills and techniques in the performing arts

33 DRAMA

Verbatim Theatre

- Verbatim Theatre takes the words of real people and puts them into the context of a play.
- Sometimes the interviewers questions are included to create dialogue.
- Sometimes the questions are removed to create a monologue.
- The words are usually gathered by interviewing people and recording their responses.
- The words can also be gathered from interviews that have been broadcast on the television or radio.
- Verbatim theatre often has a political or social message.
- Verbatim theatre can be performed in a number of different ways.
- It can be naturalistic, trying to recreate the way in which it was spoken as accurately as possible
- It can be stylised by incorporating elements of epic or physical theatre.
- It can be designed to inform, or amuse or confront

Task 1:

Research the following theatrical styles and sum up each one in two sentences. Submit through google classroom.

- Greek Tragedy
- Epic Theatre
- Physical Theatre
- Storytelling Theatre
- Farce
- Slapstick Comedy
- Commedia dell'arte
- Well-made play
- Restoration Comedy
- Realism
- Agit-Prop

Monkey Bars by Chris Goode

- Is a verbatim play that involved the playwright interviewing over 70 primary school children about their lives and recording them.
- It started as a project based on the idea that sometimes children are not really listened to.
- The conversations that were recorded were then performed by adults.
- The idea was that adults might listen to the children's words more if they were spoken by adults
- Sometimes they directly address the audience directly.
- Sometimes the scenes are put into an adult context like a bar.
- The play is at times funny, at times heart-warming but always reveals the way in which children view the world.

Task 2:

Learn your lines off by heart. You can do this using 'read, cover, repeat' or by getting somebody to read your cues and test you. As well as knowing, your lines you will need to know when you say them in the script.

You will find a copy of the script on google classroom

Task 3:

Review your progress and set new targets. Use the sheet provided on google classroom or ask your teacher for a paper copy. Describe what activities we did in the lesson, what drama skills you improved and how. Set yourself a new target for next lesson and explain how you want to achieve it.

34 DANCE

Dance

BTEC Technical Award in Performing Arts

Component 2

PHYSICAL SKILLS

Actions – moves that dancers do

Accuracy – the correct movements

Alignment – the correct positioning of body parts in relation to each other

Balance – Holding yourself steady

Coordination – being in control of multiple body parts

Control – ability to efficiently start, stop and change movements rapidly

Contraction – the shortening of a move

Characterisation – showing a character when you dance

Communication – showing meaning to the audience

Dynamic – The quality of a move

Energy – the effort put into a performance

Expression – demonstrating meaning through dance.

Extension – Lengthening a move/limb

Facial Expression - using your face to show meaning or character

Focus – Using your eyes to direct the energy in a performance

Flexibility – range of movement in the joints

Gesture – movement of a single body part to convey meaning

Interaction with others – Awareness of other dancers and how you communicate

PERFORMANCE AND INTERPRETIVE SKILLS

Awareness of performance space – using the whole stage

Awareness of audience – making sure you face the front as much as possible

Interaction with others – using eye contact with others

Focus – your attention during performances

Energy and Commitment – your level of focus

Handling and use of set and costume

Projection – how well you project the meaning of the performance to the audience

Awareness of accompaniment – your use of the song you are dancing to

Facial Expression

Stage Presence

PHYSICAL SKILLS

Mobility – ability to move smoothly/fluently

Movement memory – Remembering the sequence of moves

Pace – the speed of a move

Phrasing – How the energy is distributed in a sequence of moves

Projection – Energy the dancer uses to connect with the audience

Posture – the way you hold your body

Rhythm – patterns in moves / sounds

Relaxation – when the body is free from tension

Spatial Awareness – being conscious of the spacing around you

Strength – muscular power

Stamina – maintaining physical and mental energy for periods of time

Suspension – adding delay to a move

Swing – moving back and forth

Trust – relying on others in a cooperative move

Use of breath – when preparing for moves, the inhaling and exhaling of air

Use of weight – using the downward force of the body.

35 CATERING

Cooking Skills Key words: accompaniment, main course/dessert, portion control, food waste, presentation techniques and cooking techniques, cooking methods (eg boil, bake, roast etc), garnishes, modify dishes for different diets.

Knowledge Key topic/words:

Providing for customers: leisure, business/corporate, local residents, customer needs, customer service, personal attributes, customer expectations, customer trends, equality, customer rights.

Personal safety in the workplace: employer/employee, health & safety at work act, RIDDOR, COSHH, manual handling, PPER, health, security level of risk to employees, suppliers and customers.

Types of customers and their needs: families with children (crèche, kids menu, highchairs, swimming pool, wifi/Netflix, entertainment (music, sport), business (corporate) people (wifi/meeting rooms), local residents (entertainment/leisure), leisure (music, spa, shopping), students (low budget), couples (romantic break), elderly

Customer Service – meeting customer needs, helpful, informative, friendly

Unit: Hospitality and Catering

Safety in the Workplace

COSSH – Control of Substances Hazardous to

RIDDOR – Reporting of injuries, disease and dangerous occurrences regulations

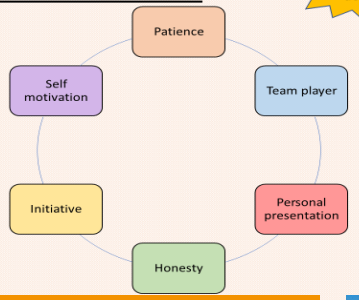
Types of customer

Leisure	Local residents	Business / corporate
Customers who visit the establishments in their leisure time e.g. a meal with friends, a family day out, tourists,	Customers who live in the local area who visit the establishment often eg regular Sunday lunch, or get togethers	e.g. business lunches. Use business facilities in establishment for meetings or presentations . Courses and conferences

These are hotels that offer only the highest level of accommodations and service. The hotel locations can vary from the very exclusive locations of a suburban area, to the heart of downtown. The hotel lobbies are sumptuous, the rooms complete with stylish furnishing and quality linens. The amenities often include: wifi,stereos, garden tubs or Jacuzzis, in-room netflix, heated pools and more. The hotels feature up to three restaurants all with exquisite menus. Room service is usually available 24 hours a day. Fitness Centres and valet and/or garage parking are typically available.

Personal attributes

See AC1.2 for more details



A bed and breakfast is a small lodging establishment that offers overnight accommodation and inclusive breakfast. Bed and breakfasts are private homes or family homes

A chained-brand hotel is defined as a hotel brand with presence in two or more countries under the same brand.

Boutique hotel is a term used to describe small hotels in unique settings with trendy accommodations.

Small to medium-sized hotel establishments that offer a limited amount of on-site amenities that only cater and market to a specific demographic of travellers, such as the single business traveller. Most focused or select service hotels may still offer full service accommodations but may lack leisure amenities such as an on-site restaurant or a swimming pool

New & Emerging Technologies

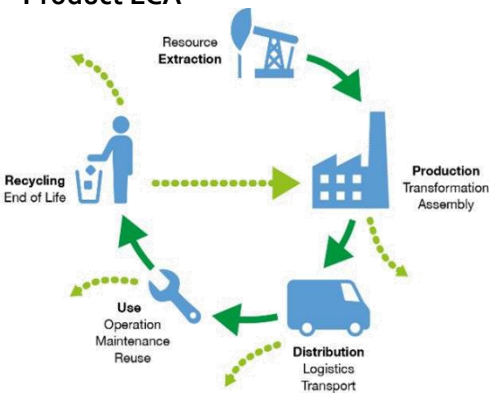
The impact of new and emerging technology on industry and enterprise, the effect that industry can have on the environment, the influence that people, culture and society have on product development, contemporary production techniques, planned obsolescence and informing design decisions.

36 TECHNOLOGY

Key vocabulary

- Emerging technology
- Robotics
- Virtual and augmented reality
- Crowd funding
- Co-operatives
- Fair trade
- Finite/non-finite
- Technology push Market pull
- Pollution
- Global warming
- Automation
- CAD/CAM
- Just In Time
- Lean manufacturing
- Planned

Product LCA



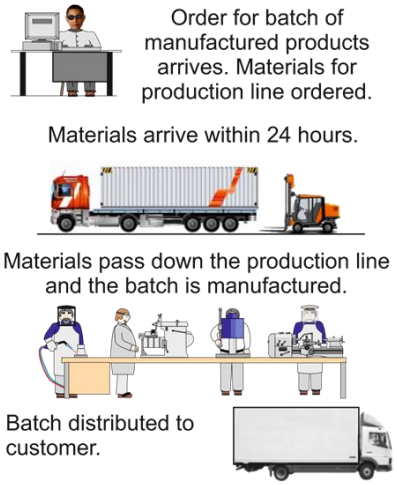
Life-cycle assessment (**LCA**, also known as **life-cycle analysis**, ecobalance, and cradle-to-grave analysis) is a technique to assess environmental impacts associated with all the stages of a **product's** life from raw material extraction through materials processing, manufacture, distribution, use, and disposal

Just In Time Production (JIT)

Just in Time, is a system of organisation used by some manufacturers, it is also called Lean Manufacture, is a system that relies on purchasing just enough materials to manufacture.

JIT aims to eliminate waste and to speed up the supply of products to the customer. Delays must not happen

JUST IN TIME - AN EXAMPLE



Automation

Robotic automation of manufacturing processes offers significantly greater consistency, accuracy, reliability and productivity than human workers

Developing ideas

Innovation such as 3D printing has the potential to change product development everywhere. This fuels a cycle of new ideas, new businesses, new jobs and newer ideas

Crowd funding

Crowd funding enables organisations to raise investment from individuals who believe in their idea

Virtual and augmented reality

Augmented reality and virtual reality will play an increasing role in online retail. Placing virtual goods (e.g. furniture) in a person's home to check physical and aesthetic fit

Planned Obsolescence

When a product is designed so that it works for a limited time and then breaks down. This is deliberate and was once a common design principle (1960s - 70s). The product is designed to last long enough, to ensure customer loyalty, so that the customer purchases a replacement or an upgraded version, from the original manufacturer.

Technology Push

Technology Push is when research and development in new technology, drives the development of new products.

Research & Development = New product = Introduced to the public/consumer

Technology Push usually does not involve market research. It tends to start with a company developing an innovative technology and applying it to a product. The company then markets the product.

Market Pull

Market Pull refers to the need or requirement for a new product or a solution to a problem. This usually comes from the market place. The need is identified by consumers or market research. A product or a range of products are then developed, to solve the original need.
Market pull sometimes starts with potential customers asking for improvements to existing products.

Year 10 **Art and Design**. Portfolio Topic 3:

Close-Up

Paying attention to the small detail we discover a new world of visual

This GCSE is about **presenting visual and written evidence** of my personal investigation on this topic. I don't need to memorise or revise, I just need to **produce, make and connect** my ideas using the visual language.

- No evidence = no marks
- A little evidence = a few marks
- I do what teacher says= grade 4
- I lead, I know what I want to do and I get on with it producing lots of evidence= top marks

Independent tasks and HW

37 ART

1 I do research to know the work of artists, world cultures and styles. My chosen artists have worked on a theme similar to mine.I use this knowledge to inspire my creative work. I have proof of my **critical understanding** in my book.

Artists pages, including:
- Copies of artists' work
- Description of work- *
- Explanation of how it's put together and what it means **
- My research making **contextual links*****

2 I prove that I can make visual work. I prove that I can also **refine** my work to make it more meaningful to the theme. I show off what I do well. I can also experiment and take risks trying new ways of mixing **techniques** and **processes**.

Test pieces:
- My personal response to artist's work
- My mixing of two artists' styles

Refined test pieces:
- two solutions for each test piece using techniques learnt since yr 7

3 I can spot how things could link to my project. I **record** them using cameras and drawing. Body else sees and feels like I do. As an artist I pick what I focus on and my ideas allow me to link these items together with new meaning.

- photo shoots
- drawings
- notes: my links, descriptions and ideas

4 I can produce and **present** a visual solution to the "Theme". This is my **final piece** for the project. It conveys my ideas, my connections and my investigations

- my final piece
- my whole investigation is well presented and easy to follow in my book
- my final piece /project evaluation

Techniques and processes: card construction, photography, printing, collage, painting, drawing.

-**Rythm:** the placement of repeated elements to cause a tempo or beat.

-**Balance:** combining elements to add a feeling of equilibrium or stability.

-**Emphasis:** combining elements to stress the differences between them.

-**Proportion:** the relationship of certain elements to the whole and to each other.

-***I see** ****I think** *****I wonder**

-**Creative investigation**: my project.

-**Critical understanding**: I can explain the ideas carried by a work of art.

-**Contextual links:** I can explain the historical, political and cultural circumstances in which a work of art is created or used.

-**To refine**: to change something in order to improve it.

-**To speculate**: to explain something without being 100% sure.

-**My personal response to a work of art**: I use the artist's visual language, but using my own images as starting point.


Georgia O'Keeffe


Edie Nadelhaft


Sarah Graham


Todd McLellan

Year 10 **Photography**. Portfolio Topic 3:

Reflection

Thinking, storytelling, our built environments, the natural world… Explore your ideas and capture

This GCSE is about **presenting visual and written evidence** of my personal investigation on this topic. I don't need to memorise or revise, I just need to **produce, make and connect** my ideas using the visual language.

- No evidence = no marks
- A little evidence = a few marks
- I do what teacher says= grade 4
- I lead, I know what I want to do and I get on with it producing lots of evidence= top marks

Independent tasks and HW

38 PHOTOGRAPHY

1 I do research to know the work of artists, world cultures and styles. My chosen artists have worked on a theme similar to mine.I use this knowledge to inspire my creative work. I have proof of my **critical understanding** in my book.

Artists pages, including:
- Copies of artists' work
- Description of work- *
- Explanation of how it's put together and what it means **
- My research making **contextual links*****

2 I prove that I can make visual work. I prove that I can also **refine** my work to make it more meaningful to the theme. I show off what I do well. I can also experiment and take risks trying new ways of mixing **techniques** and **processes**.

Test pieces:
- My personal response to artists' work
- My mixing of two artists' styles

Refined test pieces:
- two solutions for each test piece using techniques learnt since yr 7

3 I can spot how things could link to my project. I **record** them using cameras and drawing. Nobody else sees and feels like I do. As an artist I pick what I focus on and my ideas allow me to link these items together with new meaning.

- photo shoots
- drawings: sketches, diagrams, plans
- notes: my links, descriptions and ideas

4 I can produce and **present** a visual solution to the "Theme". This is my **final piece** for the project. It conveys my ideas, my connections and my investigations

- my final piece
- my whole investigation is well presented and easy to follow in my book
- my final piece /project evaluation

New techniques: Studio photography, scannography, photomontage, joiners, double exposure.

Camera controls: Shutter speed to capture movement. Aperture to capture depth of field. ISO to control light sensitivity.

-Rythm: the placement of repeated elements to cause a tempo or beat.

-Balance: combining elements to add a feeling of equilibrium or stability.

-Emphasis: combining elements to stress the differences between them.

-Proportion: the relationship of certain elements to the whole and to each other.

-***I see** ****I think** *****I wonder**

-**Creative investigation**: my project.

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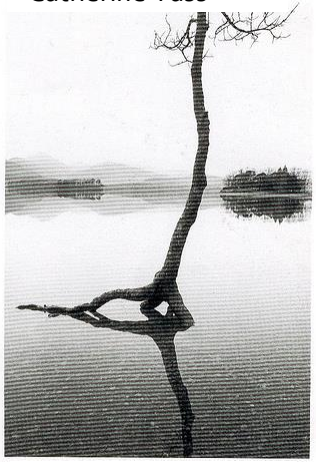
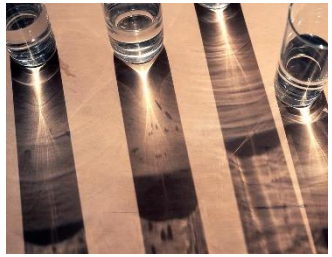
-**My personal response to a work of art**: I use the artist's visual language, but using my own images as starting point.

Catherine Yass



Fay Godwin



Alexander Harding

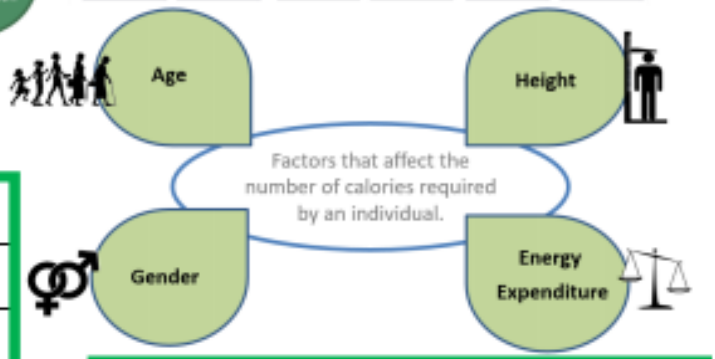
Health, Fitness and Well-being

39 PE

Key definitions:

Health	A state of complete mental, physical and social well-being, and not merely, the absence of disease or infirmity
Physical Health	All body systems work, free from illness and injury. Ability to carry out everyday tasks
Mental Health	A state of mental well-being in which the person realises their own potential, can cope with normal stressful life, work productively , and able to contribute to their community
Social Health	Basic human needs met. The individual has friendship and support, some value in society, socially active and has little stress in social circumstances.
Fitness	The ability to meet/cope with the demands of the environment

Energy is measured in calories (Kcal) and are provided through the food we eat. The average male requires 2500 Kcal per day and females 2000.



Consequences of a Sedentary Lifestyle

Increased risk of heart disease	High levels of salt in the diet can lead to increased blood pressure. High levels of saturated fats in the diet lead to a build of cholesterol in the arteries, causing a plaque and narrowing of the arteries.
Weight Gain & Obesity	On average a physically active man needs around 2,500 calories per day, while a woman needs 2,000. If we eat any more, the extra energy is stored for later use, mostly as fat. A lack of exercise will increase the chances of becoming overweight.
Poor self esteem	A lack of regular exercise decreases self esteem as body shape will change and may affect how you feel about your body.
Poor sleep	Studies have indicated that those who were living a sedentary lifestyle expressed poorer resting habits and sleeping patterns. A vigorous workout means the body relaxes into a deeper state.
Diabetes	A sedentary lifestyle means individuals do not get a good daily dose of physical activity. This increases the risk of obesity and developing type 2 diabetes.
Lethargy	A lack of physical activity will leave a feeling of a lack of energy and enthusiasm and continued lethargy can result in forms of depression.

Nutrition

Protein	Used for repair and growth of muscles
Carbohydrates	Primary source of long lasting energy
Fats	Fast Energy. Secondary form of energy when carbohydrates run out
Water	Key to staying hydrated
Vitamins & Minerals	General health of the body including blood, hair, skin and nails

"A balanced diet contains lots of different types of food to provide the suitable nutrients, vitamins and minerals we require."

Ectomorph (Tall)	-An individual with **narrow shoulders** and **narrow hips** -Very **thin** and often **very tall** -Very **light weight** -**Large forehead** -Often described as **rectangular**
Endomorph (Dumpy)	-An individual with **wide hips** and **shoulders** -**High Percentage of body fat** -Often described as **pear shaped**
Mesomorph (Muscular)	-An individual with **wide shoulders** and **narrow hips** -High percentage of **muscle** -**Strong** and **powerful** athletes -Often described as an **upside down triangle**

OCR Sport Studies
RO53 - Sports Leadership

Think about planning your session and sketch some ideas of drills that you have done either in PE or at clubs and could replicate or think of new ideas. Here are some examples below.

Aims & Objectives: What you want them to achieve or do?
Participants: What do you know about them that you need to plan for?
Tasks or Activities: What are you going to do with them?
Coaching Points: What do you need to tell or show them?
Resources: What equipment/resources do you need to help you?
Organisation: How are you going to organise/run the activity?
Progression: How will you develop the practice/session to make sure they are improving/developing?
Differentiation :How are you going to change it to make it accessible to all learners?

Differentiation by STEP:

S - SPACE – make the space bigger or smaller to challenge. E.g. Learning grids and channels (1v1, 2v1, 3v2, 5v3)
Students are asked to adapt space-accordingly by either limiting space or enlarging playing areas depending on experience, confidence or ability.
In attack, larger spaces are easier
In defence, larger spaces are more difficult

T- TASK – Use different levels of task or expected outcomes e.g Bronze- Silver-Gold.
Students either as individuals or groups are given different tasks/starting points based on prior attainment/experience. Able students can be challenged by setting tasks that encourage them to think at higher levels through the inclusion of problem-solving, investigation and use of higher order thinking skills.

E- EQUIPMENT – Size or weight of equipment
Students are set a common task but are given different resources, depending on ability and confidence

P- PEOPLE – Change the numbers. *Students have a common task to complete but are grouped in a way that ensures success for all.*able children can sometimes be grouped with peers of similar ability and expected to perform at higher levels or given the role of leader in supporting less able

Qualities of a leader

- Motivational- be inspiring
- Enthusiastic
- Commitment
- Focus
- Appearance – how they look and portray themselves/ impression they make. – leading by example
- Sense of humour
- Personality
- Confidence
- Patience
- Style of leadership: autocratic, democratic; laissez-faire
- Integrity
- Passion
- Will to win
- Knows their players.

Skills of a leader

- Organisation skills
- Able to make decisions
- Communication skills
  - verbal e.g. giving instructions
  - Non-verbal e.g. gestures, use of whistle etc.
  - Good listener
- Knowledge of the activity- high level of sport specific knowledge of technical and tactical/use of technical terms;
- Use of language- Have a rapport;
- knowledge of rules and regulations;
- show respect for performers
- Behavior management (how they deal with behavior) and self control and discipline (how they behave themselves).
- Able to plan and structure activities
- Be able to set realistic targets to work to.
- Be able to evaluate performance and make decisions
- Ability to read the game or sporting situation.
- Appreciate and acknowledge good performance – give feedback and feed-forward.
- Create a positive and safe atmosphere for playing and learning

Key definitions and vocabulary-attributes

Appearance	What you look like and the clothes that you wear
Enthusiasm	Being enthusiastic about what you are doing to help your group enjoy what you are doing.
Confidence	Be confident about what you are doing-plan in advance what you are going to do.
Communication	Different ways of getting messages across. This can be verbal and non verbal
Organisation	Getting your equipment ready before you begin to lead your session.
Knowledge	When you can give a lot of information about a subject.
Structure	Following a set pattern to make sure your coaching session flows.
Target setting	Setting people goals of what they can achieve
Language	Talking in an appropriate way
Evaluation	Being able to give the strengths and areas for improvement of something
Leadership	Different ways of leading a group. Autocratic (strict and demanding) Democratic (laid back and gives the group more choice)
Humour	Building a positive relationship with your group by using humour.
Personality	Introvert-quiet and shy Extrovert-loud and outgoing
Conduct	Making sure you act professionally at all times
Health and safety	Making sure you know if there are any medical conditions from the people in your group, making sure the area is safe to use, having a first aid kit, making sure all of your group are wearing the correct kit.
Equality	Treating everyone equally no matter their age, race, gender etc
Rules and regulations	Making sure you follow the rules of the sport to keep your group safe and also the rules of the organisation of where you are coaching.

We would always encourage you to speak to the people you live with or someone in school if you have a worry or a problem. If you can't, or you want to read more about an issue affecting you or someone you know, here are some useful websites and phone numbers. They offer free, confidential advice and support.

General

Childline—www.childline.org

0800 1111

Offers information and advice, 1-2-1 confidential chat (text, email, phone) and support from message boards on a wide range of issues.

This website is one of the most useful you will find and can direct you to help or information about all the other topics mentioned here, and

Safety, bullying and abuse

Child Exploitation and Online Protection (CEOP) - www.ceop.police.uk

Report inappropriate online contact, any unlawful misuse of social media, or a child protection concern to a trained police officer. You can also click this button on your platform:

NSPCC—www.nspcc.org.uk 0800 1111

Information and help about on- and offline abuse

National Bullying Helpline—www.nationalbullyinghelpline.co.uk 0845 22 55 787

Advice and help about bullying on- and offline

Health

School nurse—07520 631722

Text only for confidential advice

National Health Service—www.nhs.uk

Research and useful information on health issues

Walk-In Centre, RD&E Hospital—01392 411611

Non-urgent and sexual health needs

Walk-In Centre, 31 Sidwell Street—01392 276892

Healthy relationships

Thinkuknow—www.thinkuknow.co.uk

Age-related help and advice about on– and offline relationships and consent.

Drugs and alcohol

YSmart—ysmart.org.uk 01271 388162

Information about substance misuse, advice, recovery and treatment

Homeless, skills, advice, getting your voice heard

Young Devon—www.youngdevon.org 01392 331 666

Mental Health and well-being

Samaritans—www.samaritans.org

Call 116 123 for emergency help

Email jo@samaritans.org (response within 24 hours)

Papyrus—papyrus-uk.org 0800 068 41 41

Urgent help for you or someone you know

YoungMinds—youngminds.org.uk

Text YM to 85258 for urgent help

Happy Maps—www.happymaps.co.uk

Advice on everything from sleep problems to anxiety, bullying, self-harm, coping with divorce, autism, ADHD, gender dysphoria and more

LGBT

X-PLORE—www.lgbtqyouthdevon.org.uk

Local support and groups for LGBTQ young people

If someone's life is at risk, you should always dial

999