ISCA ACADEMY

INSPIRATION FOR LIFE

SPRING 2020

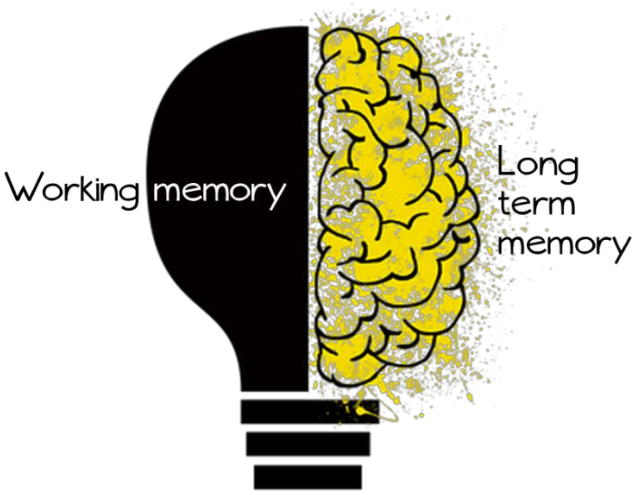
KNOWLEDGE BOOKLET

YEAR 9

CONTENTS

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 and 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.

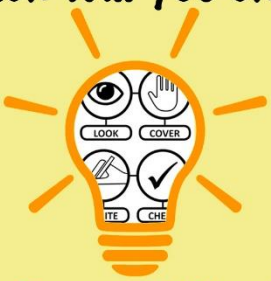
If you do not know that 7 x 8 = 56 straight away, you are more likely to become confused and frustrated. Being able to very quickly recall key facts is a way of hacking your working memory, making thinking about difficult stuff much easier.

This booklet contains knowledge organisers for all of your subjects for the Autumn 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?

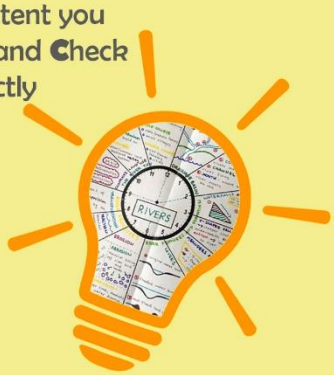


Look Cover Write Check

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

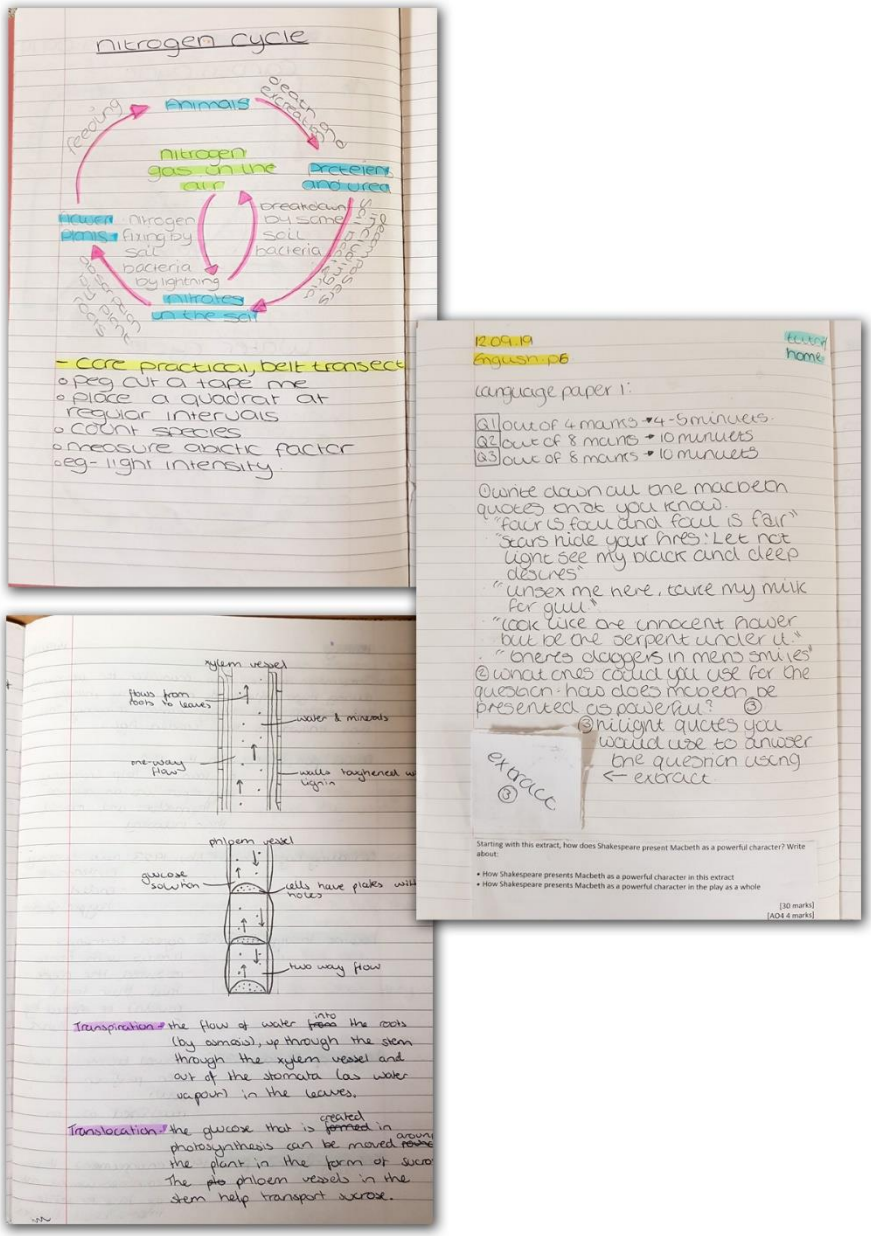
Write down the word/term on one side and a definition/explanation on the other side. Once you have notes written in your own words and summarised – move onto testing yourself quickly.

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	Science	Option A
Wednesday	Option B	Option C
Thursday	Maths	Science
Friday	English	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
Art **Computing** **Dance** **Drama** **French** **Geography** **History** **Music** **Technology** **Spanish**	**Art** **Drama** **Catering** **French** **Geography** **History** **Music** **Technology** **Spanish**	**Catering** **French** **PE** **Geography** **History** **Music** **Spanish** **Photography**

Week commencing	Self Check	Tutor Sign	Week commencing	Self Check	Tutor Sign
13/1/2020			24/2/2020		
20/1/2020			2/3/2020		
27/1/2020			9/3/2020		
3/2/2020			16/3/2020		
10/2/2020			23/3/2020		

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

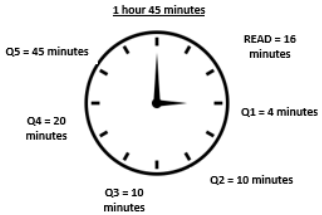
Question 5 = WRITING

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

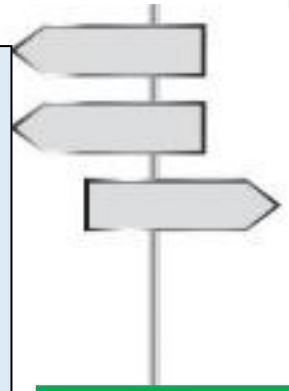
Introduce your idea → THEN → ***Get the marks***

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 _____

X3

Use the Isca Way

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

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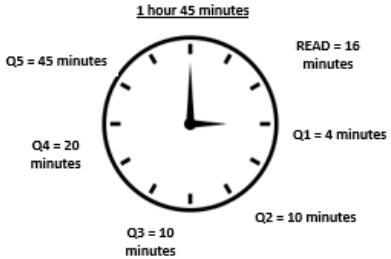
10. Sentences



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

Romeo and Juliet by William Shakespeare

A young boy and girl meet by chance and fall instantly in love. But their families are bitter enemies, and in order to be together the two lovers must be prepared to risk everything. Set in a city torn apart by feuds, *Romeo and Juliet* is a dazzling combination of passion and hatred and tragedy.

Themes

Conflict
Power
Fate
Loyalty
Family
Religion
Love
Hatred
Violence
Death

Key vocabulary

Patriarchal
Conflict
Hierarchy
Prologue
Feud
Tragedy

Key characters
Romeo Montague
Benvolio – Romeo's cousin
Lord and Lady Montague – Romeo's parents
Juliet Capulet
Tybalt – Juliet's cousin
Lord and Lady Capulet – Juliet's parents
Prince Escalus – ruler of Verona
Mercutio – related to Prince, friends with Romeo
Count Paris – related to Prince, betrothed to Juliet
Friar Lawrence – friends with Romeo
The Nurse – works for the Capulets, Juliet's confidante

Key quotes
'A pair of star-cross'd lovers' with a 'deathmark'd love'
'Peace? I hate the word, as I hate hell, all Montagues and thee' (Tybalt)
'But soft, what light through yonder window breaks? It is the east, and Juliet is the sun.' (Romeo)
'For now, these hot days, is the mad blood stirring.' (Benvolio)
'A plague o' both the houses!' (Mercutio)
'Hang thee young baggage, disobedient wretch!' (Lord Capulet)
'I will kiss thy lips, haply some poison yet doth hang on them.' (Juliet)
'For never was a story of more woe than this of Juliet and her Romeo.' (Prince)

7 ENGLISH

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

Context
Patriarchal society - Women had no rights to property. They had to obey their fathers and then their husbands.
Fate - the belief that your life is mapped out for you, or 'written in the stars'. Many Elizabethans believed God decided your fate, and that astrology could help you identify your course in life.
Theatre - In early productions (until 1660) Juliet (and other female characters) would have been played by young boys – this highlights her youthfulness and vulnerability.
Theatres would have been rowdy busy places. Violent scenes would help hold the audience attention.

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 change…**

The Writer's methods
Prologue – sets up the story and foreshadows events.
Foreshadowing – when an author drops hints about what will happen through language or symbolism.
Dramatic irony – when an audience knows something the characters do not.
Symbolism – when an image represents an idea, e.g. light symbolises happiness, flowers symbolise youth etc.
Double meaning – when a word can be read to mean two things e.g. 'grave'= serious or grave stone.
Rhyming Couplets – two lines next to each other that rhyme with each other, often used for dramatic impact.
Oxymoron – when two opposite ideas are joined together, e.g. 'heavy lightness'
Soliloquy – when a character speaks to themselves about their thoughts and feelings.

8 MATHS

Year 9 Foundation

Pie Charts and Bar Charts

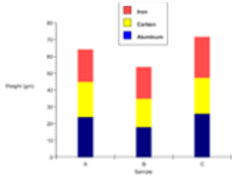
Used for showing **how data breaks down into** its constituent **parts**.

When drawing a pie chart, **divide 360° by the total frequency**. This will tell you how many degrees to use for the frequency of each category.

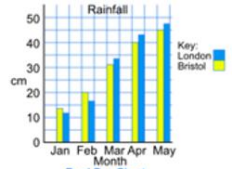
Remember to **label** the category that each sector in the pie chart represents.

If there are 40 people in a survey, then each person will be worth 360÷40=9° of the pie chart.

Compound/Composite Bar Charts show data stacked on top of each other.

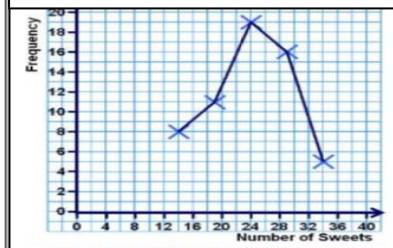


Comparative/Dual Bar Charts show data side by side.



Dual Bar Chart

Frequency Polygon



Draw the axes using suitable scales.

Plot each frequency against the mid-value of each range.

Join the points to produce a frequency polygon.

Two Way Table

A table that **organises data** around **two categories.**

Fill out the information step by step using the information given.

Make sure all the totals add up for all columns and rows.

Question: Complete the 2 way table below.

	Left Handed	Right Handed	Total
Boys	10		58
Girls			
Total		84	100

Answer: Step 1, fill out the easy parts (the totals)

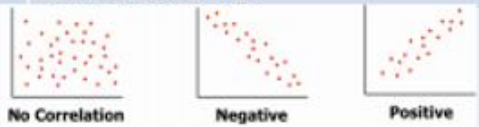
	Left Handed	Right Handed	Total
Boys	10	*48*	58
Girls			*42*
Total	*16*	84	100

Answer: Step 2, fill out the remaining parts

	Left Handed	Right Handed	Total
Boys	10	*48*	58
Girls	*6*	*36*	*42*
Total	*16*	84	100

Scatter Graphs

Line of best fit — This is a straight line drawn on a scatter graph, it should aim to go through as many points or have an equal number of points above and below it.



The more inline the points are the stronger the correlation is.

The line of best fit can be used to estimate.

Stem and Leaf Diagram

- Exam Scores

75	83	99	69
95	80	71	88
92	83	79	97

- 69 71 75 79 80 83 83 88 92 95 97 99

-

Stem	Leaf
6	9
7	1, 5, 9
8	0, 3, 3, 8
9	2, 5, 7, 9

- Step 1
  Order the data from least to greatest.
- Step 2
  Draw a vertical line and a horizontal line, forming a t.
- Step 3
  Write the tens digits from least to greatest to the left of the line. These digits form the **stems**.

  Write the ones digits in order to the right of the line with the corresponding stem. The ones digits form the **leaves**.

Algebra Key Terms

Simplify – Write more simply, usually by collecting like terms, e.g. $4x + 2x \rightarrow x = 5x$

Solve – Calculate the value of the letter.

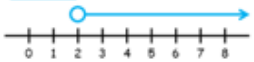
Expand – Multiply out brackets.

Factorise – Put back into brackets.

Inequalities

An open circle means that the value is not included:

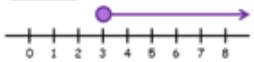
$x > 2$ — x is greater than 2



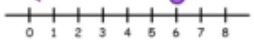
$x < 5$ — x is less than 5

A filled in circle means that the value is included:

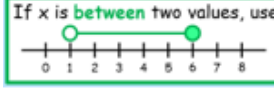
$x \geq 3$ — x is greater than or equal to 2



$x \leq 6$ — x is less than or equal to 6



If x is between two values, use two circles:



$1 < x \leq 6$ — x is greater than 1, but less than or equal to 6.

Forming an Equation

The cost of a badger is *b* pence.
A racoon is 5 pence more expensive than a badger and a beaver three times as expensive as a badger.

a) cost of a racoon? $b + 5$
b) cost of a beaver? $3(b + 5)$
c) cost of a racoon and 8 badgers?
$b + 5 + 8b = 9b + 5$

Solving Equations

To solve equations, use the inverses of the operations that have been applied to the unknown,
e.g. $4x - 7 = 11$

First add 7 to both sides:
$4x = 18$

Then divide by 4:

$x = \frac{18}{4}$ $\quad x = 4\frac{1}{2}$

If you can't work out the answer, leave it as a fraction in its simplest form.

BIDMAS

The order in which all calculations should be done:

Brackets **I**ndices **D**ivide **M**ultiply **A**dd **S**ubtract

Fractions

Adding and Subtracting	• The denominators must be the same. • In order to do this find the lowest common multiple for each denominator. • Remember to multiply the numerator and denominator by the same number. • Then add the fractions together.
Multiplying	Multiply the numerators and denominators
Dividing	• Keep the first fraction • Flip the second fraction (take the reciprocal) • Change the divide sign to multiply

Remember to simplify your answers

Percentages

Percentages to decimals

÷ 100

E.g.

47% = 47 ÷ 100 = 0.47

Percentages to fractions

Write as a fraction over 100 and simplify

E.g. 40% = $\frac{40}{100} = \frac{4}{10} = \frac{2}{5}$

Finding % Change

$\left(\frac{\text{difference}}{\text{original}} \times 100\right)$

E.g. In 2010, a bag cost £32. In 2012, it cost £40. Work out the percentage change.

Difference = £8 (£40 – £32)

Original = £32

$\frac{8}{32} \times 100 = 25\%$

Compound Interest

Increase Question

$\text{Amount} \times \left(1 + \frac{\text{rate}}{100}\right)^{\text{number of years}}$

Decrease Question

$\text{Amount} \times \left(1 - \frac{\text{rate}}{100}\right)^{\text{number of years}}$

E.g. A car costs £12400 in 2012. Each year, the value of the car depreciated by 2.5% per annum. What is the value of the car after 4 years?

$12400 \times \left(1 - \frac{2.5}{100}\right)^4 = £11205.73$

%

Percentages Formulae

Finding the Original

E.g. In a 20% off sale, a jumper costs £48. What was the original price?

100% - 20% = 80%

So £48 = £80

We want to find 100% (full price).

£48 = 80%
£0.60 = 1% ÷ 80
£60 = 100% × 100

Original price was £60

Finding percentages

E.g. 35% of £120

$\frac{35}{100} \times £120 = £42$

Year 9 Higher

9 MATHS

Recurring Decimals to Fractions

A. Single digit REPEATING

You have $0.\overline{3}$ and need to change it to a fraction. Follow these steps:

1. Write your decimal as an equation: $x = 0.\overline{3}$
2. How many digits are after the decimal point? **1**
3. Multiply the equation (both sides) by $10^1 = 10$ $\quad 10x = 3.\overline{3}$
   (The power you use is the number of digits that repeat.)
4. Subtract the 1st equation from the 2nd equation

$$\begin{aligned} 10x &= 3.\overline{3} \\ -\ x &= 0.\overline{3} \\ \hline 9x &= 3.0 \end{aligned}$$

5. Divide to get x by itself and simplify! $\quad x = \frac{3}{9} = \frac{1}{3}$

B. Multiple digits REPEATING

You have $0.\overline{54}$ and need to change it to a fraction. Follow these steps:

1. Write your decimal as an equation: $x = 0.\overline{54}$
2. How many digits are after the decimal point? **2**
3. Multiply the equation (both sides) by $10^2 = 100$ $\quad 100x = 54.\overline{54}$
   (The power you use is the number of digits that repeat.)
4. Subtract the 1st equation from the 2nd equation

$$\begin{aligned} 100x &= 54.\overline{54} \\ -\ x &= 0.\overline{54} \\ \hline 99x &= 54.0 \end{aligned}$$

5. Divide to get x by itself and simplify! $\quad x = \frac{54}{\ } = \frac{6}{\ }$

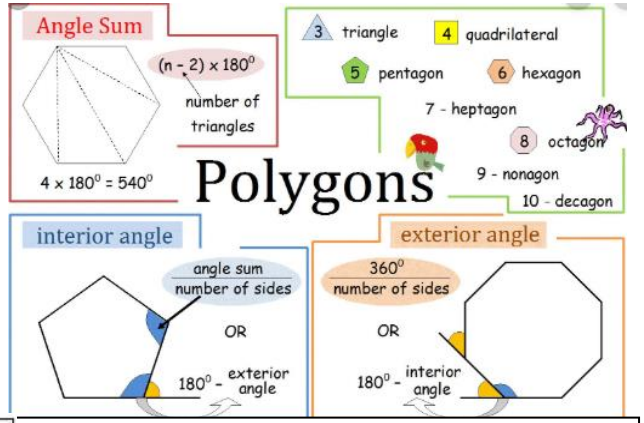
Averages from a Frequency Table

We find the **Average Number of Coffees per Hour** by adding two new columns to our Frequency Table and using a Formula.

Cappuccinos	Freq	Interval Midpoint	Freq x Midpt
0-3	2	1.5	2 x 1.5 = 3
4-7	3	5.5	3 x 5.5 = 16.5
8-11	8	9.5	8 x 9.5 = 76
12-15	3	13.5	3 x 13.5 = 40.5
16-19	2	17.5	2 x 17.5 = 35
TOTALS	18		171

MEAN Average = Total of (Freq x Midpt) / Total Frequency
= 171 / 18 = 10 cappuccinos per hour

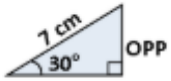
Interior and Exterior Angles in Polygons



Trigonometry (SOHCAHTOA)

SOH

sin = OPPOSITE / HYPOTENUSE

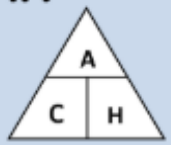


sin 30 = OPP / 7

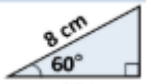
sin 30 x 7 = OPP

OPP = 3.5 cm

CAH



cos = ADJACENT / HYPOTENUSE

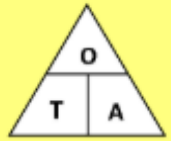


cos 60 = ADJ / 8

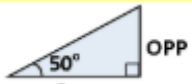
cos 60 x 8 = ADJ

ADJ = 4 cm

TOA



tan = OPPOSITE / ADJACENT



tan 50 = OPP / 9

tan 50 x 9 = OPP

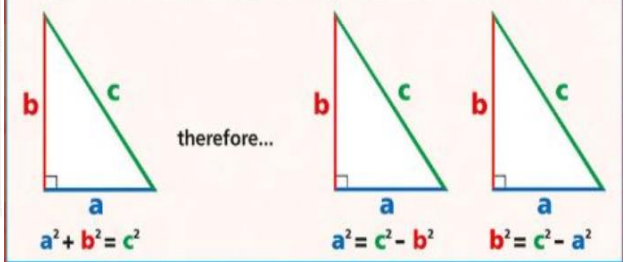
OPP = 10.7 cm

Exact Trig Values

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	$\sqrt{3}$	

Pythagoras Theorem

When you know the lengths of any two sides, you can find the length of the third side.

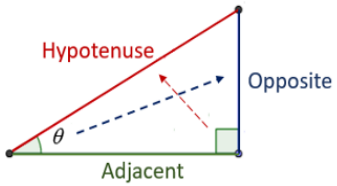


$a^2 + b^2 = c^2$ $\quad a^2 = c^2 - b^2$ $\quad b^2 = c^2 - a^2$

REMEMBER: Pythagoras' theorem only applies to right-angled triangles.

Inverse Trig (Finding an angle)

right triangle when given two sides of the triangle.



SOH $\quad \theta = \sin^{-1}\frac{opposite}{hypotenuse}$

CAH $\quad \theta = \cos^{-1}\frac{adjacent}{hypotenuse}$

TOA $\quad \theta = \tan^{-1}\frac{opposite}{adjacent}$

CB1

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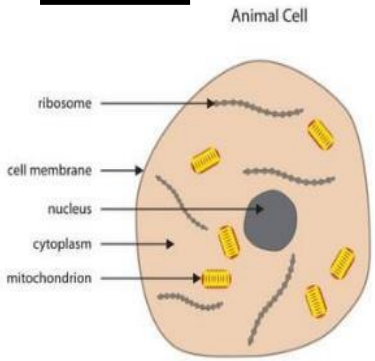
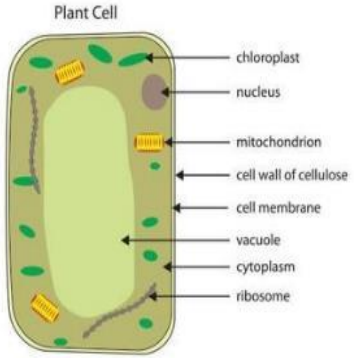
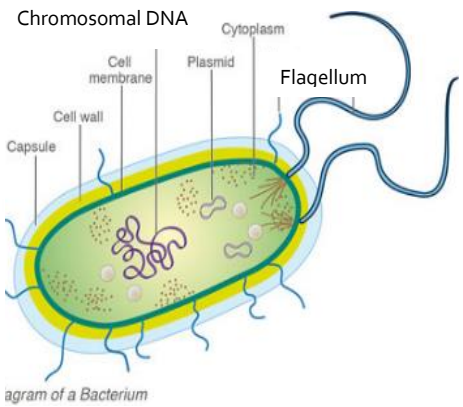


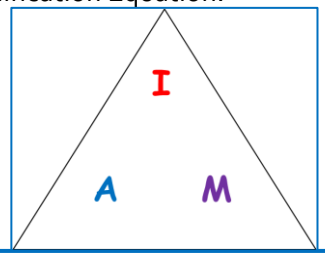


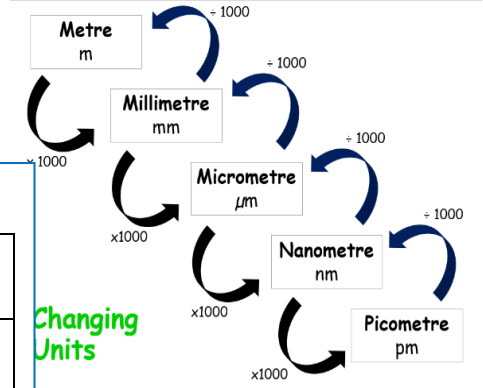


Microscopes core practical:

- Prepare both animal and plant cell slides
- Use a stain to ensure features are visible
- Draw a scientific drawing of what you can see- use pencil, no shading, include magnification

Magnification Equation:



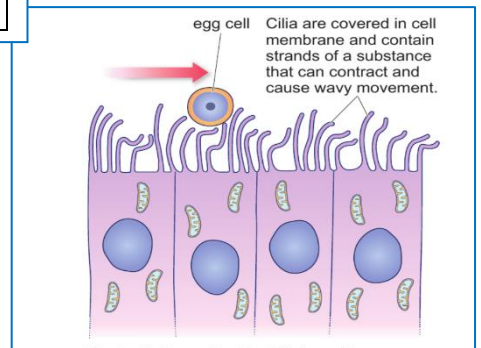


Organelle	Function
Nucleus	Encloses the genetic material
Cell membrane	Controls what enters and leave the cell
Cytoplasm	Where chemical reactions occur
Mitochondria	Site of aerobic respiration
Ribosome	Site of protein synthesis
Cell wall	Supports and protects the cell
Chloroplast	Site of photosynthesis
Vacuole	Stores cell sap, helps to keep the cell rigid
Plasmid	Small loop of bacterial DNA
Flagellum	Helps bacteria to move

Electron vs Light Microscopes:

	Max. Magnification	Max. Resolution	Problems
Light	X1500	0.001mm	Need very thin samples
Electron	X2,000,000	0.0000002mm	Expensive

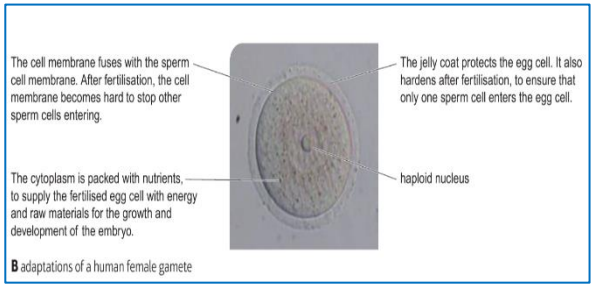
Resolution	Smallest change that can be measured by an instrument. For example, in a microscope it is the smallest distance between two points that can be seen as two points and not blurred into one point.
Magnification	How much bigger something appears compared with its actual size.



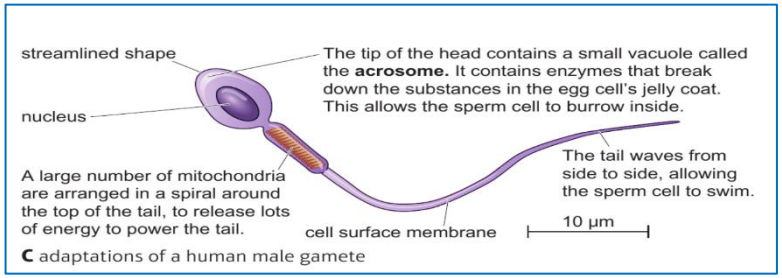
D adaptations of oviduct lining cells

BIOCHEMICAL (FOOD) TESTS

CHEMICAL	TESTS FOR ...?	HOW TO CARRY OUT THE TEST	RESULT	CHEMICAL	TESTS FOR ...?	HOW TO CARRY OUT THE TEST	RESULT
IODINE SOLUTION	Starch	1.) Add the iodine solution directly to the substance to be tested (in solid or liquid form) and look for a colour change.	Turns blue black with starch	BIURET'S SOLUTION	Protein	1.) Add Biuret's to the solution/ suspension to be tested and look for a colour change.	Turns purple with protein
BENEDICT'S SOLUTION	Reducing Sugar	1.) Add Benedict's to the solution/ suspension to be tested. 2.) Heat for 2 mins in a water bath at boiling point and look for a colour change.	Turns brick red with reducing sugars (green/ yellow/ orange if less sugar present)	ETHANOL	Lipid (known as the Emulsion test)	1.) Add ethanol to the solution/ suspension to be tested and shake thoroughly. 2.) Then add water and look for a colour change.	Turns cloudy/ milky with lipid



B adaptations of a human female gamete



C adaptations of a human male gamete

CB1

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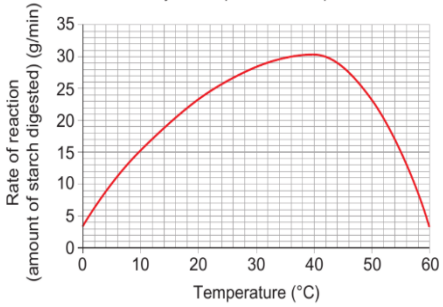
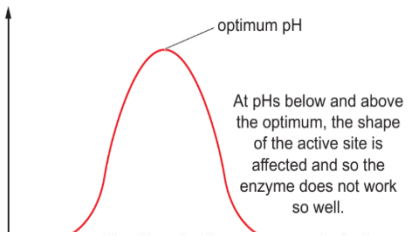
Factors affecting enzyme action:

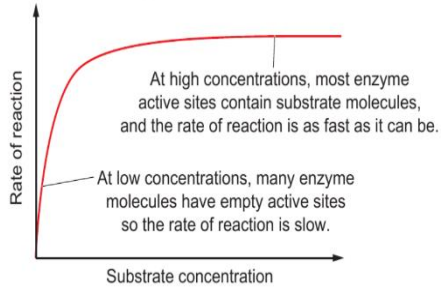
How the rate of starch breakdown using an amylase depends on temperature



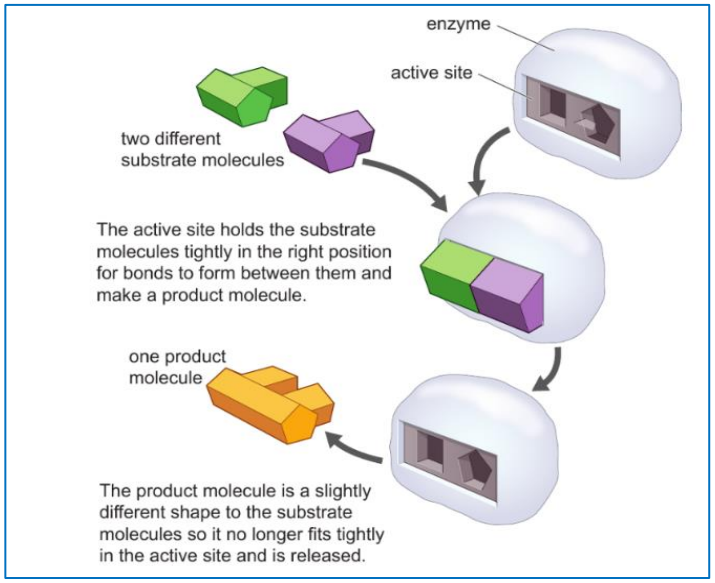
How the rate of an enzyme-controlled reaction depends on pH



How the rate of an enzyme-controlled reaction depends on substrate concentration



Enzyme	A protein that acts as a biological catalyst
Catalyst	A substance that speeds up the rate of a reaction, without itself being used up
Denature	The shape of the active site has changed so much that its substrate no longer fits and the reaction can no longer happen.
Optimum	The conditions at which the enzyme works best
Active Site	The space in an enzyme where the substrate fits during an enzyme-catalysed reaction.
Digestion	To break down large molecules into smaller subunits, particularly in the digestive system.
Synthesis	To build a large molecule from smaller subunits.



Enzyme name	Where found	Reaction catalysed
amylase	saliva and small intestine	breaking down starch to small sugars, such as maltose
catalase	most cells, but especially liver cells	breaking down hydrogen peroxide made in many cell reactions to water and oxygen
starch synthase	plant	synthesis of starch from glucose
DNA polymerase	nucleus	synthesis of DNA from its monomers

	Diffusion	Osmosis	Active Transport
Down / Against concentration gradient?	Substances move down the concentration gradient.	Water moves down the concentration gradient.	Substances move against the concentration gradient.
Requires energy?	NO	NO	YES
Requires a membrane?	No membrane required.	Occurs over a partially permeable membrane.	Occurs over a membrane using transport proteins.

Osmosis Core Practical:

-Testing how changing sugar/salt concentration of solution affects the mass of potato/other vegetable

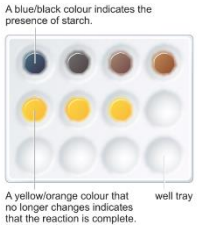
- Think about where the lowest water concentration is and whether water will be moving in or out of the vegetable

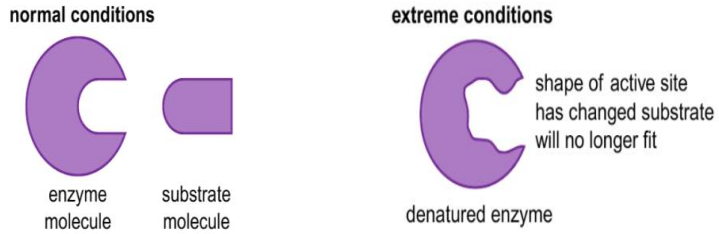
- Then calculate the percentage change in mass:

$$\% \text{ change} = \frac{(\text{final mass} - \text{initial mass})}{\text{Initial mass}} \times 100$$

Enzymes Core Practical:

Testing how changing pH affects the rate of enzyme action





CC3-4

Atoms of elements always have equal numbers of protons (+ve) and electrons (-ve) and so have no overall charge, because the charges cancel out.

Subatomic particle	Relative charge	Relative mass
proton	+1 (positive)	1
electron	−1 (negative)	1/1835 (negligible)
neutron	0 (no charge)	1

B relative masses and relative charges of subatomic particles

In 1805 John Dalton published his atomic theory that said that:

- All matter is made of tiny particles called atoms
- Atoms are tiny hard spheres that cannot be broken into smaller parts
- Atoms cannot be created or destroyed
- The atoms in an element are identical

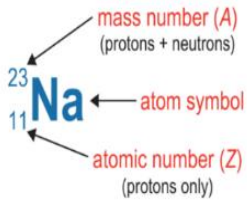
Experiments towards the end of the nineteenth century suggested that atoms contained even smaller particles- **subatomic particles**

Isotopes: different atoms of the same element containing the same number of protons but different numbers of neutrons

Structure of an atom:

-nucleus containing protons and neutrons

- surrounded by electrons orbiting the nucleus in shells



The nucleus of an atom is very small compared to the overall size of the atom

Most of the mass of an atom is concentrated in the nucleus

In the periodic table:

-elements are arranged in order of increasing **atomic number**, in rows called **periods**

- elements with **similar properties** are placed in the same vertical columns called **groups.** They have the same number of electrons in their outer shell

Electrons are found in shells.

Each shell can contain different numbers of electrons:

- 1st shell- up to 2 electrons
- 2nd shell- up to 8 electrons
- 3rd shell- up to 8 electrons

Electrons occupy the shells, starting with the innermost shell and working outwards until each one becomes full.

Pair Reversal:

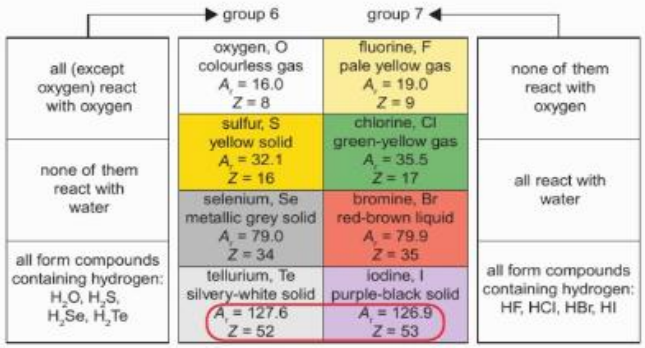
Pair reversal of Iodine and Tellurium explained by periodic table being organised by increasing atomic number and not atomic mass.

Development of the Periodic Table:

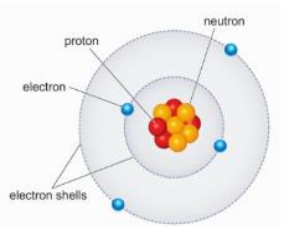
In 1969 Mendeleev arranged the known elements in order of increasing relative atomic masses.

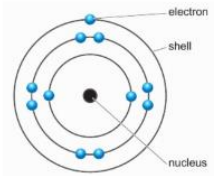
Mendeleev **left gaps** in his table to fill in as more elements were discovered.

He used the gaps in his table to make predictions about the properties of the undiscovered elements.

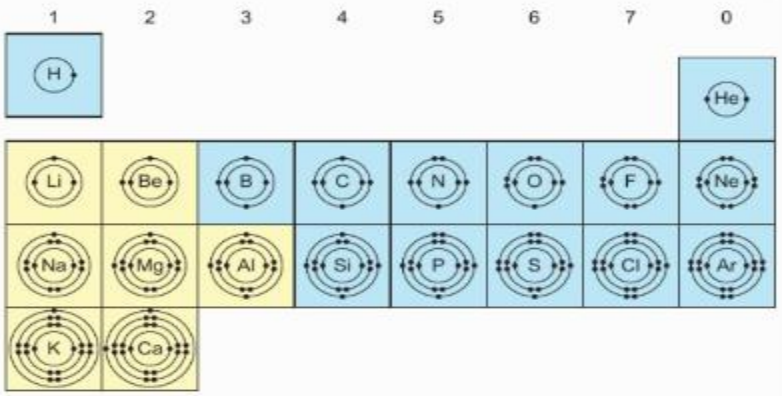


C These are the elements in groups 6 and 7, each with its relative atomic mass, A_r, and atomic number, Z.





B The electronic configuration of sodium shows three occupied shells.



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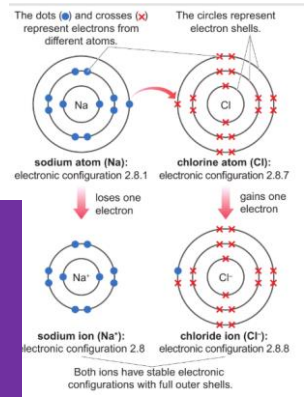
CC5-7

Bonds are forces of attraction that hold atoms together. When formed, energy is released making the atoms more stable. The atoms 'want' a full outer shell of electrons.

Ionic bonding occurs between a metal and a non-metal. Electrons are swapped to achieve a full outer shell of electrons.



Metal atoms which lose electrons become a positive ion (cations).

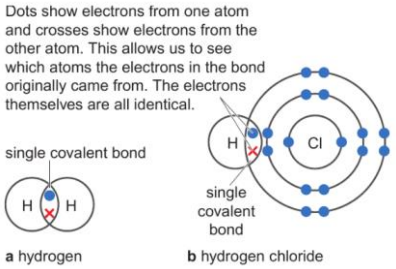
The non-metal atom gains electrons to become a negative ion (anion).

Electrostatic forces of attraction between the cation and anion form an ionic bond.

Properties – high melting points, soluble, conduct electricity when ions are free to move. I.e. liquid or in a solution.

Polymers are long chains identical subunits. E.g. Poly(ethane).

Simple molecule. Electrons are shared between a fixed number of non-metals atoms to form covalent bonds.



Atoms in the molecule are held together by strong electrostatic forces of attraction between the positive nuclei and the negative electrons.

Properties – low melting points, few are soluble, most do not conduct electricity.

Giant covalent – also between non—metal elements/ compounds and share electrons. But billions of atoms are held togther in a lattice structure.

Properties – high melting points, insoluble and most do not conduct electricity.

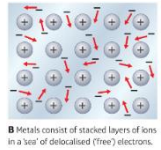
Rules for naming compounds: 1: Element furthest to the left comes first. 2: compounds containing 2 elements end in -ide. 3: compounds containing 3 elements including oxygen end in -ate or -ite.

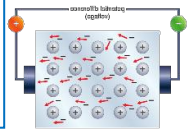
Metal; solid, high melting point, shiny, malleable, high density, good conductors of heat and electricity. **Non-metals**; brittle, low density, poor conductors of heat and electricity.

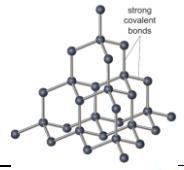
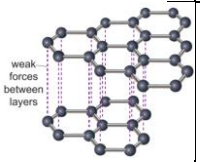
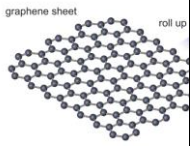
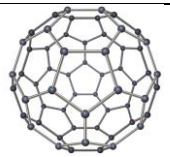
Metallic bonding; two or more metal atom lose their outer electrons and become +ve ions. Electrostatic forces of attraction occur between the positive metal ions and the negative delocalised electrons.

Metals are malleable because when hit the layers of ions can slide over each other

When a voltage is applied the electrons flow and carry the electrical charge





Material	Structure	Bonding	Properties	Uses
Diamond		Every carbon atom is covalently bonded to 4 other carbon atoms. It has a tetrahedral shape	Hard, strong, High melting point, does not conduct	Cutting equipment
Graphite		Every atom is covalently bonded to 3 carbon atoms to form hexagon layers leave 1 free electron. Weak intermolecular forces hold the layers together	Layers can slide, high melting point and conducts electricity	Pencils, electrodes, lubricant
Graphene		Every atom is covalently bonded to 3 carbon atoms to form hexagons in a single layer. Leaving one free electron to conduct electricity	Strong, flexible, high melting point and conducts electricity	Smart phones
Fullerene C_{60}		Large molecule with 60 carbon atoms which are covalently bonded to 3 other carbon atoms. Weak intermolecular forces between molecules.	Soft, slippery, low melting points	Medicine

Allotropes of carbon - different physical forms in which an element can exist.

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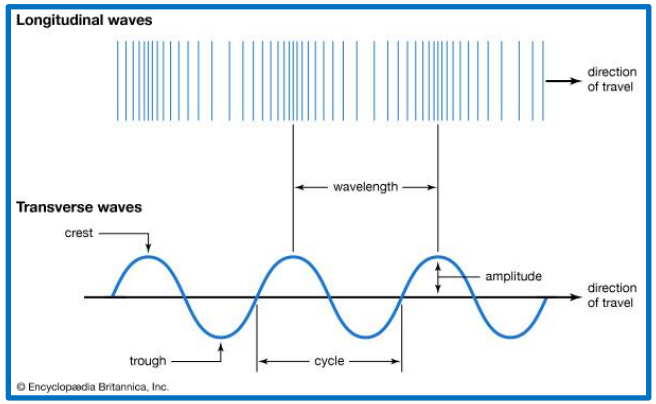
CP4-5

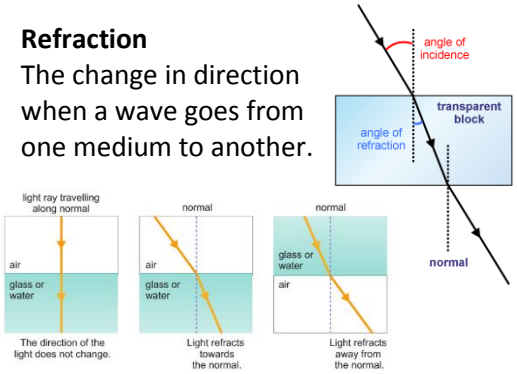
14 SCIENCE

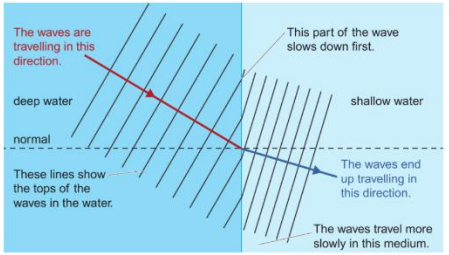
Frequency	The number of waves per second, in hertz (Hz). Determines pitch
Wavelength	The distance between a point on one wave and the same point on the next wave.
Amplitude	The maximum displacement of a particle from its resting position when a wave passes. Determines loudness.
Period	The time taken for one wave to pass a point, in seconds (s).
Wave velocity	The speed of a wave in a particular direction, in metres per second (m/s).
Transverse wave	A wave where the vibrations are at right angles to the direction the wave is travelling.
Longitudinal wave	A wave where the particles vibrate in the same direction as the wave is travelling.
Medium	Any substance through which a wave travels.
Seismic wave	Vibrations in the rocks of the Earth caused by earthquakes or explosions.
Interface	The boundary between two materials.
Ionising radiation	High energy EM radiation that can cause cancer: UV, X-rays, gamma rays
Oscillations	Movements back and forth.



Refraction

The change in direction when a wave goes from one medium to another.





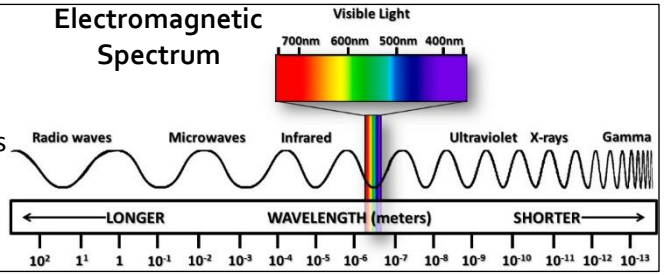
D Water waves change direction when the depth changes.

EM Spectrum	Uses	Dangers
Radio	Broadcasting, communications and satellite transmissions HT: Radio waves can be produced by, or can themselves induce, oscillations in electrical circuits	**NA**
Microwave	Cooking, communications and satellite transmissions	Internal heating of body cells
Infrared	Cooking, thermal imaging, short range communications, optical fibres, television remote controls and security systems	Skin burns
Visible light	Vision, photography and illumination	Eye damage
Ultraviolet	security marking, fluorescent lamps, detecting forged bank notes and disinfecting water	Damage to surface cells and eyes, leading to skin cancer and eye conditions
X-Rays	observing the internal structure of objects, airport security scanners and medical x-rays	Mutation or damage to cells in the body
Gamma rays	sterilising food and medical equipment, the detection of cancer and its treatment	Mutation or damage to cells in the body

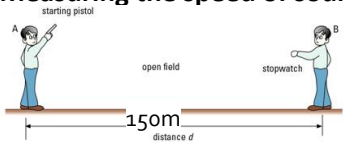
Waves transfer **energy** and **information** without transferring matter.

All electromagnetic waves are transverse, and travel at **300,000,000 m/s** in a vacuum (speed of light).

Electromagnetic Spectrum

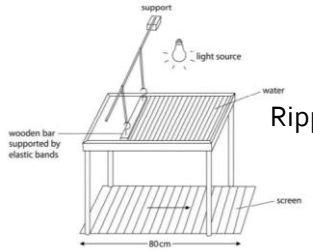


Measuring the speed of sound in air



Speed of sound = distance ÷ time = 150 ÷ 2.27 = **340 m/s**

Measuring the speed of water waves

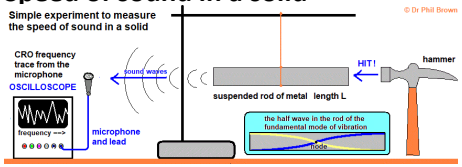


Ripple tank

Method A: Measure the **time taken** for one wave to pass a **fixed distance**, then calculate **speed** using $v = x \div t$

Method B: Find **frequency** (number of waves passed ÷ time taken) and **wavelength** (distance ÷ number of waves), then use $v = f \times \lambda$.

Speed of sound in a solid



Tap a suspended metal rod so that it rings. Measure the **frequency** of the sound with an oscilloscope or phone app. The length of the rod is half the **wavelength**. Use $v = f \times \lambda$ to find the speed.

$$\text{wave speed} = \frac{\text{distance}}{\text{time}}$$

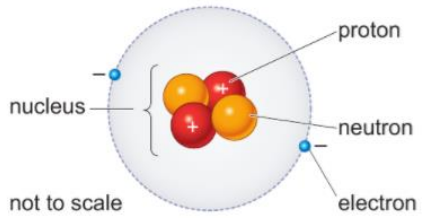
$$v = \frac{x}{t}$$

wave speed = frequency x wavelength

$$v = f \times \lambda$$

CP6/SP6

Half-life: The time it takes for half of the un-decayed nuclei to decay. **Irradiation:** Exposure to radiation but when you move away the irradiation stops. **Contamination:** If radioactive particles enter body or get on skin (can also happen to soil and water) and remains until if/when material decays



Subatomic particle	Relative charge
proton	+1 (positive)
neutron	0
electron	−1 (negative)

An isotope: Atoms of the same element have the same number of protons but a different number of neutrons, as a result they have the same atomic number but different mass number.

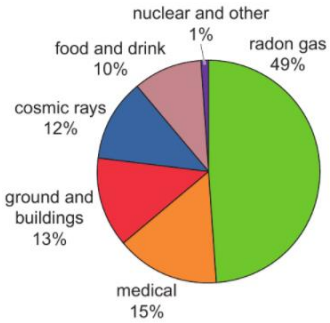
Ionisation: Atoms form ions (charged particles) due to the loss or gain of electrons.

If electrons are lost **positive ions** are formed, e.g. Na^{+} and Mg^{2+}

If electrons are gained **negative ions** are formed, e.g. Cl^{-} and O^{2-}

Ionising radiation: Radiation that causes atoms to lose or gain electrons and therefore become ions.

Background radiation: Radiation that we are constantly exposed to. This may be from cosmic rays (from the sun or stars), food and drink, rocks, soil and hospitals.



The count rate: is the number of clicks per second measured by a Geiger Counter. Each click represents radioactive decay.

Radioactive decay: When the nucleus of an atom is unstable and it emits a particle.

Radioactivity can be detected by **photographic film** which turns darker if it is exposed to more radiation.

Or by using a **Geiger-Muller** tube to measure the count rate of radiation

Becquerel's (Bq) is the unit of activity of a radioactive isotope

Name	Symbol	What is it?	Penetration depth in air	What blocks it?
Alpha	α or $^{4}_{2}He$	Helium nucleus: 2 protons and 2 neutrons	8cm	paper
Beta	$^{0}_{-1}\beta$ or e^{-}	High energy electron	1m	3mm aluminium
Gamma	γ	Part of the Electromagnetic Spectrum	Forever	Several m of concrete or lead

Type of decay	What happens	Effect on mass number	Effect on atomic number
Alpha	2 protons 2 neutrons emitted	Down by 4	Down by 2
Beta ⍰	Proton turns to neutron and lost as electron	No change	Increases by 1
Beta+	Proton becomes a neutron and a positron	No change	Down by 1

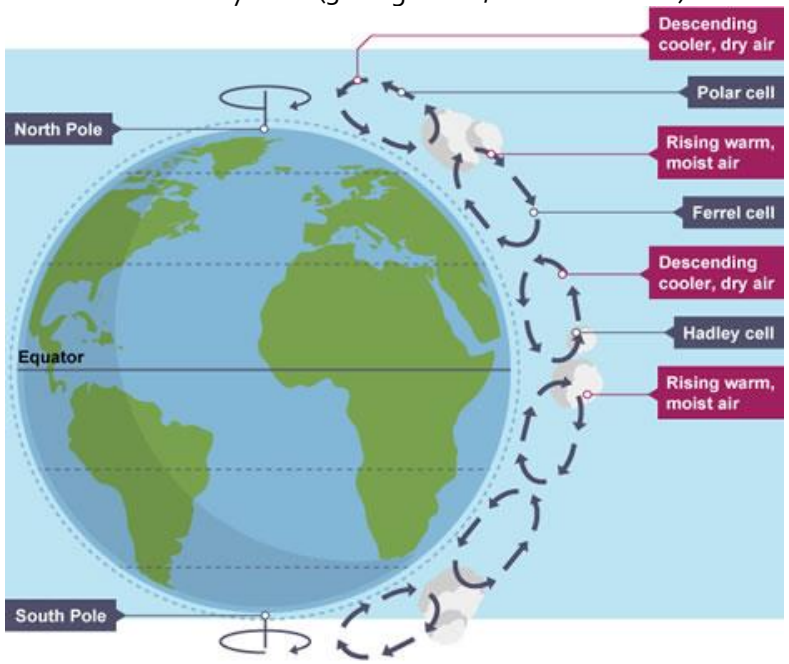
Weather & Climate

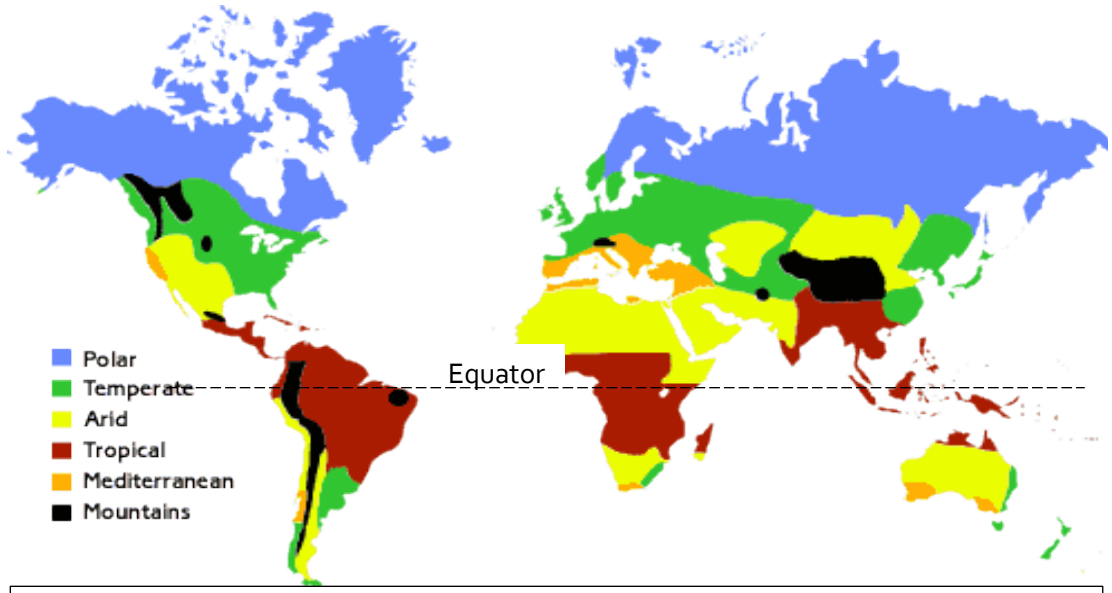
CLIMATE = the long term conditions of the atmosphere in a place

For example – "The Sahara Desert is dry" or "The Amazon Rainforest is wet and warm" or "Antarctica is very cold"

Latitude – on the Equator the sun is directly overhead like a focussed magnifying glass so it is very warm. As you move nearer to the Poles, the heat from the sun's rays gets more spread out over a wide area, so it gets colder.
Altitude – as land gets higher above sea level it gets colder.
Ocean currents – can be warm or cold so affect climate.

Global Circulation
The diagram shows how air generally circulates in "cells".
You can see where air usually rises (Equator and 60 degrees N/S), and where it usually sinks (30 degrees N/S and the Poles)





Climate zones can be seen on the map. They depend on several factors, such as latitude (close to the Equator = sun is stronger), how high the land is (altitude), ocean currents, and how close to the ocean? A few basics are:

Polar climate found close to the north and south poles, beyond 60° latitude
Temperate climate found between the tropics and the polar regions
Arid climate found typically within the tropics, close to but not on the equator
Tropical climate found on or close to the equator
Mediterranean found mainly southern Europe
Mountainous climate found at high altitude

Example - **Temperate climate – UK**
Mild climate – no extremes of temperature and precipitation
Distinct seasons (Spring, Summer, Autumn, Winter)
UK has a **maritime temperate** climate. Rest of Europe has **continental temperate.**
UK affected by the **jet stream –** 200mph winds in the Tropopause (20km up in the atmosphere)

Key vocabulary
Climate = the long term weather conditions experienced in a place
Latitude = lines showing how far north or south a place is e.g. Tropics
Altitude = how high above sea level e.g. Himalayas high so are colder

Water

17 GEOGRAPHY

Water in the UK

The amount of water used by the average household

In the UK has increased by 70% since 1985. This extra water must be found somewhere…

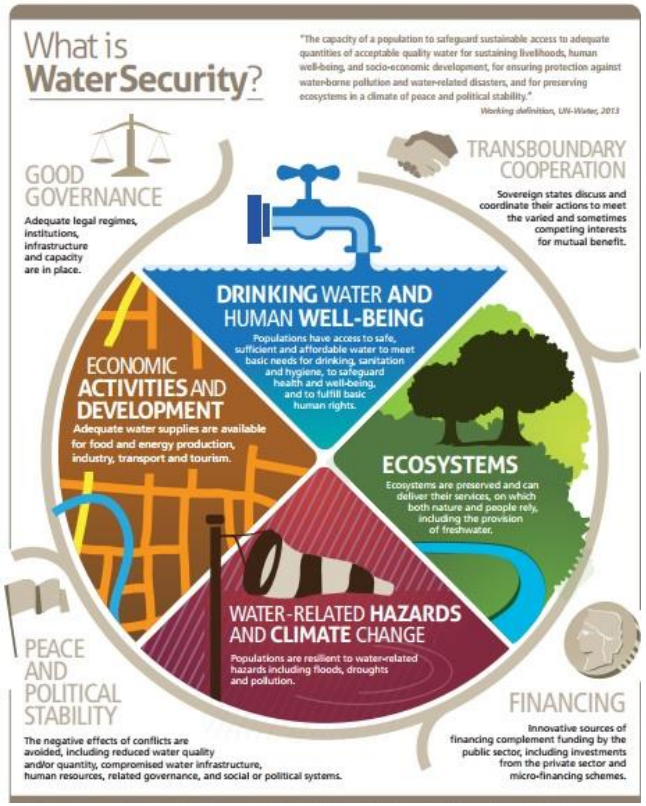
Causes include: population growth; more water-intensive appliances (eg. dishwashers); demand of out of season food needs irrigation; leisure use (esp. golf courses); power showers.

Distribution of water: It tends to rain in the North West (highland areas) where there is a surplus. Demand is highest in the South East due to population concentration, but in the SE rainfall is lower. Therefore the SE has a water deficit. This causes "water stress". Water needs to be managed by transferring it to where demand is

Water Security

Water security can be increased by making water use more sustainable. Ways to do this include:

- recycling water – using treated waste water to irrigate food
- Using grey water – similar to recycling water in using
- Reduce water leakage – UK pipes are old and leak – so fix them!
- Plant drought resistant crops = needs less water to grow
- Use irrigation methods = use technology to give the right amount of water to food to reduce water wastage
- In HICs in summer months to encourage hosepipe bans



Are Dams the answer to water problems?

Dams are built all over the world to solve water issues. They can reduce flood risk (but this is debated by environmentalists), provide Hydro-Electric Power, and provide water for irrigating farmland and supplying industries.

BUT – they change the ecosystem of that river completely, are expensive, displace people (e.g. 3 Gorges Dam in China forced 2 million to move) and don't always work e.g. in rainforest areas water hyacinth can grow and clog the HEP machinery; in hot areas the water can evaporate etc.

Trans-boundary water issues e.g. River Nile

Nile runs through 11 different countries and is 6650km long.Each country relies on the Nile, but they do not all agree how it should be used.

Egypt: Relies on the Nile for water for food. Most of Egypt's population are close to the river as they need water. Population is growing fast and more people = more water.

Uganda: Relies on Lake Victoria for tourism to make money. The lake needs water to look nice to bring the tourists.

Sudan: Water transport is more reliable due to poor quality roads but the river needs water in order to use the boats.

Ethiopia: Built a dam to keep more water. This area suffers from regular drought. However, more water for them means less water downstream.

Key Vocabulary	
Water Management	The movement of water on a large scheme between different locations
Water footprints	The impact of the water we use. It is a measure of individual water use
Embedded Water	Water that has been used to grow and make our food.
Water Abstraction	refers to the process of taking or extracting **water** from a natural source (rivers, lakes, groundwater aquifers, etc.
Water Surplus	Having more water than a country needs
Water Deficit	Having less water than a country needs
Water Security	Having a reliable supply to keep the population watered and fed.
Appropriate Technology	small-scale **technology**. It is simple enough that people can manage it directly and on a local level.

Weather & Climate

18 GEOGRAPHY

WEATHER = the day to day changes of temperature, rainfall, wind etc.

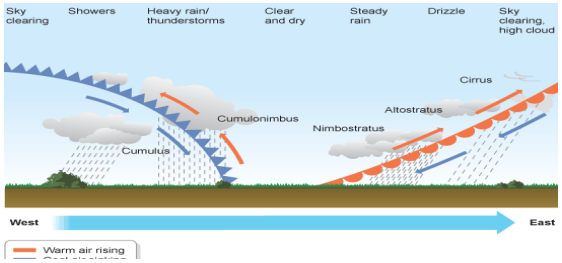
For example – "it is sunny" or "it is cold and wet" or "it is foggy"

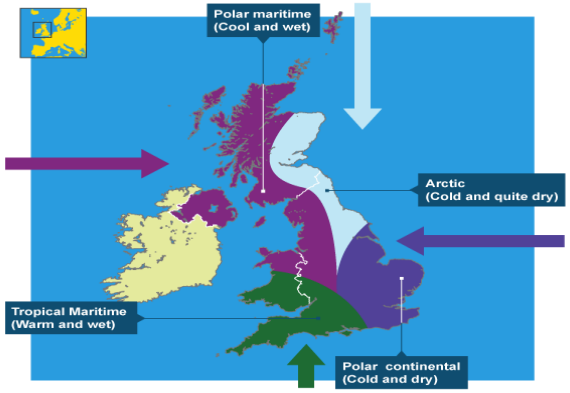
Air Pressure

Air can be either LOW or HIGH pressure.
High pressure air is heavy so it sinks. This means it warms up as it descends, any clouds tend to break up as evaporation occurs, and there is little or no rain.
Low pressure air is light so it rises. This means that it will cool as it rises, causing condensation and clouds to form. Next it is likely to rain.
So – HIGH pressure = dry
LOW pressure = rain

Low Pressure Weather Systems (Depressions)

An area of low pressure is called a depression. Air rises in a depression so clouds and rainfall are formed. Depressions therefore bring unsettled weather and rain. Winds are normally stronger. They usually form over the Atlantic Ocean and are carried across Britain by westerly winds.



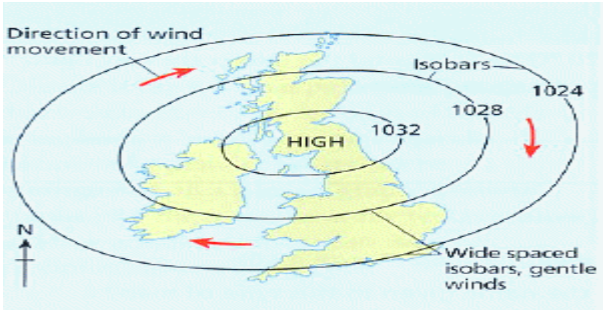


Air Masses

Several different air masses tend to jostle for position over the UK, as shown in the diagram. However, because our prevailing winds are from the west, Polar Maritime and Tropical Maritime dominate our weather. Occasionally we get Tropical Continental (hot and dry) from the south.

High Pressure Weather Systems (Anticyclones)

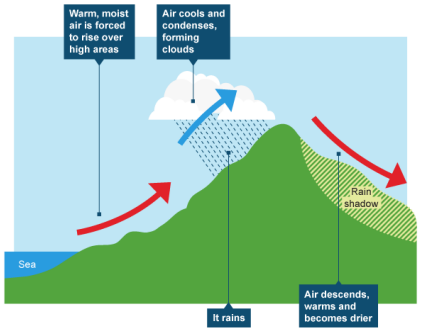
A high-pressure system is called an anticyclone. Air sinks in an anticyclone so no clouds are formed. In summer, high pressure usually results in clear skies, gentle breezes and fine weather. In winter high pressure leads to clear skies and colder conditions.



Types of rainfall

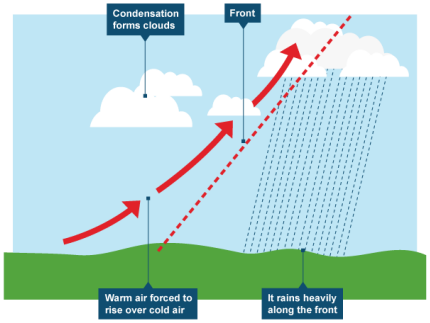
Relief Rainfall

Air is forced to rise over hills, so it cools and condenses, forms clouds and it rains. On the other side it descends, warms up, and clouds evaporate



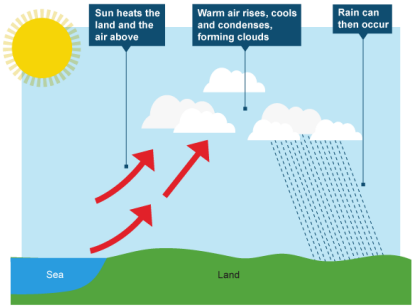
Frontal Rainfall

A warm air mass meets a cold air mass and rises over it. This means the rising air cools and condenses into clouds, so it rains



Convectional Rainfall

The sun warms up the ground, any moisture in the soil can then be evaporated and rise, so it then cools down, condenses into clouds and it rains. Usually on summer afternoons.



Key vocabulary

Weather = day to day changes e.g. warm/cold, wet/dry?
Air Pressure = measured in millibars
Air Masses = parcels of air with differing characteristics
Depression = a low pressure weather system

What were the features of Whitechapel in the 1880s?

The location: - Whitechapel still is a district in the **east-end** of London. At the time it was the capital's **poorest** district. It's population was around **30,000** with around **1,000** homeless. Londoners shared the district with new immigrants such as the **Irish**, **Jewish** and **Eastern European** immigrants. **Poverty**, tension between different immigrants groups and high numbers of **gangs** made Whitechapel a violent area. This was an area where few police wanted to patrol.

WORK/EMPLOYMENT

- **WAGES:**

The average wage for a worker in Whitechapel would be around 25 shillings per week.

- **BELL FOUNDRY:**

Whitechapel's most famous work place was the Bell Foundry, where Big Ben was made.

- **SWEATSHOPS:**

Sweatshops, where items such as clothing and shoes were made also offered work. 'Sweatshops' were small, cramped and dusty and many workers would work for 20 hours a day. Women also found work as 'match makers' which they could even do in their home.

- **DOCKS:**

The docks provided work for those men working on the ships. Men would often queue at the start of the day to be given work and sent away if not.

- **RAILWAYS:**

Many Irish immigrants found work building the railways.

ORPHAN CHILDREN

- Due to the poor hygiene and many poor social situations, there were a high number of **orphans** (children without parents) in Whitechapel. These children would normally get sent to the **workhouse** or sold on to other work.
- However, thanks to the work of **Dr Thomas Barnado**, some children were given an education and shelter in various **orphanages**. In 1870, he opened up an orphanage for boys and later for girls.
- By 1905, he had opened 100 Barnado's Homes in London. The famous motto above the door of an orphanage was '**No destitute child ever refused admission'.**

WHITECHAPEL ENVIRONMENT

- The environment of Whitechapel itself led to **higher crime rates**. Streets were **narrow, unlit** and often **over-crowded**, even late at night.
- The **noise, smell** from pollution and the famous London '**smogs**' (thick fogs) would often make a quick escape from a crime scene easy.
- The streets were **interlocked** and **maze like** with very few street signs. The over-crowding made minor crimes such as pickpocketing easy.
- It was a **heavily polluted** industrial city where sanitation (public health) was very poor with very little clean drinking water.

THE WORKHOUSES

- For those with nowhere to live and living in **absolute poverty**, the one last place was the workhouse.
- They offered **food and shelter for the promise of hard work**. Those that were not able to work such as the **old, sick, disabled, orphans** were called '**inmates**'.
- The work was made deliberately difficult to put people off ever having to work there. They were expected to live under strict discipline, were separated in to men and women and even punished for talking to each other.

VIOLENCE AND TENSION

- **Over-crowding, poverty** and **high immigrant numbers** led to tension between different groups.
- High numbers of **prostitutes** made women vulnerable to violence.
- When the 'Jack the Ripper' murders were taking place in 1888, it was easy for different groups to **blame** each other. E.g., there was an increase in **Anti-Semitism** as locals blamed the Jews.

HOUSING/ACCOMODATION

- **ROOKERIES:** Most houses were in over-crowded '**slum**' areas known as '**rookeries**' which included dirt, disease and crime. Houses were split into several **apartments** with up to 30 people sharing beds.
- **POPULATION:** The **1881 census** puts the population of Whitechapel at over 30,000 but with only 4,000 houses.
- **LODGING HOUSES:** These were for those who were even poorer. They offered a **bed** in dirty, squalid conditions. They even had **shifts** for sleeping so the beds could be used by the most number of people. It was estimated that there were **200 Lodging Houses** in Whitechapel for more than **8,000 people**.
- **COFFIN BEDS &HANGOVERS:** Some people were so poor that they had to rent either a '**coffin**' bed for the evening or even lean up against a '**two-penny hangover**' – a rope tied from one end of the room to the other.

The Peabody Estate

- **Improved housing** was created. In 1875 the government created a new law called the **Artisan's Dwelling Act**. This law, cleared away some of the slum areas and replaced it with **11 new blocks of flats**.
- They were paid for by **George Peabody** who was a wealthy American who had moved to London and wanted to improve the conditions for the poor. The Peabody Estate opened in 1881 and **provided 286 flats** for a reasonable rent of 3 shillings per week.

UNEMPLOYMENT

- There was **high unemployment** because of an **economic depression** at the time. Even fewer jobs were available to **women**. This meant many turned to **prostitution** as the only way to earn money and survive.
- Often, with nothing else to do, **boredom** would lead to high levels of **alcoholism**, disruptive behaviour and violence.

Immigration and tensions within Whitechapel

Why was there tension between the residents of Whitechapel?
During the later 1800s, London had received an influx of immigrants from around Europe. Many moved to London seeking a better life and to escape poverty or discrimination in their own country. However, with so little money, they ended up having to find the cheaper areas of London to live in. Whitechapel was near the docks which made it the first place they came across after their journey. However, they soon faced discrimination from the longer term residents of Whitechapel and then with each other. A mixture of cultures, religions, languages and beliefs led to rising tensions. All of this made Whitechapel even more difficult to police.

Immigration

- There was a greater mix of immigrants which led to tensions between the locals, Irish, Eastern Europeans & the Jewish.
- Overcrowded areas of Whitechapel brought immigrants very close to each other and they found it difficult to mix.
- Tension was often fuelled by alcohol within the Irish community in particular.
- A **Parliamentary Committee was even set up to** investigate the **rising tensions** between the Eastern Europeans & the English.
- **Conflict** often started in mixed race, run down areas.
- The local newspapers were also to blame for spreading a fear of 'foreigners' as they named some Jews as suspects to be Jack the Ripper.

Irish

- **There were greater numbers** of Irish since the 1840s.
- Many planned to use their work in London to raise enough money to migrate **to America**. However, many could not raise the money so stayed in the East End and Whitechapel instead.
- The **Irish men** had jobs such as buildings canals, roads and railways, dock yard workers.
- **The Irish were not well liked**. They were known for their drunken behaviour and violence.

Irish *Fenians*

- **The Fenians** were an Irish Catholic group who were seen as a terrorists in London.
- They wanted Ireland to have freedom from the UK and they organised **bomb attacks** on London landmarks known as **'Dynamite Saturday'**
- Huge **anti-Irish** and **anti-Catholic** attitudes spread by the press because of this which led to even more racist attitudes by the locals.
- The Police set up a unit called the **Special Branch** in response to the Fenians to keep watch on them.

Jewish

- Many Jews moved to the East End due to **violence** against them in **Eastern Europe** and **Russia**.
- Jews **segregated** themselves into particular areas of Whitechapel and did not mix with locals.
- Locals were **jealous** of how quickly Jews found work (they would work **for lower wages**).
- Many Jews ran **tailoring businesses** (making clothes) that employed poor working class Londoners who did not like having a 'foreign' boss.
- Jews worked on a **Sunday** as Saturday was their Holy Day – this made local businesses suspicious.
- **Cultural differences** with clothes and food made the Jews 'stand out' as different.
- There became a strong **Anti-Semitic attitude** towards the Jews. **Stereotyped** by the press.
- **Beatings** & attacks on Jews were common.

Socialists & anarchists

- Revolution attempts to bring down the government by '**Anarchists**' in Europe failed but made people in England were fearful that anarchists in London might do the same.
- It was believed that many anarchists from Eastern Europe had moved to the **East End**.
- Locals therefore believed that anyone with a European **accent** could be an anarchist and so treated all foreigners were fear and suspicion.
- **Socialists** wanted more **equality** for the working classes with better pay.
- The **Social Democratic Federation (SDF)** was the first Socialist political part in Britain. It **organised protests and demonstrations** by the poor. E.g. Bloody Sunday/Trafalgar Square Demonstrations.

20 HISTORY

THE MAIN FEATURES OF THE TENSION

1. There was tension because of the **competition** between immigrants and local people for **housing and jobs**. Each group blamed the other for a lack of work and cheap accommodation.
2. This could easily lead to violence under the influence of alcohol.
3. **Racist attitudes** towards the Jews, Irish and Eastern Europeans existed within the police. They were often seen to accuse an immigrant for a crime with no evidence.
4. **Jewish workers** were willing to work for lower wages and eventually began to run their own 'sweatshops' employing local people. This led to tension between the locals and the Jews.
5. It was easy for the longer term locals to blame '**foreigners**' for any crimes and violence. For example, the Jack the Ripper murders were often blamed on Jews. This caused racial hatred and violence.

French Year 9 Spring

21 MFL

15 Key Words – Technology

1. En ligne – online
2. Des reseaux sociaux – social networks
3. Un sondage – survey
4. Un appli(cation) – an app
5. Un ordinateur – a computer
6. La cyber intimidation – cyber bullying
7. Un ami virtuel – a virtual friend
8. Un pub(licité) – an advert
9. Le vol d'identité – identity theft
10. Accro / dependant – addicted
11. Utile - useful
12. Nuisible – harmful
13. Efficace – efficient
14. Cher – expensive
15. Divertissant - entertaining

Opinions	
je pense que	I think that
je crois que	I believe that
à mon avis	in my opinion
selon mes parents	according to my parents
d'après mon père	according to my dad
je sais que	I know that
grâce à	thanks to
je trouve que	I find that
je suis d'accord que	I agree that
pour moi	for me

Emphatic Pronouns

moi – me	**nous – us**
toi – you	**vous – you (plural)**
lui – him	**eux – them (m, m+f)**
elle – her	**elles – them (f)**

e.g. Moi et elle, nous tchattons sur portable

Present tense

Je tchatte avec mes grandparents – I chat to my grandparents
Je télécharge des jeux-vidéos– I download video games
Je partage des vidéos sur Insta – I share videos on Instagram
Je poste en ligne – I post online
J'achète des cadeaux – I buy presents
Je me sers de l'internet pour faire mes devoirs – I use the internet to do my homework.
Je vais en ligne / sur internet – I go online

Perfect tense

J'ai tchatté avec mes amis– I chatted with my friends
J'ai téléchargé de la musique - I downloaded music
J'ai partagé des photos sur Snapchat - I shared photos on snapchat
J'ai posté des commentaires – I posted comments
J'ai achété des vêtements en ligne – I bought clothes on line
Je me suis servi de l'internet pour faire des recherches – I used the internet to do research
Je suis allé en ligne – I went on-line

Impress the examiner	
Il est possible que je fasse mes devoirs en ligne	It is possible that I do my homework on line.
Il faut faire attention à…	You must pay attention / be careful…
Je dirais que…	I would say that…
Il me semble qu'il y ait du pour et du contre…	It seems to me that there are pros and cons…
Il n'est pas recommandé de..	It is not recommended to…

Using social media

On peut… You/One can…

- rester au courant avec les nouvelles
  stay up-to-date with the news
- rester en contact avec des amis
  stay in contact with friends
- participer à un forum de discussion
  take part in a discussion forum
- envoyer un email
  send an email
- partager des photos/des vidéos
  share photos/videos
- télécharger de la musique
  download music
- faire les devoirs
  do homework
- suivre un célèbre
  follow a celebrity

Expressions with 'Faire'

Je fais parti(e) de … - I belong to
Je fais confiance à … – I trust
Je fais attention à … - I pay attention to
Je fais des récherches… - I research
Je fais mes devoirs… - I do my homework

10 Key Verbs – Technology

1. Télécharger – to download
2. Partager – to share
3. Utiliser / se server de – to use
4. Écrire – to write
5. Souffrir – suffer
6. Envoyer – to send
7. Suivre – to follow
8. Menacer – to threaten
9. Avoir peur – to be afraid
10. Acheter / faire les achats – to buy

Spanish Year 9 Spring 1 – En la ciudad

¿Cómo es tu ciudad? = What's your town like?	
Es…	It is…
bonito/a	pretty
feo/a	ugly
grande	big
histórico/a	historic
importante	important
industrial	industrial
limpio	clean
moderno/a	modern
pequeño/a	small
Ruidoso	noisy
sucio	dirty
tranquilo/a	quiet
turístico/a	touristy

Asking Questions	
¿**Cómo** es?	**What** is *it* **like**?
¿Qué?	What is there?
¿Dónde?	Where?
¿Cuándo?	When?
¿A qué hora?	At what time?

¿Qué hay?	What is there?	Direcciones	Directions
Hay / no hay	There is / isn't…	¿Por dónde se va?	How do you get to?
un castillo	a castle	¿Dónde está?	Where is?
un centro comercial	a shopping centre	Estás aquí	You are here
un cine	a cinema	Sigue todo recto	Go straight on
un estadio	a stadium	Dobla a la derecha	Turn right
un mercado	a market	Dobla a la izquierda	Turn left
un museo	a museum	Pasa los semáforos	Pass the traffic lights
muchos parques	**many** parks	Cruza el puente	Cross the bridge
un polideportivo	a sports centre	Toma la segunda calle a la derecha	Take the 2nd road on the right
una estación de autobuses	a bus station	Está a la izquierda	It is on the left
una estación de trenes	A train station	**Querer (stem changing verb) - to wish / want**	
una piscina	a swimming pool	Qu**ie**ro	I want
una playa	a beach	Qu**ie**res	You want
una plaza	a square	Qu**ie**re	He / she wants
una plaza de toros	a bullring	Queremos	We want
un hospital	a hospital	Queréis	You want
unas tiendas	**some** shops	Qu**ie**ren	They want

¿Qué tiempo hace? = What's the weather like?	
Hace buen tiempo	It's nice
Hace mal tiempo	It's bad
Hace calor	It's hot
Hace frío	It's cold
Hace sol	It's sunny
Hace viento	It's windy
Hay niebla	It's foggy
Hay tormenta	It's stormy
Llueve	It's raining
Nieva	It's snowing
Cuando lleuve voy al cine	**When** it rains I go to the cinema

The Comparative	
Es **más** *importante* **que…**	It is **more** *important* **than…**
Es **menos** *industrial* **que…**	It is **less** *industrial* **than…**
Es **tan** bonito **como**…	It is **as** pretty **as**…
El más importante	The **most** important
El menos sucio	The **least** dirty

22 MFL

Spanish Year 9 Spring 2 – Las vacaciones

El transporte	Transport
en avión	by plane
en autobus	by bus
en coche	by car
en tren	by train
en barco	by boat
en bicicleta	by bike
a pie	by foot
en autocar	by coach
en ferry	by ferry

Ir (Preterite)	To go (past)
Fui	I went
Fuiste	You went
Fue	He/she went
Fuimos	We went
Fuisteis	You went
Fueron	They went

En la estación	At the station
Quisiera…	I would like…
un billete de ida (y vuelta)	a single (return) ticket
¿A qué hora?	What time?
¿Qué andén?	What platform?
¿Cuánto cuesta?	How much?
primera/segunda clase	1st/2nd class
(No) fumador	(Non) smoking
Al hotel	**At the hotel**
una habitación doble/individual	a double/single room
con baño/ducha	with bath/shower
la llave	the key
vistas al mar	sea view
el balcón	balcony
piscina al aire libre	open air pool
piscina climatizada	heated pool
al ascensor	the lift
pensión completa	full board
media pensión	half board

Preterite – completed actions in the past	
Viajé	I travelled
Me alojé / me quedé	I stayed
Me relajé	I relaxed
Nos alojamos	We stayed
Saqué fotos	I took photos
Tomé el sol	I sunbathed
Compré regalos	I bought presents
Cogí (el tren)	I caught (the train)
Di paseos	I went for walks
Hice alpinismo	I went climbing
Fui de excursión	I went on trips
Lo pasé (bien/mal)	It went (well/badly)
Visité monumentos	I visited monuments
Hizo (sol)	It was (sunny)
Llovió	It rained
Nevó	It snowed
Hubo (tormenta)	It was (stormy)

Imperfect tense

1. What **was** going on (imperfect) when something else happened (preterite)
2. Background description / scene setting (**was/were**)
3. What you **used to** do, how things **used to be**

Había	There was/were
Era	It was (description)
Estaba	It was (location)
Hacía	It was (weather)
Iba	I used to go
Viajaba	I used to travel
Tenía	I used to have / had

Sequencers	
el primer día	on the first day
el último día	on the last day
por la mañana / noche	in the morning / night
antes / después	before / after
el mes pasado	last month
el año próximo	next year
el año que viene	next year

23 MFL

Theme B- Religion and Life

24 RE

1. Key Christian beliefs

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

2. Key Buddhist beliefs

- 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)
- Show metta (loving
- **"Give even if you only have a little"** (The Buddha)

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*

The Environment- "The Earth is the Lord's" *(Psalm 24- The Bible)*

8. Where did we all come from?

Atheis → *Big Bang* → *Stars* → *Planets (Earth)* → *Evolution* → *U*

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

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

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;**

Martin Luther King- A Christian

Theme D- Religion, Peace and Conflict

1. Key Christian beliefs

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

2. Key Buddhist beliefs

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

25 RE

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

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

6. W.M.D s

(Weapons of Mass Destruction)

Should  ear 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

Campaign for Nuclear

NO

→ 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.

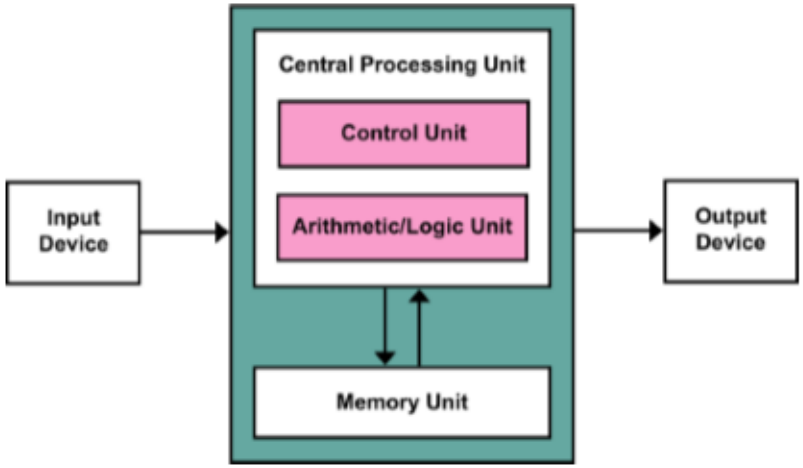
8. Key Questions (Give reasons)

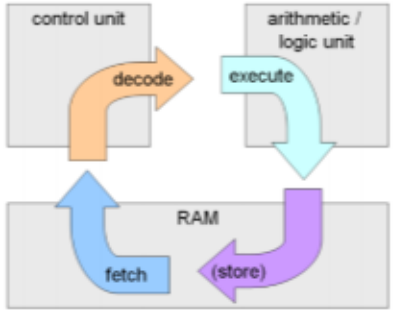
a) Is it OK to use violence? Religious views?
b) Are Christians/Buddhists against WMDs?
c) Give 3 arguments for and against war.
d) Should Britain have a nuclear deterrent?
e) Would you become a pacifist?

GCSE OCR Computer Science 1.1 System Architecture

26 COMPUTING

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	A computer system which is not embedded system. I.e A laptop





APPLIED

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?

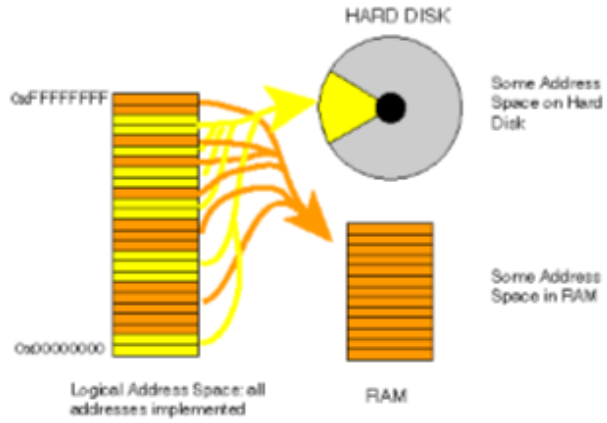
Definitions **must** be applied to the scenario otherwise you will receive 0 marks.

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

27 COMPUTING

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.



Secondary Storage → **RAM** → **Cache Memory** → **CPU**

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.

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.

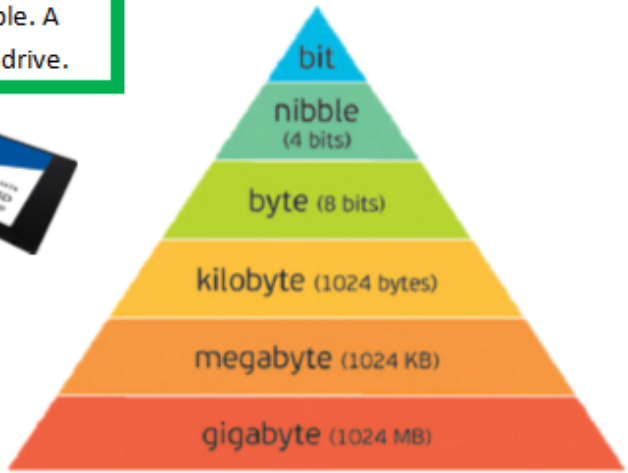
Flash Memory

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

GCSE OCR Computer Science 1.3 Storage

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.



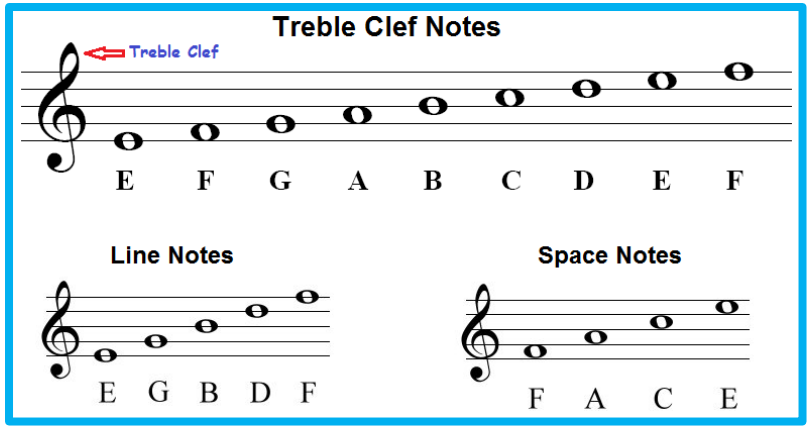
APPLIED

Have you applied?

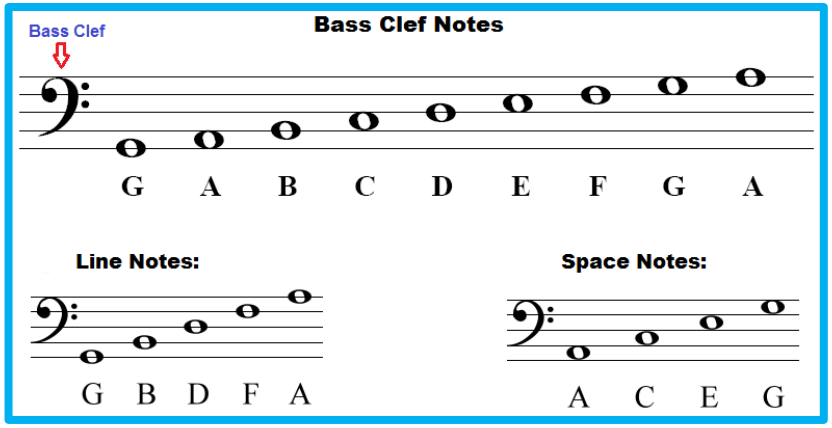
Definitions **must** be applied to the scenario otherwise you will receive 0 marks. **Here the photos have been mentioned.**

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.

Music Notation

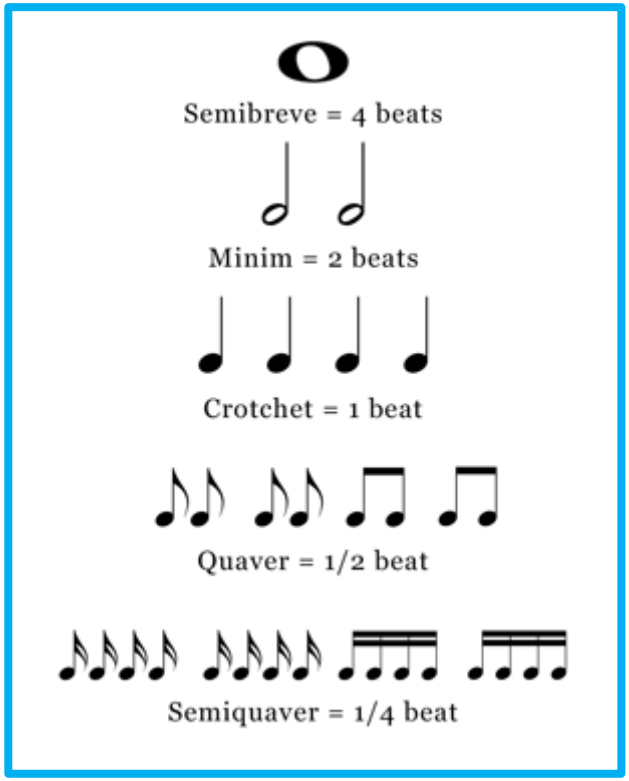


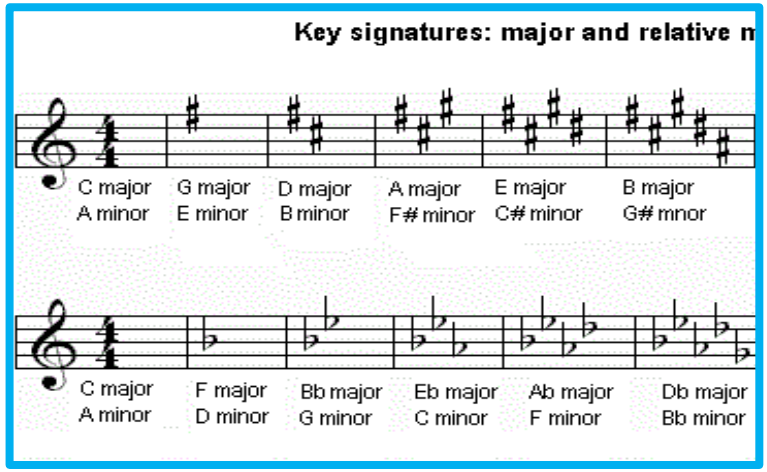
Italian	English	Beats per minute
Presto	Very fast	168-208
Allegro	Fast	120-168
Moderato	Moderate speed	108-120
Andante	Moderate walking speed	76-108
Adagio	Slow (literally "at ease")	66-76
Largo	Slow and solemn	40-66

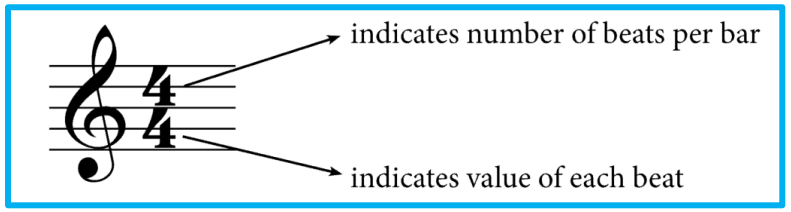


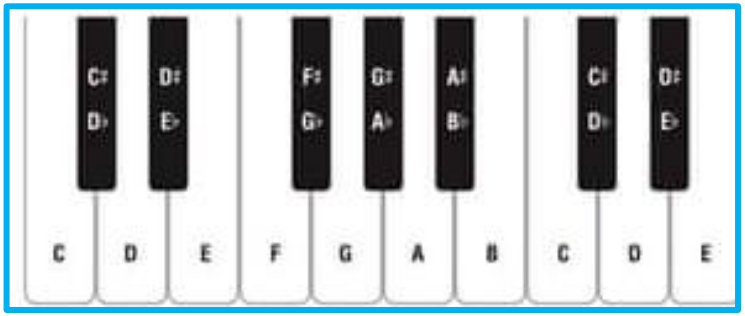
29 MUSIC

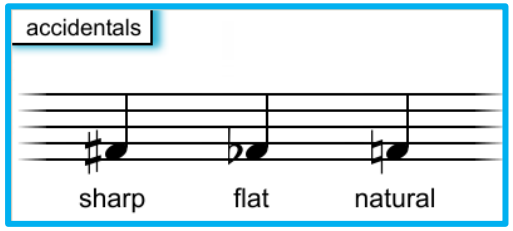
ppp	*pianississimo*	Very, very soft.
pp	*pianissimo*	Very soft.
p	*piano*	Soft.
mp	*mezzo piano*	Moderately soft.
mf	*mezzo forte*	Moderately loud.
f	*forte*	Loud.
ff	*fortissimo*	Very loud.
fff	*fortississimo*	Very, very loud.











Year 9 Drama
Devising

30 DRAMA

Common Drama Devising Techniques

Spontaneous Improvisation: where you devise drama on the spot based upon a stimulus.
Still Image: a frozen portrait.
Thought Tracking: Characters speak aloud from a still image.
Hot seating: Questioning an actor who is improvising answers in character.
Marking the moment: Using a particular style or difference to make a significant moment stand out.
Cross-cutting: 2 or more scenes that are scheduled for the same time happening on stage at once but alternating which one is 'alive'.
Flash back / Flash forward: A moment in which you show what happened in the past or the future.
Montage: A sequence of images, or short sections, showing progression over time. Usually to music.
Movement sequence: a pattern of movements repeated with no speech.
Mime: Acting without speaking in an exaggerated way.
Soundscape: Using your mouths and bodies to create a wall of sound to represent a setting or atmosphere.
Story telling: using various states of narration, direct address, tones of voice, volumes, pacing etc. to tell a story.
Verbatim: Using someone else's words from an interview or speech to create a script for your piece.

Key Terms

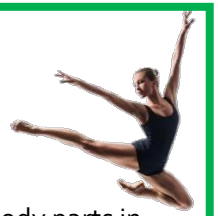
Devising: Creating a piece of drama from a stimulus
Stimulus: A starting point, a story, picture, piece of music, newspaper article or photograph that helps you to generate your initial ideas.
Theme: An idea or message that runs through your performance.
Episodic Structure: When your scenes are linked by theme rather than plot. They can jump about in place and time and don't even have to follow the same characters.
Eclectic style: using more than one style in your piece of drama. In your devised piece each scene could use a different

Performance Skills

Facial expressions: using your face to convey emotion.
Gesture: using your body to help emphasise speech and emotion.
Posture: the way you hold your body to convey character.
Levels: the different heights you use to show emotion, power, or authority.
Proxemics: the spacing between characters to show the relationship between them.
Positioning: the placing of characters on stage to show relationships, power, and emotion.
Projection: how well you project your character to the audience. OR. How loudly you speak.
Volume: the loudness of your voice.
Pace: How quickly you move or speak when conveying a character.
Tone: The way you use your voice to convey emotion. For example, angry or happy.
Pitch: how high or low you use your voice.
Pause: A break in speech, usually to indicate the character is thinking.

31 DANCE

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

Dance

BTEC Technical Award in Performing Arts

Component 2

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

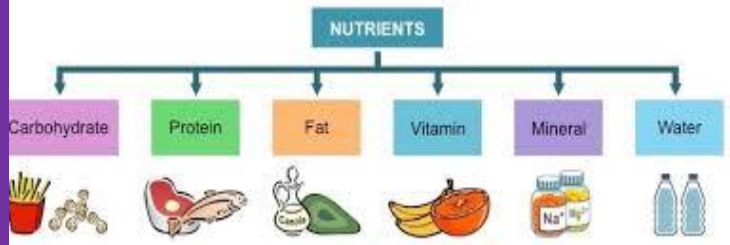
Use of breath – when preparing for moves, the inhaling and exhaling of air

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

Cooking Skills Key words: baton, julienne, mise en place, pane, pipe, boil, simmer, steam, grill, bake, stir fry, roast, poach, blind bake, flute, knead, prove, coagulate,
Equipment key words: food processor, electric whisk, microwave, juicer, zester, piping bag/nozzle, probe, blow torch.
Knowledge Key words: nutrient, function (what it does), soluble (dissolves), deficiency (lack of), excess (too much), life stages (eg childhood, adult etc), obesity, vegetarian, vegan, coeliac, lactose intolerant.

Nutrients- building blocks that make up food and have specific and important roles to play in the body. Some nutrients provide energy while others are essential for growth and maintenance of the body.

32 CATERING



Essential Nutrients

1. Protein (LBV/HBV)
2. Fat (saturated, unsaturated, polyunsaturated)
3. Carbohydrate (sugary and starchy)
4. Vitamins (a,b,c,d,e,k)
5. Minerals (iron, calcium, fluoride etc)
6. PLUS Water and Fibre (NSP) (neither are nutrients but are required for a healthy diet).

Unit: Catering in Action

Nutritional Deficiencies Disorders

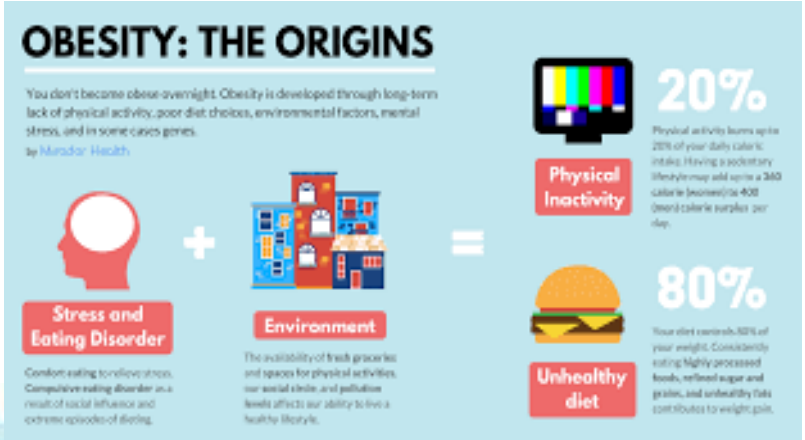
Vitamins	Deficiency Disease	Symptoms
Vitamin - A	Loss of Vision	Poor vision, loss of vision in darkness
Vitamin - B_1	Beriberi	Weak muscles and very little energy to work
Vitamin - C	Scurvy	Bleeding gums
Vitamin - D	Rickets	Bones are bent
Calcium	Weak bone & tooth decay	Weak bone and tooth decay
Iodine	Goitre	Gland in neck
Iron	Anaemia	Weakness

Nutritional Needs of specific groups of people Different life stages – childhood, adulthood, later adulthood, special diets, medical conditions, activity levels.

Effects of a Bad Diet

- Obesity
- Strokes
- High Blood Pressure
- Coronary Heart Disease
- Cancer
- Tooth Decay
- Diabetes -Type 2

Task
Research these diseases and write a paragraph on each to explain.



PLASTICS

33 TECHNOLOGY

Thermosetting
Thermoplastics
Acrylic
Nylon
Formaldehyde
Recycling
Polyester
Polymer
Injection
Rotational
Microplastics

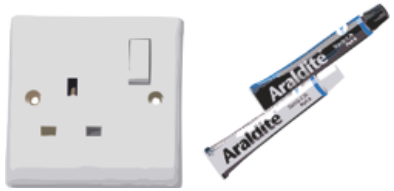
(Look up the meanings of these words).

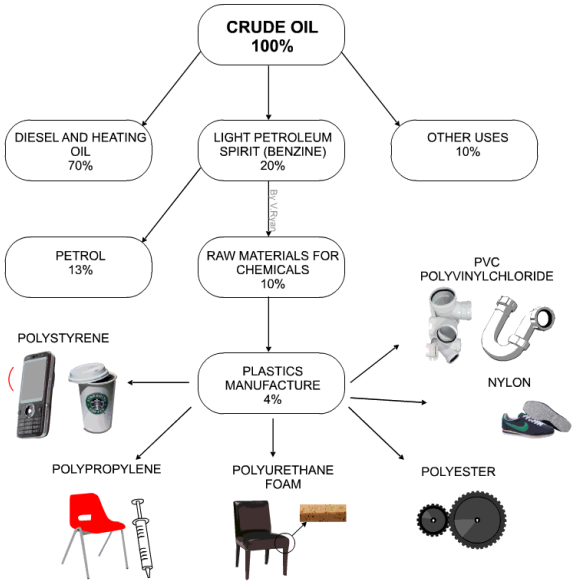
WHAT ARE THERMOPLASTICS ?

These plastics can be re-heated and re-shaped in various ways. They become mouldable after reheating as they do not undergo significant chemical change. Reheating and shaping can be repeated. The bond between the molecules is weak and becomes weaker when reheated, allowing reshaping. These types of plastics **can be recycled**.

WHAT ARE THERMOSETTING PLASTICS ?

Once heated and moulded, these plastics cannot be reheated and remoulded. The molecules of these plastics are cross linked in three dimensions and this is why they **cannot be reshaped or recycled**. The bond between the molecules is very strong.





PLASTIC MANUFACTURING PROCESSES.

- Injection moulding
- Vacuum forming
- Blow moulding
- Compression moulding
- Calendering
- Rotational Moulding

ADVANTAGES OF PLASTICS

- Any colour available
- Cheap to manufacture
- Strong
- Malleable
- Good insulator
- Versatile
- Water & Chemical resistant

40% of all plastic is manufactured for packaging – used just once, then thrown away.

1 million plastic drink bottles are bought around the world every minute.

Half of all plastic that has ever existed was made in the past 13 years.

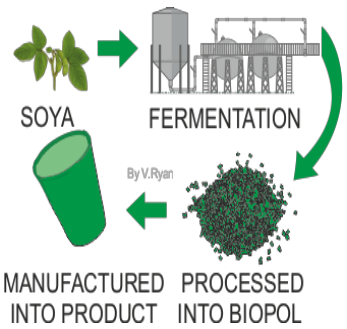
Microplastics exist in more than 90% of bottled water.

It is estimated that by 2050 there will be more plastic mass in the ocean than fish.

91% of plastic is never recycled.

BIOPOL BIODEGRADABLE PLASTIC

Biopol is the brand name for Polyhydroxybutyrate. It is an environmentally friendly polymer. It is processed through the fermentation of corn and soya.



Year 9 **Art and Design**. Portfolio Topic 1:

Myself and Other Artists

An investigation on self and identity through art. Exploring different

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

34 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

New techniques and processes: ink drawing, tonal painting, photography, collage.

Identity, portrait, self-portrait, crop, frame, narrative, background/figure, lighting, body language, interaction, action.

Old master: chiaroscuro, drama, wealth, merchant, mystery.

Modern master: educated, isolated, tormented, distortion.

Surrealist: avant-garde, culture, symbol, communist, colonial, middle-class.

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

-**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.

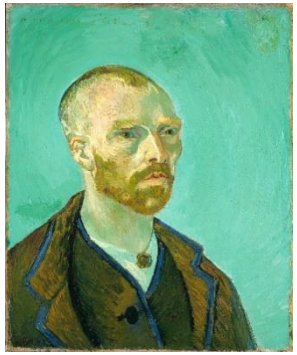
-**To speculate**: to explain something without being 100% sure.

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

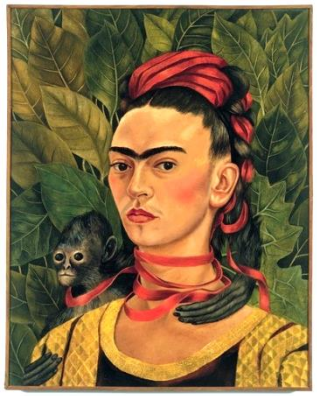
-**My personal response to a work of art**: I use the artist's visual language, but using my own images as starting point.

-**To convey meaning**: to communicate.
-**A technique**: a way to do something.

Vermeer- Old Master



Van Gogh-Modern



Frida Kahlo- Surrealism

Year 9 **Photography**. Portfolio Topic 1:

Photography and Design Styles

A visual style is a choice of visual elements that, combined in

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
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Independent tasks and HW

35 PHOTOGRAPHY

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

New techniques and processes: Photoshop, mixed media, photography, collage, drawing.

Selection, manipulation, composite, campaign, commission, advertise, sales, audience, consumer, market, strategy, publication, engagement, propaganda.

Avant-garde: experimentation, manifesto, wonder, new world, locomotion, speed, mechanical.

Pop Art: popular culture, consumerism, advertising, appeal, mass communication.

Current Media Design: social media,

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

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

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

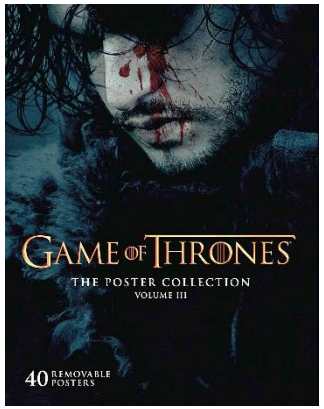
-**To refine**: to change something in order to improve it.

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

-**To convey meaning**: to communicate.

Avant-garde: the isms

Pop Art: Warhol/ Lichtenstein



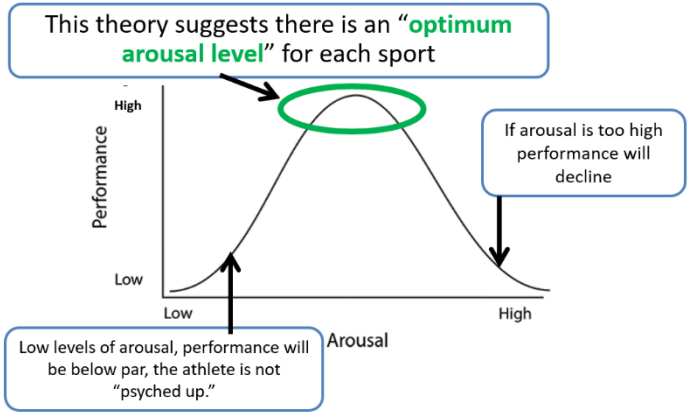
Current Design for Media

Mental Preparation for Sport

Arousal

Arousal is a physical and mental (physiological and psychological) state of alertness/readiness, varying from deep sleep to intense excitement/alertness.

The 'inverted-U theory' Optimal performance occurs when a performer reaches an optimal level of arousal.



Gross movement skills require higher levels of arousal
Fine movement skills require lower levels of arousal as movements are precise

Stress management techniques:

- deep breathing (Slow, deep breaths whilst relaxed)
- mental rehearsal/visualisation/imagery (Cognitive relaxation techniques involving control of mental thoughts and imagining positive outcomes.
- positive self-talk (Developing cognitive positive thoughts about your own performance)

Motivation

Motivation is the drive to succeed or the desire (want) to achieve something/to be inspired to do something.

Intrinsic: the drive that comes from within (e.g. for pride, satisfaction, a sense of accomplishment, self-worth). More likely to lead to continued effort and participation
Extrinsic: the drive to perform well or to win in order to gain external rewards (e.g. prizes, money, praise) Extrinsic is from another source/person,

- Tangible (things you physically keep) such as certificates/trophies, medals
- Intangible – (things you can't physically keep) such as praise/feedback/applause

Aggression

Aggression: A deliberate intent to harm or injure another person, which can be physical or mental

Direct aggression: Act which involves contact with others, e.g. a punch, tackle

Indirect aggression: Does not involve physical contact. The aggression is taken out on an object to gain advantage, e.g. hitting a tennis ball hard during a rally, bouncer in cricket

Personality

There are two personality types:

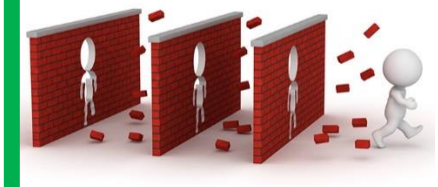
Introverts
Characteristics: shy/quiet, thoughtful, enjoy being on their own/loner.
Tend to play individual sports when concentration/precision (fine skill) is required or low arousal is required. Enjoy practising. Prefer individual sports.

Extroverts
Characteristics of an extrovert: enjoy interaction with others/sociable, enthusiastic/talkative, prone to boredom when isolated/by themselves.
Tend to play team sports when there is a fast pace, concentration may need to be low or gross skills are used.

Contemporary Issues in Sport

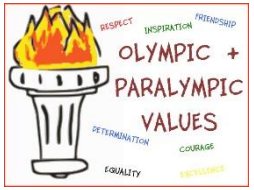
LO1: Understanding the issues that affect participation in sport

37 PE

Key Elements	*Key terms*	*Examples*
Different user groups who participate in sport.	• User Groups	**Ethnic minorities** ○ Retired people/people over 50 ○ Families with young children ○ Single parents ○ Children ○ Teenagers ○ Disabled ○ Unemployed/economically disadvantaged ○ Working singles and couples
Possible barriers that affect participation in sport. 	• Employment/time • Work restrictions and family commitments • Disposable income • Accessibility of facilities/equipment • Lack of role models • Provision of activities • Awareness of activity provision • Portrayal of gender issues by the media	**Potential barriers** ○ Not much free time available ○ Women still seen as bringing up the family and not being involved in sport ○ Cannot afford cost of participation ○ Transport not available, no disabled access ○ Few ethnic role models, few female role models ○ Limited activities on offer ○ Mainly male sports shown on TV
Solutions to barriers that affect participation in sport. 	• Provision • Promotion • Access • Participation • Environment • Spectatorship • Media Coverage • Success for teams and individuals • Role Models • Acceptability	**Solutions:** ○ Programming, providing and planning of times ○ Targeted promotions, using role models and initiatives ○ Access to facilities, equipment, sensible pricing ○ Football has widespread mass participation (lots of promotion) ○ Rugby matches and constantly available to view on terrestrial television. ○ BBC1 sole coverage of Wimbledon ○ England Cricket success in the world cup has increased participation ○ Lack of role models e.g. lack of Asian footballers ○ Opposition to horse racing due to perceived animal cruelty
How the factors can impact the popularity of sport in the UK.	• Current trends in the popularity of different sports in the UK • Growth of new/emerging sports in the UK	○ Studies and statistics show that fishing, cycling and swimming are the most popular growing sports in the UK

Contemporary Issues in Sport

LO2: Know about the role in sport when promoting values

Key Areas	*Key Terms*	*Explanation*
Values which can be promoted through sport 	Team Spirit	Learning how to work together and support others by playing as part of a team
	Fair Play	Learning the importance of adhering to rules and being fair to others through playing sport
	Citizenship	Get involved in your local community through sport
	Tolerance	Developing understanding of different countries and cultures through sport
	Inclusion	Initiatives to get under-represented social groups involved in sport
	National Pride	Supporters and performers unite behind country in international events
	Excellence	Striving to be the best that you can in your favourite sport
The Olympic and Paralympic movement 	The Creed	*"The most important thing is not to win but to take part, just as the most important thing in life is not the triumph but the struggle. The essential thing is not to have conquered, but to have fought well."* Pierre De Coubertin
	The Symbol	Five interlocking rings represent the union of the five continents
	The Olympic and Paralympic values	Respect, Excellence, Friendship, Courage, Determination, Inspiration and Equality
Other initiatives and events that promote values through sport.	Examples	ECB's "Chance to Shine", Sport Relief, Premier League's Creating Chances initiative and £10m Sport England Scheme
Sporting behaviour of both performers and spectators. 	Reasons for observing etiquette and sporting behaviour	Fairness, promoting values, safety of participants etc.
	Sportsmanship	E.g. football giving the ball to the opposition when they have kicked it out when an injury occurs to your team
	Gamesmanship	E.g. time wasting
	Spectator Etiquette	E.g. quiet during rallies at Wimbledon, quiet during play in snooker, quiet during the playing of national anthems
	Sports Initiative to break down barriers	E.g. Kick Racism out of Football
The use of performance-enhancing drugs in sport 	Reason why they are used	Pressure to succeed, pressure to succeed as a Nation
	Reasons against use	Long term ill health, consequences when found guilty, unfair advantage
	World Anti-Doping Agency (WADA)	Blood sample, urine sample, hair sample, nail sample
	Current initiatives	Sanctions
	Drug offences by elite performers	E.g. Dwain Chambers & David Millar
	Impact of drug taking on the reputation of sport	Mistrust of results such as Tour de France as a result so many scandals
	Ethical issues related to drug taking	Should there be a distinction between use of performance enhancing and recreational drugs?

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