THE ABBEY SCHOOL
A BUSINESS & ENTERPRISE ACADEMY

Knowledge Organiser

Year 11

Term 2

CONTENTS

English
Language Paper 2 Questions 1-4

BIG QUESTIONS

How can I revise for English Language?

How will I be examined for questions 1-4 of Language Paper 2?

What is a summary?

How do I construct a summary?

How do I compare texts?

What are the language techniques?

How do I analyse a writer's language?

How can I find out a writer's attitude?

What do the questions look like?

Q1: Shade 4 true statements…

[4 marks]

Q2: Write a summary of the similarities/differences….

[8 marks]

Q3: How has the writer used language to….

[12 marks]

Q4: Compare how the writers convey their different/similar attitudes to…

[16 marks]

Analysis sentence starters

This **suggests** that…
This **conveys** that…
It **implies** that….
The word **presents**…
This **portrays** to the reader…
The language **connotes** that…

(The bold words are all synonyms for '**show**')

How do I write a summary for Question 2?

A summary is when you tell somebody only important and relevant pieces of information.

Step 1: The examiner will tell you what to focus on in the extracts and whether the extracts have different or similar ideas.

Step 2: Read the extracts and pick out the information you are given, deciding how the extracts are similar or different.

Step 3: Use evidence from the text to tell the examiner what each extract says about the idea and how similar or different.

Language Techniques
(for questions 3 and 4)

Technique	Definition
Adjective	A word that describes a noun.
Verb	An action which can be physical, mental or a state of being.
Adverb	A word that describes a verb (action). These usually end with –ly.
Pronoun	These are used in the place of a name.
Connective	Words which show the relationship between ideas such as time or agreement.
Simile	A comparison using 'like' or 'as' to show the similarity between two ideas.
Metaphor	A comparison where you state something <u>is</u> something that it's not, based on a shared characteristic.
Onomatopoeia	Words which make their own sound.
Personification	Giving a non-human thing a human characteristic.
Simple Sentence	A sentence with one piece of information.
Compound sentence	Two simple sentences joined using a connective.
Complex Sentence	A sentence which contains a subordinate clause. A subordinate clause is an extra piece of information which would not make sense on its own.
Semantic Field	Where multiple words in a piece of writing suggest the same idea or theme, such as coldness, fear, isolation or excitement.
Oxymoron	Two words which are the direct opposite next to one another.

Comparative phrases
(for Questions 2 and 4)

<u>Similar</u>

Likewise,….
Similarly, …..
Both authors take the same approach…
This can also be seen in…
Both texts present…

<u>Different</u>

On the other hand,…
In contrast...
However,….
This is not the case in...
Alternatively,….
Conversely…

What is an attitude? (Question 4)

An **attitude** is a feeling, opinion or point of view. Therefore, the examiner is asking you how the writer **feels** about the idea in question, based on the extract.

Homework Links

- Use GCSEPod Pass4English to keep your terminology knowledge fresh.
- Answer practise questions under exam conditions

Key Vocabulary

Analyse – to examine in detail, typically in order to explain and interpret.

Summary – a brief statement or account of the main points of something, not including needless information.

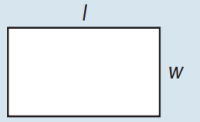
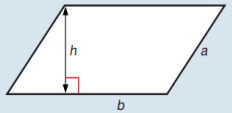
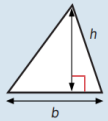
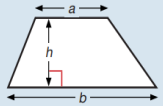
Comparison – a consideration of the similarities or dissimilarities between two things.

All of the language techniques as well as the key words for comparison.

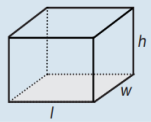
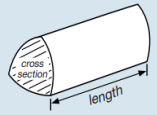
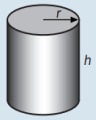
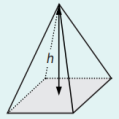
Subject: Mathematics
Topic: Recall Knowledge

Year / Group: GCSE F/H
Term: 1-6

Areas

Rectangle = $l \times w$	
Parallelogram = $b \times h$	
Triangle = $\frac{1}{2} b \times h$	
Trapezium = $\frac{1}{2}(a + b)h$	

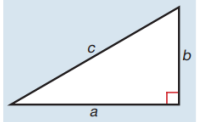
Volumes

Cuboid = $l \times w \times h$	
Prism = area of cross section × length	
Cylinder = $\pi r^2 h$	
Volume of pyramid = $\frac{1}{3}$ × area of base × h	

Pythagoras

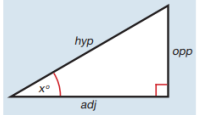
Pythagoras' Theorem

For a right-angled triangle, $a^2 + b^2 = c^2$



Trigonometric ratios (*new to F*)

$\sin x^o = \frac{\text{opp}}{\text{hyp}}$, $\cos x^o = \frac{\text{adj}}{\text{hyp}}$, $\tan x^o = \frac{\text{opp}}{\text{adj}}$



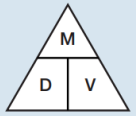
Compound measures

Speed

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

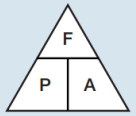
Density

$\text{density} = \frac{\text{mass}}{\text{volume}}$



Pressure

$\text{pressure} = \frac{\text{force}}{\text{area}}$

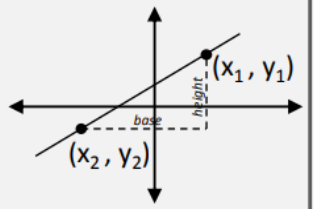


Gradient of a Line

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

or

$$m = \frac{\text{height}}{\text{base}}$$



Midpoint of two points

between (x_1 , y_1) and (x_2 , y_2)

$$\left(\frac{x_1 + x_2}{2}, \frac{x_1 + y_2}{2}\right)$$

Compound Growth & Decay

The amount after *n* years (or days, etc.) is:

$$\text{starting amount} \times \left(1 \pm \frac{r}{100}\right)^n$$

where *r* is the rate of change.
The ± means + for growth and – for decay

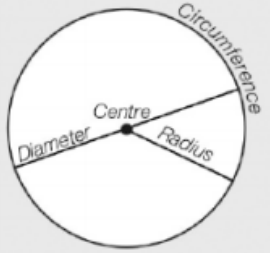
Literacy In Maths	Command Words
Evaluate …	Work out and write your answer
Work out …	Working out is required
Calculate …	Working out is required. A calculator may be needed.
Solve …	Work out the values
Prove …	All working must be shown in steps to link reasons and values.
Expand…	Multiply out of the brackets
Draw…	Draw accurately with a pencil and equipment.
Explain …	Use words to give reasons
Factorise	The reverse process of expanding brackets. Remove the HCF.
Estimate	Work out an approximate answer using rounded values.

Circles

Circumference = $\pi \times$ diameter, $C = \pi d$

Circumference = $2 \times \pi \times$ radius, $C = 2\pi r$

Area of a circle = $\pi \times$ radius squared, $A = \pi r^2$



Area of a Sector

$$A = \frac{\theta}{360^\circ} \times \pi r^2$$

Length of an Arc

$$A = \frac{\theta}{360^\circ} \times \pi d$$

Set Notation

$A \cup B$

Union: in A or B (or both)

$A \cap B$

Intersection: in both A and B

$P(A \text{ or } B) = P(A) + P(B)$

$P(A \text{ and } B) = P(A) \times P(B)$

Subject: Mathematics
Topic: Ch16 Quadratic Equations and Graphs

Year / Group: 11F
Term: 2

BIG QUESTIONS

What existing knowledge must I revisit to extend my Algebra skills?

How do I 'expand' in algebra and use this to form quadratic expressions?

What does it mean to 'solve a quadratic'? What is the best way?

Sparx Maths

U179, U768 U365, U178, U858

Key Terms:

Factorise: Putting an expression back into brackets

Solve: Find the values (or values) which can be put into an equation to make it true

Quadratic Equations: Equations which involve the second power of a variable e.g. x^2 or y^2

Quadratic expressions

Expand and simplify:

Grid method

$(x+2)(x+6)$

×	x	+2
x	x^2	$+2x$
+6	$+6x$	+12

Factorise:

3) $x^2 - 2x - 3$
$= (x-3)(x+1)$

Factorise and solve:

4) $x^2 + 4x - 5 = 0$
$(x-1)(x+5) = 0$
Therefore the solutions are:
Either $(x-1) = 0$
$x = 1$
Or $(x+5) = 0$
$x = -5$

Reminders:

Factorise a quadratic:
$x^2 - 2x - 3 = (x-3)(x+1)$

Factorise and solve a quadratic:
$x^2 + 4x - 5 = 0$
$(x-1)(x+5) = 0$

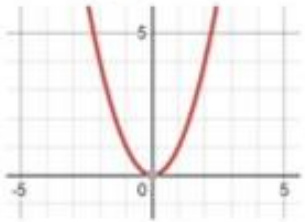
Therefore the solutions are:
Either $(x-1) = 0$
$x = 1$
Or $(x+5) = 0$
$x = -5$

Difference of two squares

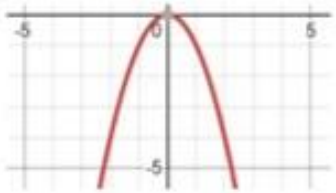
$a^2 - b^2 = (a+b)(a-b)$

A quadratic graph will always be in the shape of a parabola.

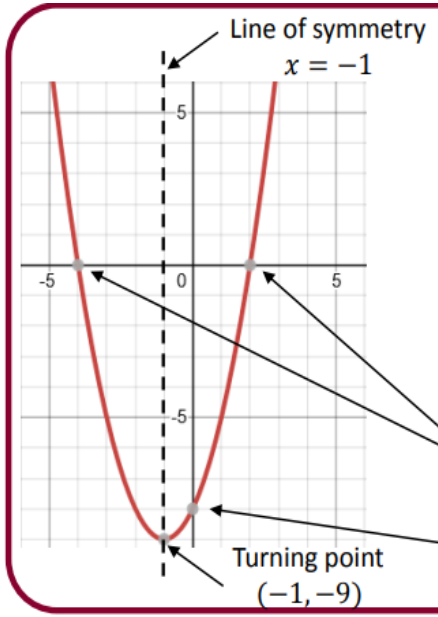
$y = x^2$



$y = -x^2$



The roots of a quadratic graph are where the graph crosses the x axis. The roots are the solutions to the equation.



Examples

$y = x^2 + 2x - 8$

A quadratic equation can be solved from its graph.
The roots of the graph tell us the possible solutions for the equation.
There can be 1 root, 2 roots or no roots for a quadratic equation. This is dependant on how many times the graph crosses the x axis.

Roots $x = -4$
$x = 2$

y intercept = -8

Homework Links

Hegarty Maths

MathsGenie.co.uk/ GCSE

Corbettmaths.com/ contents

bbc.co.uk/bitesize/ subjects

Subject: Mathematics
Topic: Revision - Ch10 Percentages and Ch11/14– Multiplicative Reasoning

Year / Group: 11F
Term: 2

BIG QUESTION

How are multipliers used in real life?

Fractions, Decimals and Percentages

F	D	P
$\frac{1}{100}$	0.01	1%
$\frac{1}{10}$	0.1	10%
$\frac{1}{5}$	0.2	20%
$\frac{1}{4}$	0.25	25%
$\frac{1}{2}$	0.5	50%
$\frac{3}{4}$	0.75	75%

Find 15%	× 0.15
Find 3%	× 0.03
Find 99%	× 0.99

1. Increase or Decrease by a Percentage	Non-calculator: **Find the percentage** and **add** or **subtract** it from the **original** amount. Calculator: Find the **percentage multiplier** and multiply.	Increase 500 by 20% (Non Calc): 10% of 500 = 50 so 20% of 500 = 100 500 + 100 = 600 Decrease 800 by 17% (Calc): 100%-17%=83% 83% ÷ 100 = 0.83 0.83 x 800 = 664
2. Percentage Multiplier	The **number** you **multiply** a quantity by to **increase or decrease** it by a **percentage**.	The multiplier for increasing by 12% is 1.12 The multiplier for decreasing by 12% is 0.88 The multiplier for increasing by 100% is 2.
3. Reverse Percentage	Find the **correct percentage given in the question**, then work backwards to **find 100%** Look out for words like '**before**' or '**original**'	A jumper was priced at £48.60 after a 10% reduction. Find its original price. 100% - 10% = 90% 90% = £48.60 1% = £0.54 100% = £54

Interest

- Simple interest is when the amount of interest stays the same for every year.
- Compound interest is when the amount of interest changes every year as you earn interest on your interest.

Compound Growth & Decay

The amount after n years (or days, etc.) is:

$$\text{starting amount} \times \left(1 \pm \frac{r}{100}\right)^n$$

where r is the rate of change.
The $\pm$ means + for growth and – for decay

Sparx Maths

U671, U286, U721, U640, U278, U773, U407, U357, U332, U533, U364, U151, U910, U527

Growth and Decay

Mo invests £300 at a compound interest rate of 3% per annum. How much money is in his account after 4 years?

If the value was decreasing, our multiplier would be <1

Step 1 – Calculate the interest rate as a decimal multiplier = 1.03

Step 2 – Substitute values into the formula for compound interest
= £300 x 1.03^4
= £337.65

Final Amount = Starting Amount x (Decimal Multiplier)^n

The original value of a car is £5000. The value of the car **depreciates** at a rate of 7.5% per annum. Calculate the value of the car after 3 years.

$Value \times (1 - percentage\ as\ a\ decimal)^{years}$
$= 5000 \times (1 - 0.075)^3 \quad = 5000 \times (0.925)^3$
= £3957.27

Subject: Mathematics
Topic: Ch15 Equations and Graphs

Year / Group: 11H
Term: 2

BIG QUESTIONS

What methods do we have for graphing any equations, and how can they help find solutions?

How can we graph an inequality?

Sparx Maths

U989, U667, U769, U747, U875, U434, U168

Linear Graphs

Straight line graphs always have the equation:

$$y = mx + c$$

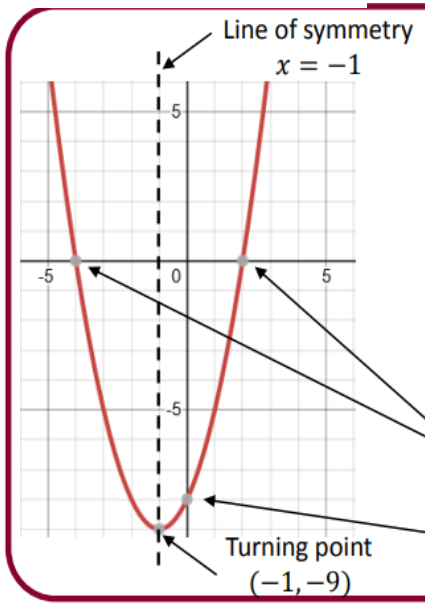
m is the **gradient** i.e. the steepness of the graph.
c is the **y intercept** i.e. where the graph cuts the y axis.

Parallel lines have the same gradient.
e.g. $y = 2x + 3$ *and* $y = 2x - 1$

Perpendicular line gradients are the negative reciprocal of one another
e.g. $y = 2x$ *and* $y = -\frac{1}{2}x$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Quadratic Graphs



Examples

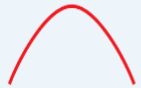
$$y = x^2 + 2x - 8$$

A quadratic equation can be solved from its graph.
The roots of the graph tell us the possible solutions for the equation.
There can be 1 root, 2 roots or no roots for a quadratic equation. This is dependant on how many times the graph crosses the x axis.

Roots $x = -4$
$x = 2$

y intercept $= -8$

The lowest or highest point of the parabola, where the graph turns, is called the **turning point**.
The turning point is either a minimum or maximum point.
The x-values where the graph intersects the x-axis are the solutions, or **roots**, of the equation $y = 0$.

 is a minimum,  is a maximum

To sketch a quadratic function

- Calculate the solutions to the equation '$y = 0$' (points of intersection with the x-axis).
- Calculate the point at which the graph crosses the y-axis.
- Find the coordinates of the turning point and whether it is a maximum or a minimum.

To find the coordinate of the turning point, write the equation in completed square form:
$y = a(x + b)^2 + c$
$(x + b)^2 \geqslant 0$, so the minimum for y is when $x + b = 0$ and $y = c$

Example 3

a Does the graph of $y = x^2 + 8x + 15$ have a maximum or a minimum point?
b Find the coordinates of the turning point.

a Minimum — The coefficient of x^2 is positive, so the turning point is a minimum.

b $y = x^2 + 8x + 15$
$y = (x + 4)^2 - 16 + 15$ — Write the quadratic function in completed square form.
$y = (x + 4)^2 - 1$
$x + 4 = 0$, *so* $x = -4$ — The smallest value that y can take is -1. This occurs when $(x + 4)^2 = 0$. $(x + 4)^2$ cannot be less than 0 because a square is always positive. Solve the equation to find the x-coordinate.
Minimum at $(-4, -1)$

Subject: Mathematics
Topic: Ch15 Equations and Graphs

Year / Group: 11H
Term: 2

BIG QUESTIONS

What methods do we have for graphing any equations, and how can they help find solutions?

How can we graph an inequality?

Linear Graphs

Straight line graphs always have the equation:

$$y = mx + c$$

m is the **gradient** i.e. the steepness of the graph.
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Parallel lines have the same gradient.
e.g. $y = 2x + 3$ *and* $y = 2x - 1$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

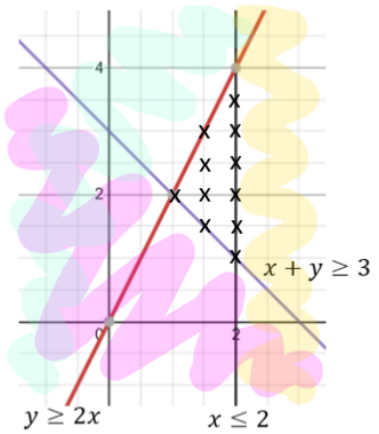
Perpendicular line gradients are the negative reciprocal of one another
e.g. $y = 2x$ *and* $y = -\frac{1}{2}x$

Inequalities

Key Concepts

Inequalities can be represented on graphs. They highlight regions where all of the possible true values exist within its given constraints.

Solid lines are used on the graph when ≤ ≥ are involved.
Dashed lines are used on the graph when <> are involved.



Examples

Highlight the region that represents the possible solutions to the following inequalities:

$$x \leq 2$$
$$y \leq 2x$$
$$x + y \geq 3$$

- Plot the points for each linear graph and draw the lines.
- Choose a coordinate whose values can be substituted in to each inequality. If the inequality is FALSE once values have been substituted in, then shade this area.
- You should be left with one area with no shading once you have repeated this for all inequalities.
- Each x is a possible set of integer values which are true for all three inequalities. Eg. (2,1), (2,2) (2,3)...

Quadratic Graphs – See the foundation page.

To find a turning point of a quadratic graph, write the equation in completing the square form.

e.g. $y = x^2 + 8x + 15$

a Minimum

b $y = x^2 + 8x + 15$
$y = (x + 4)^2 - 16 + 15$
$y = (x + 4)^2 - 1$
$x + 4 = 0$, *so* $x = -4$
Minimum at $(-4, -1)$

The graph is positive.

Completed the square form

Smallest possible square number is 0. y = 0-1 = -1

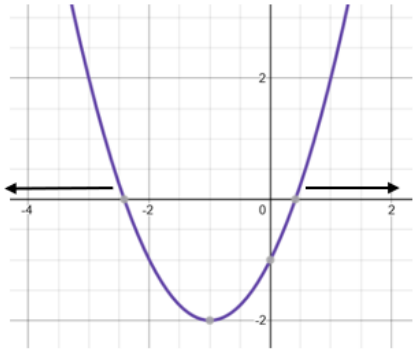
Key Concepts

When an quadratic inequality is solved it provides the **range of values** that are possible.

When an equation has **solutions greater than 0** then the solutions are taken from **above the x axis**.

When an equation has solutions **less than 0** then the solutions are taken from **below the x axis**.

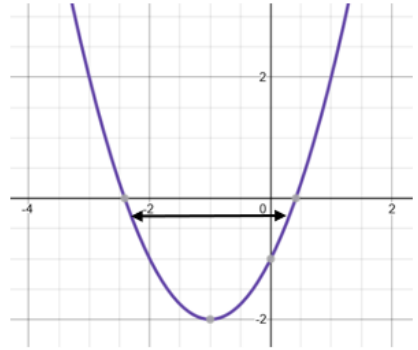
Examples



$x^2 + 2x - 1 \geq 0$

The range of solutions are:

$x \geq 0.5$ *and* $x \leq -2.5$



$x^2 + 2x - 1 \leq 0$

The range of solutions are:

$-2.5 \leq x \leq 0.5$

Sparx Maths

U989, U667, U769, U747, U875, U434, U168

Iteration - To find an accurate solution of an equation, we can use an iterative process.

Iteration is the **repetition** of a mathematical procedure applied to the result of a previous application, typically as a means of **obtaining successively closer approximations** to the solution of a problem.

When $x_0 = 0$ $\quad x_{n+1} = \dfrac{2}{x_n^2 + 3}$

Calculate the values of x_1, x_2, x_3 to find an estimate for the solution to $x^3 + 3x = 2$

$$x_{0+1} = \frac{2}{0^2 + 3} = 0.\dot{6}$$

We substitute this value into the next step.

$$x_{1+1} = \frac{2}{0.\dot{6}^2 + 3} = 0.5806451613$$

$$x_{2+1} = \frac{2}{(0.58\ldots)^2 + 3} = 0.5993140006$$

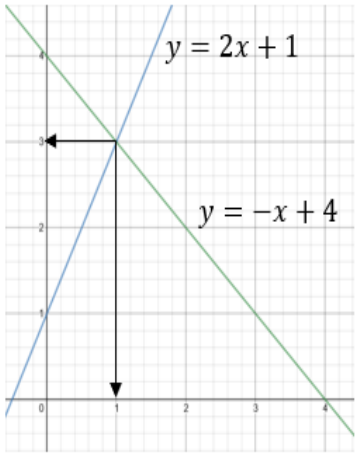
An estimate of the solution is 0.6 because all of the solutions round to 1d.p.

Simultaneous Equations

Simultaneous equations are when **more than one equation** are given which involve **more than one variable**. The variables have the **same value** in each equation.

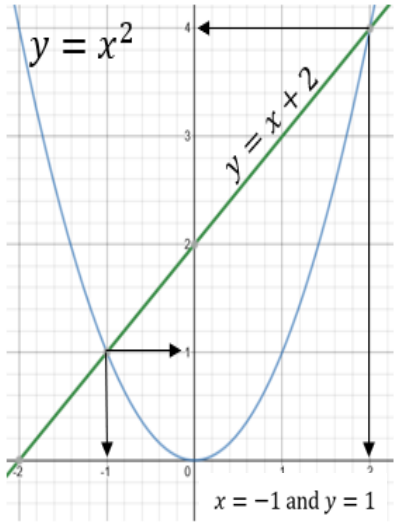
Simultaneous equations can be solved **graphically** whereby the **intersection** of the graphs gives the x and y values.

Solve graphically: $y = 2x + 1$, $y = -x + 4$



$x = 1$ and $y = 3$

Solve graphically: $y = x^2$, $y = x + 2$



$x = -1$ and $y = 1$

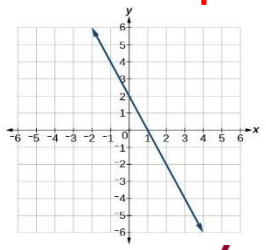
$x = 2$ and $y = 4$

Examples

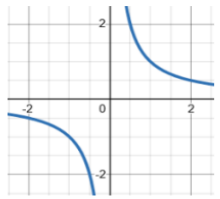
$x = -1$ and $y = 1$

$x = 2$ and $y = 4$

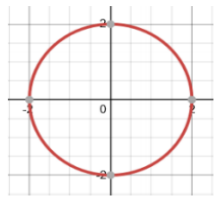
Other Graphs



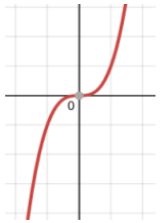
Linear graphs
Y = mx + c



Reciprocal graphs
$y = \frac{1}{x}$



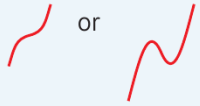
Circle graphs
$x^2 + y^2 = 4$



Cubic graphs
$y = x^3$

Cubic Functions

A **cubic** function is one whose highest power of x is x^3.
It is written in the form $y = ax^3 + bx^2 + cx + d$

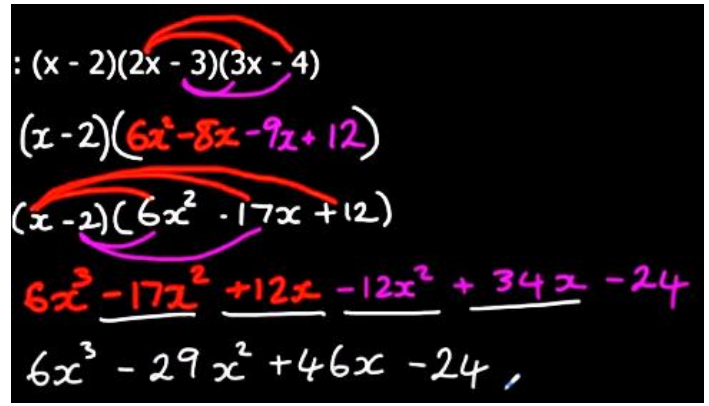
When $a > 0$ the function looks like  or

When $a < 0$ the function  or 

The graph intersects the y-axis at the point $y = d$
The graph's roots can be found by finding the values of x for which $y = 0$.

To expand triple brackets and produce a cubic expression:

1. Expand two brackets as normal.
2. Multiple the answer by each term in the third bracket. Do this one at a time to avoid errors. Simplify.



Subject: Mathematics
Topic: Ch16 Circle theorems

Year / Group: 11H
Term: 2

BIG QUESTIONS

What are the circle theorems and how are they applied?

Homework Links

Sparx Maths

MathsGenie.co.uk/GCSE

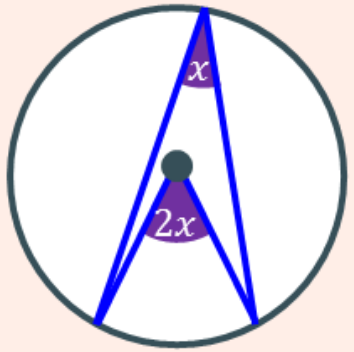
Corbettmaths.com/contents

bbc.co.uk/bitesize/subjects

Key Vocabulary
Tangent
Chord
Sector
Segment

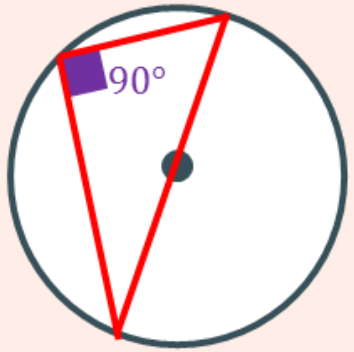
Sparx Maths
U808

Angle at the centre is twice the angle at the circumference



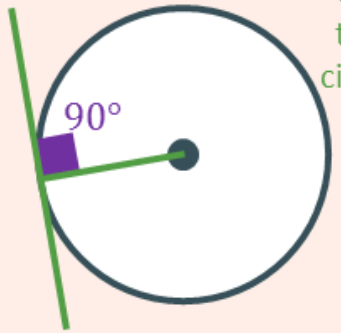
Look for the 'Arrow' Shape!

Angle subtended at circumference by a semicircle is 90°



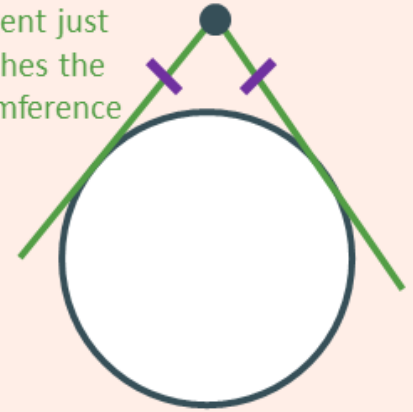
Opposite angle to the diameter!

Tangents and radii meet at 90°

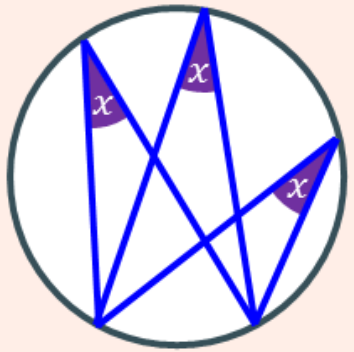


Tangents from a point have equal length

Tangent just touches the circumference

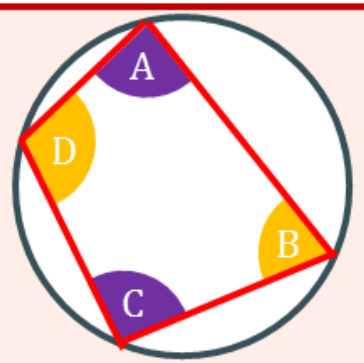


Angles in the same segment are equal



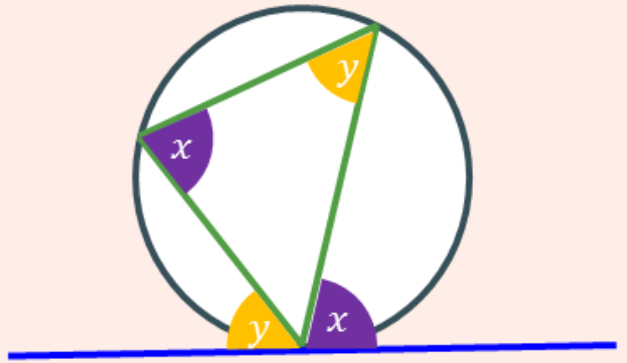
Look for the 'Bow' Shape!

Opposite angles in a cyclic quadrilateral sum to 180°



$A + C = 180°$ $B + D = 180°$

Alternate Segment Theorem



6. Variation and Evolution

Key term/question	Definition/answer
32. Variation	Differences that exist between individuals
33. Genetic variation	Characteristics that are determined by **genes inherited** form parents (e.g. eye colour)
34. Environmental variation	Characteristics that are determined by the **environment** which the organism lives in (e.g. language)
35. Mutations	A change in an organism's **sequence of amino acids**, causing a change in their **DNA**
36. Evolution	Today's species have evolved from a simple life form that first started to develop over 3 billon years ago
37. Species	Organisms that reproduce to give **fertile** offspring
38. Speciation	Two populations of **one** species become so different in phenotype that they can no longer **breed** to produce fertile offspring. **Two new species** are formed.
39. Darwin's theory of evolution (3)	**1.** Individual organisms within a particular **species** show a wide range of variation for a characteristic. **2.** Individuals with characteristics most suited to the environment are more likely to survive and to breed successfully. **3.** These characteristics are then passed on to the next generation.
40. Today's theory of evolution by natural selection (4)	**1.** Phenotypes are controlled by genes. **2.** New genetic variants arise from mutations. **3.** Mutations can cause phenotypes better suited to an environment. **4.** Beneficial genetic variants are passed on to offspring.

7. Evidence of evolution

Key term/question	Definition/answer
41.. Fossils	Remains of organisms from millions of years ago, preserved in the environment.
42. How do fossils form? (3)	**1.** From parts of organisms that have not decayed. **2.** When parts of the organism are replaced by minerals as they decay. **3.** Preserved traces of organisms, such as footprints, burrows and rootlet traces.
43. Why is there lack of evidence for how life began? (2)	**1.** Early organisms were soft bodied which completely decays. **2.** Traces of early life have been mainly destroyed by geological activity (e.g. movement of tectonic plates)
44. Why do species become extinct? (5)	**1.** Habitat destruction **2.** New predator is introduced **3.** New pathogen is introduced **4.** Outcompeted by another new species **5.** Catastrophic event (e.g. volcanic eruption)
45. Antibiotic resistance	Bacteria evolve so they are not killed by antibiotics

8. Selective Breeding

Key term/question	Definition/answer
46. Selective breeding	Humans **artificially** select plants and animals to breed for particular genetic characteristics
47. What are the reasons for selective breeding? (4)	**1.** Disease resistance in food crops. **2.** Animals which produce more meat or milk. **3.** Domestic dogs with a gentle nature. **4.** Large or unusual flowers.
48. Inbreeding	**Closely related** animals or plants are **bred together**, which makes them more prone to **disease** or **inherited defects**

9. Genetic Engineering

Key term/question	Definition/answer
49. Genetic engineering	The process of cutting out a useful gene from one organism and inserting it into another organism's cells.
50. Reasons for genetically modified (GM) crops (3)	**1.** Resistant to diseases. **2.** Produce bigger vegetables and crops. **3.** Improves the appearance of vegetables and crops.
51. Benefits of GM crops (3)	**1.** Increases crop yield to make more food. **2.** To grow disease resistant crops. **3.** To include vitamins and minerals in crops.
52. Concerns of GM crops (3)	**1.** Decreases population of wild flowers and insects. **2.** Crops may be harmful to human health. **3.** Genes may spread to wild populations (e.g. weeds)
53. Reason for genetic engineering in medicine	To remove inherited disorders

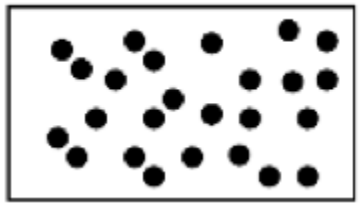
10. Classification

Key term/question	Definition/answer
54. Classification	Organisms are grouped together depending on their structure and characteristics. Developed my scientist, Carl Linnaeus.
55. Linnaeus classification order	Kingdom → Phylum → Class → Order → Family →Genus→ Species
56. Three-domain system	New model of classification due to evidence available from chemical analysis of organisms. Developed my scientist, Carl Woese.
57. Three-domain system groups (3)	**1.** Archaea (primitive bacteria usually living in extreme environments) **2.** Bacteria (true bacteria) **3.** Eukaryota (which includes protists, fungi, plants and animals).
58. Binominal system	Naming organisms using a two-part Latin name
59. Human's binominal name	*Homo sapiens*

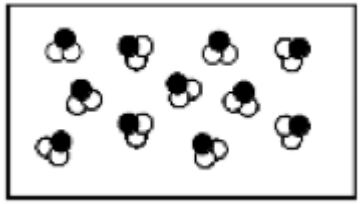
Chemistry 8: Knowledge Organiser

A) Purity and formulations

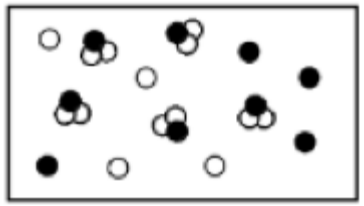
Element



Compound

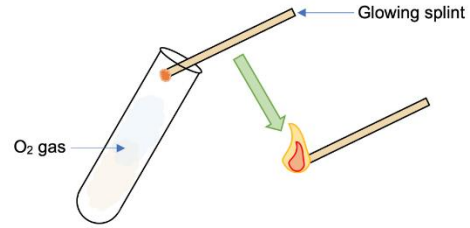
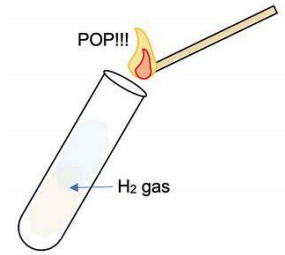
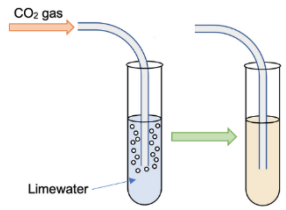
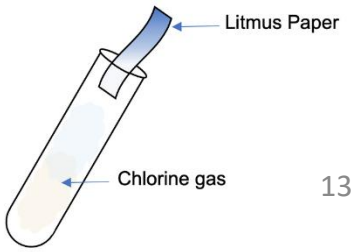


Mixture



Key term/question	Definition/answer
1. Atom	The smallest particle of an element that can exist
2. Element	Substance which consists of only one type of atom
3. Compound	More than two elements chemically combined
4. Mixture	More than two elements that are not chemically combined
5. Pure substance	A substance that only contains one element or compound
6. Examples of pure substances	Water (H_2O), carbon dioxide (CO_2), sodium chloride (NaCl)
7. Examples of impure substances	Orange juice, milk, honey
8. How do we test for pure substance	By melting or boiling the substances
9. Melting point/boiling point of pure substances	Sharp (specific temperature)
10. Melting point/boiling point of impure substances	Wide range
11. The effects of impurities on melting and boiling points (2)	**1.** Lowers the melting point **2.** increases the boiling point
12. Melting/freezing point of water	0°C
13. Boiling/condensing point of water	100°C
14. Formulation	A useful mixture with a precise purpose made by following a formula
15. Examples of formulations	Fuels, cleaning agents, paints, medicines, alloys, fertilisers

B) Gas tests

Key term/question	Definition/answer
16. Test for oxygen	**1.** Put a **glowing splint** into a test tube containing the gas **2.** if oxygen is present, it will **relight** the glowing splint 
17. Test for hydrogen	**1.** Hold a **lit splint** at the end of a test tube **2.** if hydrogen is present, you'll hear a **'squeaky pop'** 
18. Test for carbon dioxide	**1.** Bubble gas through **lime water** (calcium hydroxide) **2.** if carbon dioxide is present, the lime water turns **cloudy**  
19. Test for chlorine	**1.** Hold **damp litmus paper** into a test tube containing the gas **2.** if chlorine is present, it will bleach the litmus paper **white.** 

Chemistry 8: Required Practical 12 – Analysing Paper Chromatography

Key term/question	Definition/answer
1. Solute	Substance that is dissolved in a solvent
2. Solvent	The liquid in which the solute is poured and dissolved into
3. Solution	Solute and solvent combined
4. Paper chromatography	Method of separating and identifying substances in a mixture
5. Chromatogram	The pattern or spots formed as a results of separating a mixture using chromatography
6. Solubility	How well a substance dissolves
7. What are the two phases of chromatography? (2)	**1.** Mobile phase **2.** Stationary phase
8. Mobile phase	Where molecules can move (e.g. solvent such as liquid and gas)
9. Stationary phase	Where molecules cannot move (e.g. solid such as paper)
10. What happens to molecules with a higher solubility?	They will move further up the paper (closer to the solvent line/front)
11. What happens to molecules with a lower solubility?	They will move less up the paper (stay closer to the baseline/ pencil line/ start line)
12. How do you know the substance is pure?	Will only form one spot
13. How do you know the substance is impure?	More than one spot will form
14. R_f value	Ratio between the distance travelled by the dissolved substance and the distance travelled by the solvent
15. R_f value calculation	R_f value = distance travelled by the substance ÷ distance travelled by the solvent
16. The higher the R_f value =	The more time a substance spends in the mobile phase

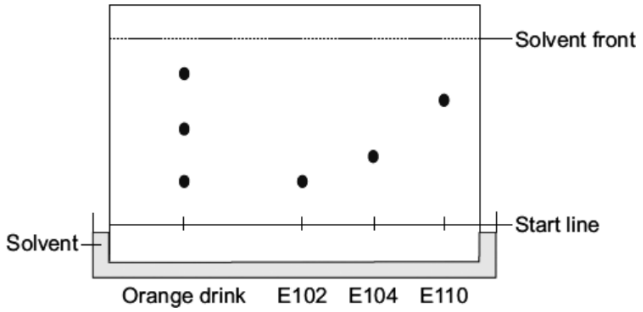
A. Method for paper chromatography

1. Draw a pencil line on a piece of chromatography paper.
2. Spot the mixture to be separated on the pencil and let the spot dry.
3. Pour water into a beaker.
4. Stand the paper in the beaker so that the water is below the pencil line.
5. Leave until the water has almost reached the top of the paper.
6. Remove the paper and hang the chromatogram up to dry.
7. Measure the distance travelled by each spot.
8. Calculate the R_f value and compare the R_f values for each of the spots of ink

B. Identifying results using chromatography

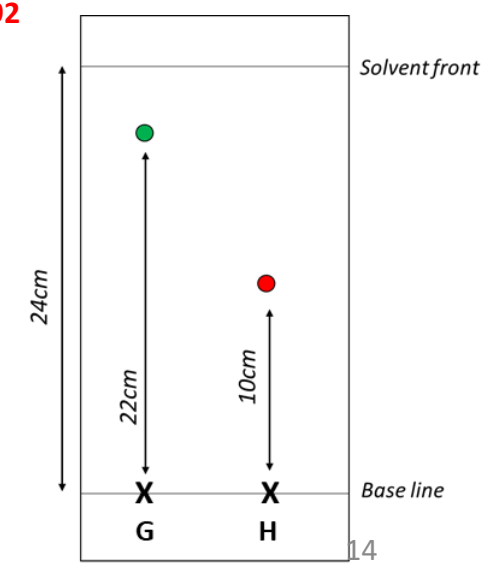
Worked example 1: A scientist tested an orange juice to find out what additives it contained.
What additive did the orange juice contain?

The additive E102 is in the same line as one of spots of the orange juice. This means the orange juice only contains the additive E102 and does not contain the other additives.



C. Calculating the R_f value

Worked example 2: calculate the R_f value for the substance G.
Step 1: Use a ruler to measure the distance travelled by the substance (base line to spot). Equals 22cm.
Step 2: use a ruler to measure the distance travelled by the solvent (base line to solvent front). Equals 24cm.
Step 3: Calculate the R_f value for substance G.
R_f value = 22cm ÷ 24 cm
R_f value = 0.92



Physics (P6) Waves Knowledge Organiser

A) Transverse and longitudinal waves

Key term/question	Definition/answer
1. What is a wave?	An oscillation that transfers energy without transferring matter.
2. Describe a transverse wave	Oscillations occur at **right angles** to direction of energy travel.
3. Describe a longitudinal wave	Oscillations occur **parallel** to direction of energy travel.
4. For longitudinal waves define 'compression'	Particles are compressed together.
5. For longitudinal waves define 'rarefaction'	Particles are spread apart
6. Give three examples of transverse waves	**1.** Electromagnetic waves **2.** Ripples on water **3.** Waves on a string
7. Give two examples of longitudinal waves	**1.** Sound **2.** Plucked slinky

B) Properties of a wave

Key term/question	Definition/answer
8. Amplitude	Maximum displacement from point of zero
9. Wavelength	Distance from a point on a wave to the equivalent point on the next wave.
10. Frequency	Number of wave cycles in 1 second
11. Period of wave	Time taken for one cycle of a wave to be completed.
12. Formula for calculating the period of a wave	Period = 1 ÷ frequency **T = 1 ÷ f**
13. Unit of frequency	Hz = Hertz
14. Unit of time	s = seconds
15. Formula linking wave speed, frequency and wavelength	wave speed = frequency × wavelength **v = f λ**
16. Unit of speed	m/s = metres per second
17. Unit of wavelength	m = metres

Diagram of a transverse wave

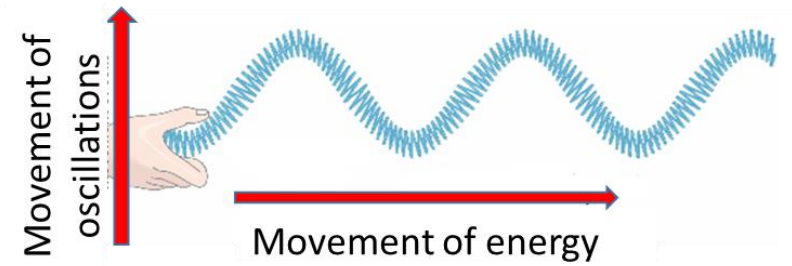


Diagram of a longitudinal wave

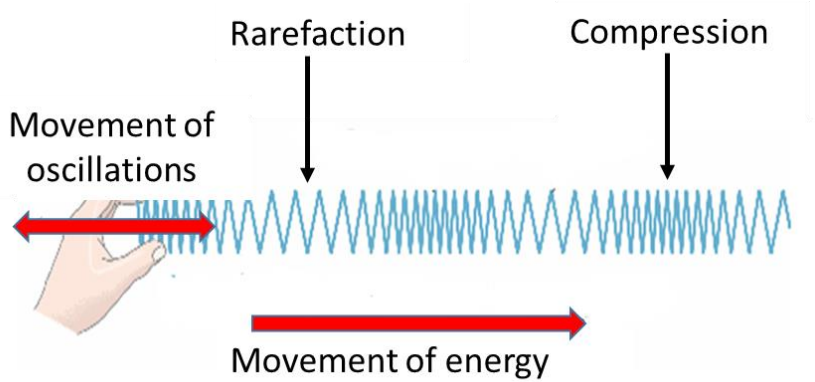
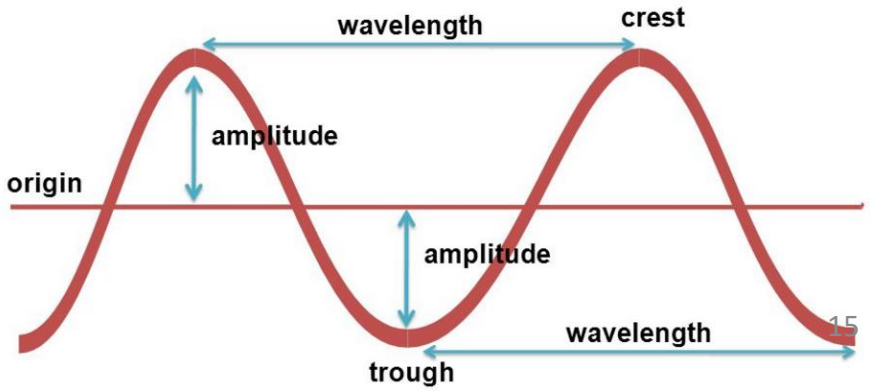


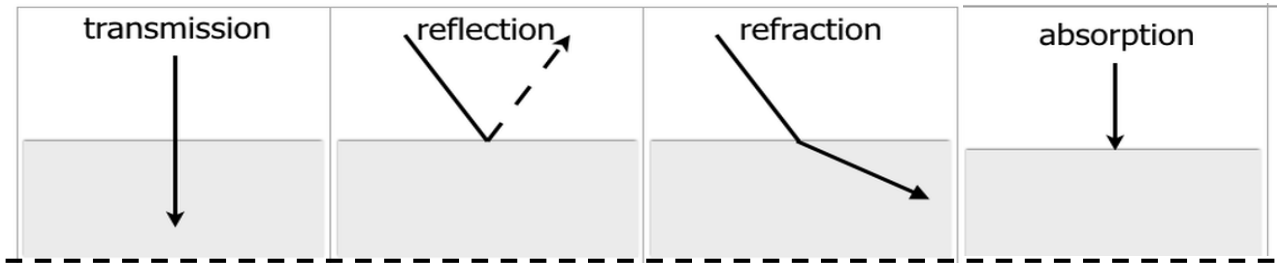
Diagram of wave properties



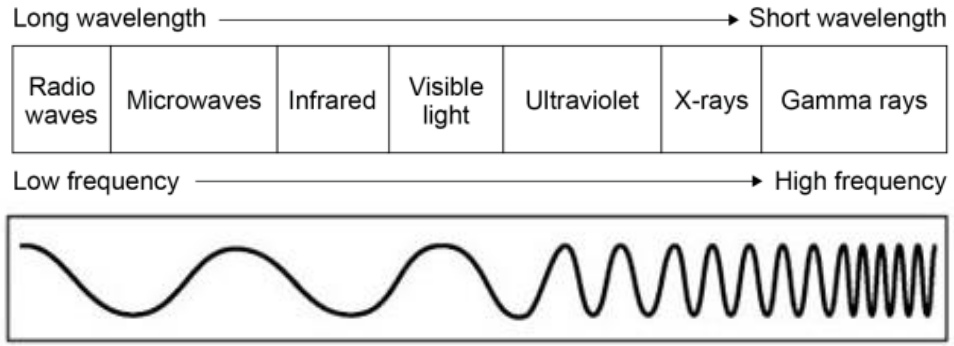
Physics (P6) Waves Knowledge Organiser

C) Waves at a boundary

Key term/question	Definition/answer
18. List what happens to a wave at a boundary between two different materials?	**1.** Reflection **2.** Absorption **3.** Transmission **4.** Refraction
19. Reflection	A wave bounces off the surface of a material
20. Absorption	The wave's energy is transferred to the material and the wave is stopped
21. Transmission	Waves pass through a material
22. Refraction	Wave changes direction as it travels through a material because it changes speed
HIGHER TIER 23. What happens to a wave when entering a less dense material?	Speed increases and bends away from line of normal
HIGHER TIER 24. What happens to a wave when entering a denser material?	Speed decreases and bends towards the line of normal



Electromagnetic spectrum

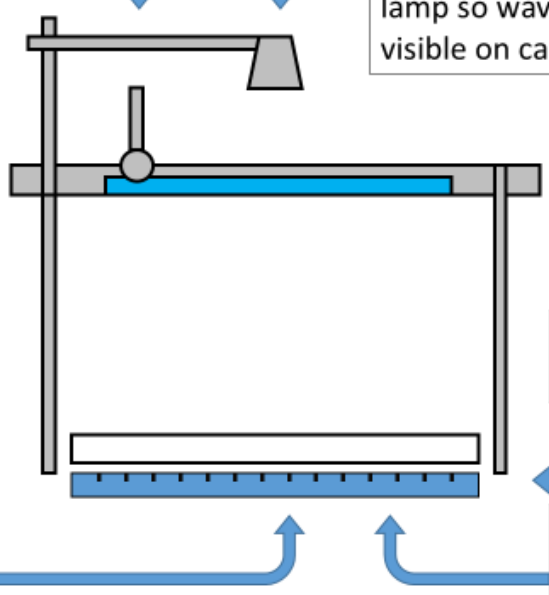


Mnemonic	Spectrum
***Ra**ging*	***R**adio*
***M**artians*	***M**icrowaves*
***In**vaded*	***I**nfrared*
***V**enus*	***V**isible*
***U**sing*	***U**ltraviolet*
***X**-ray*	***X**-rays*
***G**uns*	***G**amma rays*

D) Electromagnetic waves

Key term/question	Definition/answer
25. What is the "electromagnetic spectrum"?	A set of electromagnetic waves all travelling at the same speed in a vacuum
26. Electromagnetic waves with the longest wavelength and lowest frequency	Radio
27. Electromagnet waves with the shortest wavelength and highest frequency	Gamma
28. Uses of radio waves	Television and radio
29. Uses of microwave	Cooking, mobile phones, satellite communications
30. Uses of infra-red waves	electrical heaters, cooking food, infrared cameras
31. Use of visible light	Optical fibres
32. Uses of ultraviolet light	Fluorescent bulbs, tanning beds, Counterfeit note detection
33. Use of X-rays	Medical diagnosis for broken bones
34. Uses of gamma rays	Sterilising medical equipment, treating cancer
35. Dangers of over exposure to ultraviolet light (3)	**1.** Premature aging of skin **2.** skin cancer **3.** retinal damage
36. Ionising radiation	Radiation that has enough energy to knock electrons off atoms.
37. Types of ionising radiation	X-rays and gamma rays
38. Dangers to over exposure of x-rays and gamma rays	Cell destruction, Gene mutation and cancer
39. Radiation dose	A measure of the risk of harm from the body being exposed to radiation
40. Unit of measure for radiation dose	Sv = Sieverts

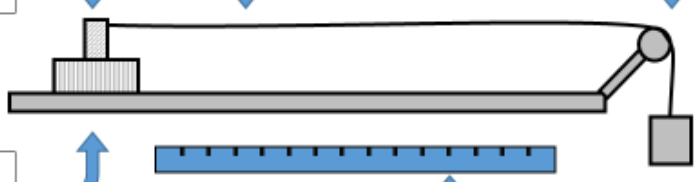
Measuring the speed of water ripples



1. Set up ripple tank to produce low frequency waves ❑
2. Adjust height of lamp so waves are visible on card ❑
3. Ruler at right angle to waves ❑
4. Measure length of five waves on card ❑
5. Count the number of waves passing mid-point of card in 10 s ❑
6. Calculate:
   - wavelength ❑
   - frequency ❑
   - wave speed ❑

GCSE Physics: Waves 1
Designed in line with practicals in AQA GCSE Physics / Combined Science Handbooks
http://www.aqa.org.uk/resources/science/gcse/teach/practicals

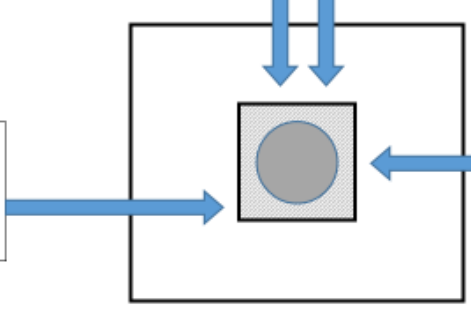
Observing a wave on a string



1. Attach string to vibration generator, over pulley to slotted mass
2. Adjust frequency until a standing wave is visible
3. Measure the distance between 2 nodes
4. Repeat steps 2 & 3 for different numbers of nodes
   - 2 nodes ❑
   - 3 nodes ❑
   - 4 nodes ❑
   - 5 nodes ❑
   - 6 nodes ❑

GCSE Physics: Waves 2
Designed in line with practicals in AQA GCSE Physics / Combined Science Handbooks
http://www.aqa.org.uk/resources/science/gcse/teach/practicals

Investigating infrared radiation



1. Place Leslie cube on heat resistant mat ❑
2. Fill with just boiled water ❑
3. Place lid on cube ❑
4. Measure IR emission from each side
   - matt black ❑
   - shiny black ❑
   - shiny silver ❑
   - matt white ❑

GCSE Physics: Radiation and absorption
Designed in line with practicals in AQA GCSE Physics / Combined Science Handbooks
http://www.aqa.org.uk/resources/science/gcse/teach/practicals

Summary of the Anglo-Saxon Period

By the time of King Edward the Confessor (1042-66), England had been mostly under the control of Anglo-Saxons for 600 years. Through those centuries, England had developed a very strong government. It also had a prosperous economy, boosted by extensive trade links across the North Sea and the Channel. England was a Christian country, but Christian teachings were mixed with ancient beliefs about how people should behave. One key belief was that, in return for protection from a lord, his people owed him service. For example, in return for land to farm, a man would owe military service to his lord.

England had faced terrible threats for centuries: the Vikings. These Scandinavians had settlements along the coast of Europe. In England, their raids were followed by invasions, so that many parts of Northern England had Viking settlers. One reason the Anglo-Saxons had a very well organised government was because of the need for Anglo-Saxons to work together to deal with the Vikings. Across the channel Viking settlers had taken control of Normandy, they remained a real military threat.

Key Anglo-Saxon Vocabulary

Witan – The council that advised the king on issues of government. Made up of the most important Earls and Archbishops
Ceorls – Free peasant farmers not tied to their land
Thegns – Local lords that usually held more than 5 hides of land
Earls – The highest Anglo-Saxon aristocracy
Shire reeve – An official of the king; his sheriff. Sherriff's managed the king's estates, taxes and courts.
Danelaw – The part of England where Danish (Viking) power had been strongest and which had kept some of its Danish laws instead of Anglo-Saxon ones.
Embassy – An official visit by a representative of one ruler to another ruler
Housecarls – Highly trained troops that stayed with their lord wherever he went; a bodyguard
Fyrd – The men of the Anglo-Saxon army and fleet. Every 5 hides provides one man for the fyrd.
Geld tax – A tax on land, originally to pay off the Vikings (Danegeld). It went to the king.
Collective responsibility – The duty of all members of a tithing to hunt for a criminal (hue and cry)

Key Anglo-Saxon Dates

1042 – Edward the Confessor becomes King of England
1053 – Death of Earl Godwin. Harold Godwinson becomes Earl of Wessex
1055 – Tostig Godwinson is made Earl of Northumbria
1064- Harold's embassy to Normandy
1065- Uprising against Earl Tostig: Tostig exiled
1066 – Edward the Confessor dies

Key Individuals involved at the end of the Anglo-Saxon Period

Edward the Confessor

A very religious king. Not a warrior king, but his earls and their Thegns were a powerful military force and he relied on his earls, especially Earl Godwin, to protect England from attack.

Earl Godwin

The father of Harold Godwinson. The house of Godwin began in 1018 during Kind Cnut's reign, when Cnut made his favourite advisor. Godwin Earl of Wessex. Godwin was probably the son of an Anglo-Saxon Thegn.

Harold Godwinson, Earl of Wessex

Harold became the Earl of Wessex upon his father's death in 1053. His sister had married the king in 1045 which made him brother-in-law to the king himself. Becoming the Earl of Wessex had made him very rich with influence over hundreds of Thegns and a powerful position as advisor to the king. He was also a very strong military leader.

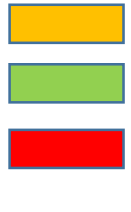
Tostig Godwinson, Earl of Northumbria

Tostig became Earl of Northumbria in 1055 after the death of Earl Siward. Northumbria had their own laws and customs compared to the southern upbringing that Tostig had received. He was not popular with the men in the North.

William of Normandy

Edward the Confessors mother was from Normandy and when the Vikings seized the throne, Edward was exiled there for 25 years. William claims Edward had promised him the throne as a result of this bond.

Figure 1.1



Peasant Farmers

Slaves

Thegns

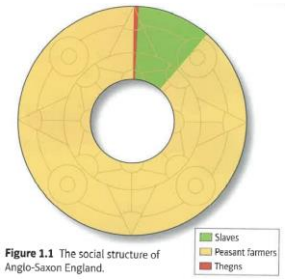


Figure 1.1 The social structure of Anglo-Saxon England.

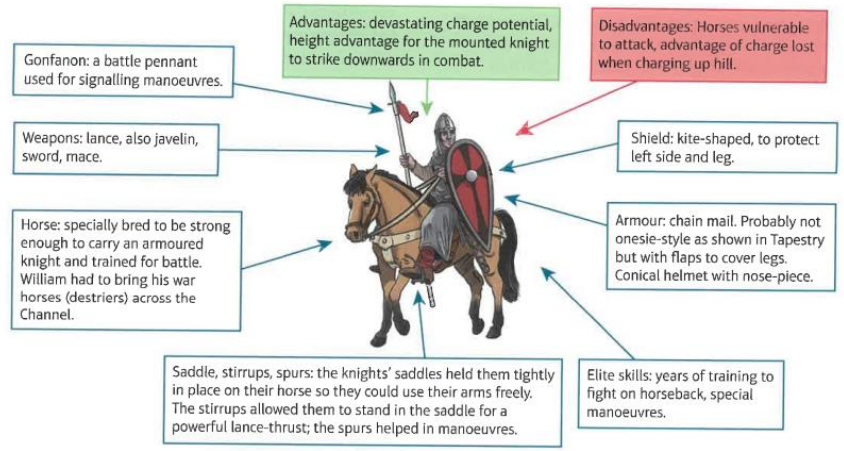
Summary of why there were battles for the Kingdom of England in 1066

Edward the Confessor died on 5th January 1066, there was no heir to succeed him.
The Bayeux Tapestry shows the death of Edward the Confessor at his palace in Westminster. Edward is with a small circle of people: his wife Edith, who sits at his feet; Stigand, the Archbishop of Canterbury; one of Edward's ministers and Harold Godwinson. Edward is shown holding out his hands to Harold. Other sources report that Edward said to Harold 'I commend this woman (Edith) with all the kingdom to your protection.' Harold understood this to mean that he was to be king – Harold II. However, others though that they had better claims to the throne; a situation that made the year 1066, a very eventful one.
There was to be three major battles with only two coronations. You will see how Harold Godwinson fought both Harald Hardrada and William of Normandy , leaving England in the hands of the Frenchman who would ultimately change the face of society, as they knew it.

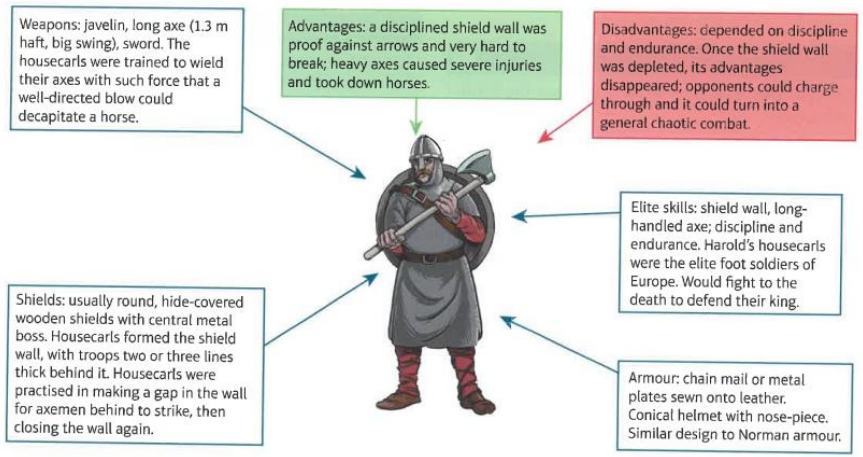
Key dates of 1066
5 January – Edward the Confessor dies
6 January – Edward is buried
6 January- Harold's coronation ceremony takes place
8 September – after waiting for a potential invasion for 9 months Harold sends his soldiers, the fyrd back to collect their harvest
19 September – Harold hears of Hardrada and Tostig's invasion
20 September – The Battle of Gate Fulford. The English lose and Harold leaves London
25 September – The Battle of Stamford Bridge
28 September - Harold hears that William has landed in the South, Pevensey. Harold rushes southward.
6 October – Harold reaches London to collect men and supplies, he leaves to march South on the 12th
14 October – The Battle of Hastings

Key Individuals: Claimant to the throne in 1066
Harold Godwinson- based his claim on the king's death bed words, his family connection to him (brother-in-law), and his role in recent years as the king's right hand man, his influence with the Thegns and his proven military prowess.
Edgar Aethling- As Edwards nephew, Edgar was directly descended from royal blood. At 6 years old he was left in Edwards care when his father died but Edward did not attempt to boost Edgar's chances of succession. With the threats of invasion ahead, the Witan may have been wise not to promote the teenagers claims to the throne.
Harald Hardrada- was the king of Norway. A fearsome Viking warrior who based his claim to the throne on secret Viking deals and treaties. A complicated claim but the point is. He felt his claim was strong enough to launch an invasion. He may not have originally intended to take up his claim but with the exiled Tostig at his side, he may have thought he had a better chance.
William of Normandy- His claim was based on an agreement William was said was made between Edward the Confessor and himself around 1051, an agreement that was supposedly confirmed by Harold's embassy to Normandy in 1064. William had come to England and Edward had promised him his throne, perhaps if Edward dies childless. William had managed to obtain the Pope's backing for this claim, which proved very important in getting the support William needed to launch his invasion.

William's knights



Harold's housecarls



Key vocabulary

Succession – The process that decides who should be the next king or queen and 'succeed' to the throne.

Claimant – Someone who declares that something belongs to them

Shield wall – A military tactic used by both Viking and Anglo-Saxon armies. Troops are set in a line, several men deep. The men at the front overlapped their shields, with spears sticking out, to create a strong defence formation

Knight - a man who served his king or lord as a mounted soldier in armour

Mercenary - a professional soldier hired to serve in a foreign army

Summary of how William maintained control and Normanised England

While the leaders of Anglo-Saxon England accepted William as their king, it would take many years before he could feel secure. He needed to reward his followers with land and money, which meant Anglo-Saxons losing power to the Normans. This would lead to rebellions which William was able to protect against using castles. But the Normans could impose other methods of control, namely social and economic ones; taking away the Anglo-Saxons use of land. By 1075 the kingdom was free of rebellions, however this was when his own followers mounted a rebellion against him and challenged his control of the kingdom.

The feudal system bought in by William had many similarities to how Anglo-Saxon society was organised. Historians have identified lots of continuity and change throughout Norman England. It was obviously governed by different people but its purpose was not only to maintain Norman control but boost the power and wealth of the king. The Domesday book was the crowning achievement of William's government of England: a record of who owned what and how much they owed the king in taxation. How did the Anglo-Saxons fare in this new Norman world and would William's death, ultimately bring Peace?

Key Vocabulary used to demonstrate the maintenance of power

Submission: Formal acceptance of and surrender of authority

Marcher earldom: Anglo-Saxon term for the new Earldoms set up on the border with Wales

Motte and Bailey: (Motte) The mound of earthy as castle stood on. (Bailey) The outer part of the castle, surrounding the motte and protected by a fence or wall.

Palisade: The fence around the Motte and Bailey

Keep: A strong wooden structure on top of the motte.

Harrying: An archaic (old) word meaning to lay waste to something, to devastate it.

Guerrilla war: When small bands attack a larger force by surprise and then disappear back into the local population. It is a modern term.

Genocide: A deliberate and organised attempt to exterminate an entire group of people.

Tenants-in-chief: The large landowners of Norman England who held their land directly from the king (known as Earls in Anglo-Saxon England)

Forfeiture: To lose something as punishment for committing a crime or bad action.

Tenure: 'To hold' in Latin – it is a short, but precise, way of talking about landholding and landownership

Vassal: Someone who held their land in return for services to their Norman lord.

Reconciliation: To find ways for former enemies to forgive each other.

Key Events to Maintain Control

William builds castles (motte and bailey) to help establish control by intimidating the local Anglo-Saxons.

William introduces the Marcher Earldoms to 1, appease his followers by giving them lands 2, protect from attacks from the Welsh.

The revolt of Edwin and Morcar: With William out of the country these Earls felt they could take advantage and plan a rebellion to protest at the tyranny of William's rule.

Edgar Aethling returns with the backing of Malcolm III of Scotland – rebels from Northumbria join him.

Robert Cumin a leading Norman Baron is murdered by the rebels, William will avenge this death in spectacular style

The Danish also arrive to launch an attack but William is able to pay them off. They do not step foot on English territory.

Hereward the Wake launches an attack on the Normans from the island of Ely.

William launches the Harrying of the North, destroying land within a 60 mile radius, killing people, animals and crops to demonstrate his power and the lengths he would go to put down these rebellions.

William makes huge changes to landownership in England. New Earldoms, forfeiture and land grabs.

Key dates in Maintaining Power

1066 – Submission of the Earls
1068 – The revolt of Edwin and Morcar
1069 – The rebellions in the North, Edgar Aethling.
1070 – 71 – The return of the Danes and the rebellion at Ely (Hereward the Wake)
1069-70 – The Harrying of the North led by William I
1071 – Major changes to Landholding under the Normans
1075 – Rebellion of Roger and Ralph (Norman rebels)

Major Anglo-Saxon earldoms forfeited to the king:
1066 – Godwinson's
1070 – Morcar / 1071 – Edwin
1076 - Waltheof

Key vocabulary OF Norman England

Feudal system: The system of land offered in return for rent and loyalty in Norman England

Hierarchy - a system in which members of an organization or society are ranked according to relative status or authority.

Fief: Land held by a vassal in return for service to a lord. Also called a 'feud' (i.e. feudalism)

Knight service: The duty to provide a mounted knight to the king in exchange for a grant of land. The vassal had to ensure he had the right armour, weapons and equipment to carry out their service.

Homage: To demonstrate allegiance to another person publically

Tenants-in-chief: The large landowners of Norman England who held their land directly from the king (known as Earls in Anglo-Saxon England)

Forfeiture: To lose something as punishment for committing a crime or bad action.

Vassal: Someone who held their land in return for services to their Norman lord.

Regents: Someone appointed to act for a king or queen when they are underage, unable to rule because of illness or out of the country

Demesne: The land that the king or a tenant keep for his own use rather than granting it as a fief to an under-tenant. It is pronounced 'de-mean'.

Forest laws: New laws introduced by William to protect animals and vegetation. Not always a forest but all 'green areas' belonging to the king.

Domesday book: A survey ordered by William to investigate the landholdings of each shire: who held what land, what taxes they owed the king, and whether they could pay anymore.

Aristocracy: The people in society who are seen as being important because of their wealth and power, which they have often inherited from their parents and ancestors.

A summary of key social changes

Group	Anglo-Saxon England	Norman England
Slaves	About 10% of the population. Owned nothing; treated as property.	Normans thought slavery was wrong and sometimes freed slaves.
Peasants	About 80% of the population. Most peasants owed labour service to their lord, but some were 'free men' who could, if they wanted, take their labour to another lord.	Feudalism reduced the number of free peasants and tied everyone closer to complete dependency on their lord. Demands for more revenue from lords put more pressure on peasants.
Warriors	The thegns in Anglo-Saxon England: around 5–6,000. They owned five hides of land or more, as did the local lords. They owed military service in return for land.	The thegns were destroyed as a class and replaced by the vassals of the tenants-in-chief: often knights owing knight-service, who were often also lords of small manors.
Aristocrats	The great earls were serious challengers to the king in wealth and power, with thousands of thegns loyal to them and huge revenues from their extensive landholdings. They were the king's military leaders and swore loyalty to him.	Normans replaced Anglo-Saxons as earls, earldoms were made smaller and earls became tenants-in-chief like barons, bishops and abbots. All paid homage to the king in return for land and forfeited their lands if they failed the king.

Key Individuals Norman England

William the Conqueror – The victor of the Battle of Hastings and William I of England.

Archbishop Stigand – The Anglo-Saxon Archbishop that retained his position until 1070

Archbishop Lanfranc – A loyal follower of William, a Norman replacement for Stigand

Odo of Bayeux – Williams half brother who acted as his regent when William was in Normandy

William FitzOsbern – William's best friend and loyal follower, also acting as regent in his absence. His son however, would rebel against William in 1075 after failing to inherit his fathers lands and power.

Robert Curthose – William's eldest don who was set to inherit Normandy after William's death. A tempestuous relationship with his father resulting in Robert rebelling against his father in 1087.

William Rufus – William's second son who was set to inherit England following his death. Successfully triumphed against Robert and Odo who attempted to take the kingdom from him.

Key dates in Norman England

1070 – Stigand was replaced by Lanfranc as the Archbishop of Canterbury.

1076 – William fought with his son Robert during a rebellion in Rouen, France.

1080 – William restored Robert as his chosen heir for Normandy

1082 – William imprisons his brother Odo

1086 – Domesday Book is published

1087 – Death of William I

1088 – Odo leads a rebellion against William II (Rufus) with his brother Robert Curthose

Geography
Tectonic hazards

Year: 11
Term: 2

BIG QUESTIONS

Intro: What are Natural Hazards?

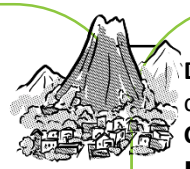
1. Where are all the earthquakes and volcanoes?
2. What happened in Chile in 2010?
3. What happened in Gorkha, Nepal in 2015?
4. Are we ever able to predict a natural disaster?
5. Why do people risk living next to a volcano?
6. Are we able to reduce the impacts of a natural hazard or disaster?

Homework earthquake case studies…

Two Earthquakes Compared - Nepal and L'Aquila - Internet Geography

Chile and Nepal AQA Geography GCSE: The Challenge of Natural Hazards - PMT (physicsandmathstutor.com)

Volcanoes



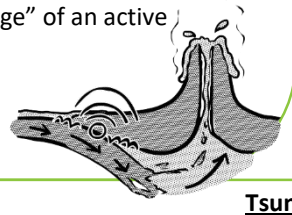
Definition: a mountain or hill that erupts.

Characteristics:

- They can be described as active, dormant or extinct.
- Volcanoes are usually found at plate boundaries or hot spots.
- There are 2 main categories: lava volcanoes and ash (pyroclastic) volcanoes.
- Types of volcano include shield volcanoes that are low hills with gentle sloping sides and composite volcanoes, which are higher mountains with steep sides.
- The top of the volcano is called a crater. If this collapses, a caldera can form.

Facts and figures: 350 million, or one in 20 people in the world live within "danger range" of an active volcano

Place: the world's largest active volcano is Mauna Loa in Hawaii standing at 4,169m.



Earthquakes

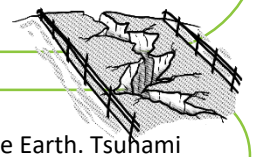
Definition: a sudden violent shaking of the ground, caused by movements within the earth's crust.

Characteristics:

- About 90% of the world's earthquakes happening around the "Ring of Fire".
- Earthquakes occur at destructive, collision and conservative plate boundaries.
- Seismographs are used to monitor the movements on the Earth's surface.
- Some earthquakes trigger tsunamis.
- Retrofitting is used to add strength to existing structures, such as buildings and bridges, to reduce the impact of earthquakes.

Facts and figures: the largest recorded earthquake in the world was a magnitude 9.5 in Chile on May 22, 1960.

Place: areas regularly affected by earthquakes include: California in the USA, Japan and New Zealand.



Tsunamis

Definition: a long, high sea wave caused by an earthquake or other movements in the surface of the Earth. Tsunami means "great harbour wave" in Japanese.

Characteristics:

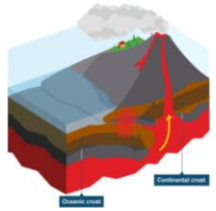
- Tsunamis are most common in the Pacific Ocean.
- They can be caused by volcanoes but most commonly earthquakes.
- Tsunami waves can rise 35m or higher.
- The Pacific Tsunami Warning System, based in Hawaii in the USA, detects tsunamis and sends out warnings.

Facts and figures and place: 'The Boxing Day' earthquake in the Indian Ocean off Indonesia in December 2004 caused a tsunami that killed over 200,000 people in 14 countries.
In March 2011, the Tohoku earthquake in Japan caused a tsunami that killed over 150,00 people.

Types of Plate Margins

Destructive Plate Margin

When the denser plate subducts beneath the other, friction causes it to **melt and become molten magma**. The magma forces its ways up to the surface to form a volcano. This margin is also responsible for **devastating earthquakes**.



Constructive Plate Margin

Here two plates are **moving apart** causing new magma to reach the surface through the gap. Volcanoes formed along this crack cause a submarine mountain range such as those in the **Mid Atlantic Ridge**.

Conservative Plate Margin

A conservative plate boundary occurs where plates **slide past each other** in opposite directions, or in the same direction but at different speeds. This is responsible for earthquakes such as the ones happening along the San Andreas Fault, USA.

Earthquake Management

PREDICTING

Methods include:

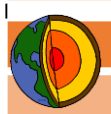
- Satellite surveying (tracks changes in the earth's surface)
- Laser reflector (surveys movement across fault lines)
- Radon gas sensor (radon gas is released when plates move so this finds that)
- Seismometer
- Water table level (water levels fluctuate before an earthquake).
- Scientists also use seismic records to predict when the next event will occur.

PROTECTION

You can't stop earthquakes, so earthquake-prone regions follow these three methods to reduce potential damage:

- Building earthquake-resistant buildings
- Raising public awareness
- Improving earthquake prediction

The structure of the Earth



The Crust	Varies in thickness (5-10km) beneath the ocean. Made up of several large plates.
The Mantle	Widest layer (2900km thick). The heat and pressure means the rock is in a liquid state that is in a state of convection.
The Inner and outer Core	Hottest section (5000 degrees). Mostly made of iron and nickel and is 4x denser than the crust. Inner section is solid whereas outer layer is liquid.

Convection Currents

The crust is divided into tectonic plates which are moving due to convection currents in the mantle.

1	Radioactive decay of some of the elements in the core and mantle generate a lot of heat.
2	When lower parts of the mantle molten rock (Magma) heat up they become **less dense** and **slowly rise**.
3	As they move towards the top they cool down, become **more dense** and **slowly sink**.
4	These **circular movements** of semi-molten rock are **convection currents**

Key vocabulary

Convection Currents – the circular movement in the mantle caused by the heat from the core.
Conservative plate margin – tectonic plates slide past each other.
Constructive plate margin – tectonic plates moving apart.
Destructive plate margin – tectonic plates moving towards, with one subducting under another.
Epicentre – the point directly above the focus on the surface.
Focus – the point between two tectonic plates, where pressure is released as a jolt.
Immediate responses – how people act straight away following a natural event.
Long-term responses – how people act weeks, months or years after the natural event.
Primary effects – impacts that occur immediately.
Secondary effects – impacts that occur as a result of the natural event.
Seismic Waves – an elastic wave in the earth, travelling out from the focus, caused by an earthquake.
Subduction – where the dense oceanic plate sinks beneath a continental plate.

Art
Topic: Personal Histories (Mock Exam)

Year : 11
Term: 2

BIG QUESTIONS

How can the study of other artists help you find your own direction in the development of ideas?

Describe the process of development in artists' work.

Compare similarities and differences in artists' work.

Explain why primary sources are the richest form of research.

How can Secondary sources enrich the development of ideas?

List different ways of recording your observations of the subject matter.

Why should you plan a wide range of ideas before selecting a final one?

How can the refining process help you to fully realise intentions?

Overarching Big Question

(Past Exam Question) Many artists use personal histories as the inspiration for their work. Paula Rego frequently creates paintings that refer to episodes in her childhood. Frida Kahlo's paintings often related to her life experiences. The images and memories of his early years in Belarus were a major inspiration for the work of Marc Chagall. The vivid colours found in India influenced the early sculptures of Anish Kapoor. Students will be asked to consider appropriate sources and produce their own response ***to Personal histories.***

Key Skills

RECORD	DEVELOP
I will independently record... • images and information appropriate to the theme • using wet, dry and digital media • examples of artists work appropriate to the theme • information about artists, showing appreciation of how they use media and techniques to create meaningful work.	**I will independently develop...** • my observation skills using a range of media, techniques and processes. • artwork and ideas from primary sources • my knowledge and understanding of artist styles and techniques • my drawing and planning skills • ideas in response to a given theme, linking to artists work • my higher order thinking skills
REFINE I will independently... • experiment making the most of media and techniques relevant to my intentions • select ideas to adapt and improve e.g. adjustments to size, colour and composition. • develop a piece of work from one media into another	EVALUATE I will independently... • analyse and reflect on the development of my own work, through annotation making connections to artists and suggesting ways I could I improve. • evaluate artists using analytical writing skills and forming opinions.
PRESENT OUTCOMES I will independently... prepare a plan for a final piece to be completed during the 5-hour Mock Exam.	

Homework Links

Tasks linked to the theme 'Personal Histories' (2 hours per cycle)

Key Vocabulary

Theme...
Identity/Personality/ Heritage/Culture/Society/ Family/Relationships/ Belongings/Hobbies/ Memories/Events etc.

Technical...
Tone/Texture/Shape/ Colour/Form/Scale/ Media/Technique/ Composition/Research/ Primary source/ Secondary Source

I will be expected to recall keywords learned in previous projects and use them in the appropriate context.

EVALUATING ARTISTS' WORK

1. Describe the piece of art you are looking at
2. What is the name of the artist or type of art?
3. What art movement or culture does the art link to?
4. Research and list 5 or more things about the artist or culture?
5. What important things have happened in the country that the art comes from?
6. What has influenced the art E.g. other artists, people, personal experiences, society, culture, politics, gender, colour, pattern, movement, religion, travel, places, objects etc.
7. Describe the materials used to make the art
8. How has the art been produced?
9. What is being communicated through the art?
10. Which of these words best describes the mood of the picture? EMOTIONAL/POWERFUL/BUSY/SLOW/PEACEFUL/WARM/COLD/HAPPY/SAD/CALM/INTENSE/SCARY can you think of any other words?
11. What do you like or dislike about the picture? Explain your reasons…

ANNOTATING YOUR OWN WORK

- In this artwork I was trying to…
- The artist/culture that has influenced my work is…
- The source I have used is…
- I found the source I used at…
- In this artwork I used the technique of...
- The media I have used is...
- I like/dislike this piece because...
- My idea links to the theme because…
- I can improve this piece by…
- I could develop this work further by...

Annotate means to explain your own creations
Artist evaluation is when you write about the artist
Project evaluation is written about the whole project at the end

END OF PROJECT EVALUATION

1. Describe each stage of the project from start to finish
2. What media did you use to produce your work? E.g. Paint/Pencil/Clay etc.
3. Describe how you used different techniques in your project? E.g. painting/drawing/modelling with clay etc.
4. Which artist's culture have you looked at?
5. Write down 2 or more similarities between your work and the artist's work.
6. Which piece of your work best shows the Artist's style or the influence of another culture and why?
7. Describe some of your own ideas…
8. Have you used a primary or a secondary source?
9. Have you included the secondary source in your work? Where did you find it?
10. Imagine your final piece was displayed in a public place.... Describe the effect looking at your work might have on people and society. E.g. relax them, make them feel sad, curious, happy, angry, thoughtful, surprised, confused, nostalgic etc. explain why e.g. because of your use of colour, images, content, arrangement? etc.
11. Explain any other influences on your work e.g. personalities *(including your own)*, places, memories, objects, politics, events, activities, religion, fact, fiction etc.
12. Describe how your work links to the project theme?
13. Explain what you have done well…
14. Explain how you could improve…
15. What would you do differently, if you were to repeat any part of this project?

Subject:	Cambridge National Level 1 / 2 Sport Science	Years: 9, 10, 11
Unit:	R180: Reducing the risk of sports injuries and dealing with common medical conditions	Terms: 1-6

Big Questions

1) How do different extrinsic factors influence the risk and severity of injury?
2) How do different intrinsic factors influence the risk and severity of injury?
3) What are the key components of a warm up?
4) What are the physiological and psychological benefits of a warm up?
5) What are the key components and physiological benefits of a cool down?
6) What are the types and causes of acute injuries?
7) What are the types and causes of chronic injuries?
8) How can you reduce the risk and severity of an injury or medical condition?
9) What are common responses and treatments to medical conditions?
10) What are the common causes, symptoms and treatments of medical conditions?

Topic Area 1: Different factors which influence the risk and severity of injury

Key Terms:

- ✓ **Extrinsic factors** – where the factor or risk of injury comes from outside the body
- ✓ **Intrinsic factors** – where the factor or risk of injury comes from within the body
- ✓ **Contact sports** – sports where physical contact between performers is an accepted part of play
- ✓ **Non-contact sports** – sports where participants compete alternately, or are physically separated, or the rules detail no contact.
- ✓ **Hypothermia** – a dangerous drop in body temperature below 35°C.
- ✓ **Veterans** – performers above a certain age that is specific to the sport.
- ✓ **Psychological factors** – mental factors that affect a performer.
- ✓ **Motivation** – the drive to do something.
- ✓ **Arousal** – level of activation or excitement.
- ✓ **Anxiety** – negative emotional state due to nervousness.
- ✓ **Stress** – the feelings we get when we find it difficult to cope with the demands placed on us.
- ✓ **Confidence** – belief in your own ability to master a situation.
- ✓ **Aggression** – Intention to cause harm.
- ✓ **Mental rehearsal** – going over a skill in the mind before performance.

Topic Area 2: Warm up and cool down routines

Key Terms:

- ✓ **Warm up** - exercises to prepare the body for exercise so that the chances of injury or ill effects are reduced.
- ✓ **Dynamic stretches** – active stretching exercises.
- ✓ **Adrenaline** - hormone that prepares the body for exercise.
- ✓ Lactic Acid - waste product of anaerobic exercise; it causes fatigue.
- ✓ **Anaerobic** – without oxygen; oxygen is not used to produce energy during high-intensity, short-duration anaerobic exercise.
- ✓ **Cool down** - easy exercise done after a more intense activity to allow the body to gradually move to a resting condition.
- ✓ **Maintenance stretches** - stretches designed to just maintain flexibility.
- ✓ **Static stretches** – stretches where the stretched position is held for many seconds in an attempt to improve flexibility.
- ✓ **Proprioceptive neuromuscular facilitation (PNF)** - advanced form of flexibility training, involving both the stretching and contracting of the muscles being targeted.
- ✓ **Delayed onset muscle soreness** – muscle pain that starts a day or two after an exercise workout.

Topic Area 3: Different types and causes of sports injuries

Key Terms:

- ✓ **Acute injuries** – injuries caused by impacts or collisions.
- ✓ **Chronic injuries** - injuries caused by continuous stress.
- ✓ **Soft tissue injuries** - injuries to muscles, tendons or ligaments.
- ✓ **Hard tissue injuries** – injuries to part of the skeletal system, such as fractures or dislocations.
- ✓ **Strains** - injuries to muscles.
- ✓ **Sprains** - injuries to ligaments.
- ✓ **Ligaments** - tissue that connects bone to bone and strengthens joints.
- ✓ **Abrasion** - surface damage to the skin; grazes.
- ✓ **Cut** - skin wound where the tissues of the skin become separated.
- ✓ **Laceration** - a torn or jagged wound caused by a sharp object.
- ✓ **Contusion** - bruise caused by blood leaking into the surrounding area.
- ✓ **Blister** - bubble on the skin caused by friction.
- ✓ **Fracture** - partial or complete break in a bone.
- ✓ **Dislocation** - when a bone is dislodged from its position in a joint.
- ✓ **Concussion** - head injury in which the brain is shaken inside the skull.
- ✓ **Tendonitis** - inflammation of the tendons.
- ✓ **Epicondylitis** - inflammation of an epicondyle of a bone.
- ✓ **Stress fracture** – tiny cracks in a bone caused by repetitive force, often from overuse.

Subject:	Cambridge National Level 1 / 2 Sport Science	Years: 9, 10, 11
Unit:	R180: Reducing the risk of sports injuries and dealing with common medical conditions	Terms: 1-6

Big Questions

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10) What are the common causes, symptoms and treatments of medical conditions?

Topic Area 4: Reducing risk, treatment and rehabilitation of sports injuries and medical conditions

Key Terms:

- ✓ **Hazard** - something that can cause harm.
- ✓ **Risk** - the likelihood of danger.
- ✓ **Risk assessment** – careful examination of what, in relation to a sports activity, could cause harm to people.
- ✓ **Electrocardiogram (ECG)** - technology used to detect the rhythm and electrical activity within the heart.
- ✓ **Emergency action plan (EAP)** - written document identifying what action to take in the event of an emergency at a sporting event.
- ✓ **SALTAPS** - acronym for see, ask, look, touch, active, passive, strength.
- ✓ **DRABC** - acronym for danger, response, airway, breathing and circulation.
- ✓ **Recovery position** – position for an unconscious person that keeps their airway clear and open.
- ✓ **PRICE** - acronym for protection, rest, ice, compression, elevation.
- ✓ **Ultrasound** - use of high frequency sound waves to diagnose and treat injuries.
- ✓ **Electrotherapy** - use of electrical energy to treat injuries.
- ✓ **Hydrotherapy** - use of water to improve blood circulation, relieve pain and relax muscles.
- ✓ **Cryotherapy** - use of cold temperatures to treat injuries.
- ✓ **Contrast therapy** – use of quickly changing temperatures from hot to cold and back again to treat injuries.
- ✓ **Analgesics** – medication used to relieve pain.
- ✓ **Cast** - hard fibreglass or plaster casing designed to prevent broken bones from moving.
- ✓ **Splint** - plastic or fibreglass support for a limb injury.
- ✓ **Sling** - support, usually of folded cloth, designed to immobilise and rest the arm.

Topic Area 5: Causes, symptoms and treatment of medical conditions

Key Terms:

- ✓ **Asthma** - a condition in which the airways narrow and swell, which can make breathing difficult.
- ✓ **Inhaler** - device that allows medicine to be breathed in.
- ✓ **Nebuliser** - machine that allows medicine to be breathed in.
- ✓ **Glucose** - simple sugar found in blood used as an energy source.
- ✓ **Insulin** - a hormone that lowers blood glucose levels.
- ✓ **Diabetes** - condition in which blood sugar levels are not regulated by the body effectively.
- ✓ **Ketones** – chemicals produced by the liver during fat breakdown.
- ✓ **Diabetic ketoacidosis (DKA)** - a condition caused by excess ketones in the blood.
- ✓ **Insulin-dependent** - another name for Type 1 diabetes.
- ✓ **Insulin-resistant** – another name for Type 2 diabetes.
- ✓ **Hypoglycaemia** - low blood sugar level.
- ✓ **Hyperglycaemia** – high blood sugar level.
- ✓ **Epilepsy** – abnormal brain activity that causes recurring seizures.
- ✓ Seizures - bursts of electrical activity that temporarily affect how the brain works.
- ✓ **Triggers** - things that make epileptic seizures more likely.
- ✓ **Fatigue** - a feeling of overwhelming tiredness.
- ✓ **Anti-epileptic drugs (AEDs)** - medicine taken to help control seizures.
- ✓ **Ketogenic diet** - a diet high in fats and low in carbohydrates and proteins.
- ✓ **Sudden cardiac arrest (SCA)** - a condition in which the heart suddenly and unexpectedly stops beating.
- ✓ **Commotio cordis** – a sudden trauma, such as a blow to the chest directly over the heart at certain points in the heartbeat cycle, that can cause sudden cardiac arrest.
- ✓ **Electrolytes** – minerals found in blood, urine and sweat that carry an electric charge when dissolved in water.

Subject:	Cambridge National Level 1 / 2 Sport Science	Years: 9, 10, 11
Unit:	R181: Applying the principles of training: fitness and how it affects skill performance	Terms: 1-6

Big Questions

1) How are components of fitness relevant to different sports?
2) Can you justify why different components of fitness are relevant for different sports?
3) What fitness tests are used for each component of fitness?
4) Can you apply the components of fitness to a skilled performance?
5) What are the principles of training?
6) What are SMART goals?
7) What are methods of training and their advantages/ disadvantages?
8) What factors should you consider when designing a fitness training programme?
9) How do you apply the principles of training to a fitness training programme?
10) How do you plan a fitness training programme?
11) How do you record your results from a fitness training programme?
12) What are the strengths and areas for improvement for your fitness training programme?

Topic Area 1: Components of fitness applied in sport

Key Terms:

- ✓ **Cardiovascular endurance** - the ability of the heart and lungs to get oxygen to the working muscles for use by the body.
- ✓ **Muscular endurance** - the ability of a muscle to sustain repeated contractions.
- ✓ **Aerobic** - with oxygen; oxygen is used to produce energy during low intensity, long-duration aerobic exercise.
- ✓ **Speed** - the maximum rate at which an individual is able to perform a movement.
- ✓ **Strength** - the extent to which a muscle or muscle group can contract against resistance.
- ✓ **Power** - the exertion of rapid muscular strength; it can be remembered as strength × speed.
- ✓ **Agility** - the ability to move and change direction quickly while maintaining control.
- ✓ **Balance** - the ability to maintain a position; this involves maintaining the centre of mass over the base of support.
- ✓ **Flexibility** - the range of movement possible at a joint.
- ✓ **Co-ordination** - the ability to use two or more body parts together (simultaneously) smoothly and efficiently.
- ✓ **Reaction time** - the time taken from the onset of a stimulus to the start of the reactive movement.
- ✓ **Maximum oxygen uptake (VO2 Max)** – maximum volume of oxygen that can be consumed per minute / unit of time.
- ✓ **Protocol** - the accepted or established procedure for conducting a test.
- ✓ **Validity** - refers to how well a fitness test measures the component of fitness that it aims to test.
- ✓ **Reliability** - a fitness test is reliable if it can be repeated and gives similar results each time.
- ✓ **Maximal tests** – fitness tests that require maximal effort in order to produce a valid, comparable result.
- ✓ **Sub-maximal tests** - fitness tests that do not require maximal exertion.
- ✓ **PAR-Q** - physical activity readiness questionnaire.

Topic Area 2: Principles of training in sport

Key Terms:

- ✓ **SPOR** - principles of training: specificity, progression, overload and reversibility.
- ✓ **Specificity** - making training specific to the movements, skills and muscles that are used in the activity.
- ✓ **Progression** – gradually making training harder as it becomes too easy.
- ✓ **Overload** - working harder than normal.
- ✓ **Reversibility** – 'use it or lose it'. If you stop training, you will lose fitness.
- ✓ **FITT** - principles of overload: frequency, intensity, time and type.
- ✓ **SMART** - principles of goal setting: specific, measurable, achievable, realistic and time bound.
- ✓ **Continuous training** - any activity or exercise that can be continuously repeated without suffering undue fatigue.
- ✓ **Aerobic training zone** – the optimal zone of training to make aerobic gains in the body to improve cardiovascular endurance and stamina.
- ✓ **Fartlek training** - 'speed play', which generally involves running, combining continuous and interval training with varying speed and intensity.
- ✓ **Interval training** – any training that involves periods of work and rest.
- ✓ **Circuit training** - a series of exercises performed at work stations with periods of work and rest.
- ✓ **Plyometric training** - repeated exercises such as bounding, hopping or jumping over hurdles, which are designed to create fast, powerful movements.
- ✓ **Eccentric contraction** - when a muscle contracts and lengthens.
- ✓ **Concentric contraction** - when a muscle contracts and shortens in length.
- ✓ **Resistance training** - training that involves working against some kind of force that 'resists' the movement.
- ✓ **Hypertrophy** - an increase in muscle size as a result of training.
- ✓ **High-intensity interval training (HIIT)** – training that involves periods of very high-intensity work and rest.

Subject:	Cambridge National Level 1 / 2 Sport Science	Years: 9, 10, 11
Unit:	R181: Applying the principles of training: fitness and how it affects skill performance	Terms: 1-6

Big Questions

1) How are components of fitness relevant to different sports?
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12) What are the strengths and areas for improvement for your fitness training programme?

Topic Area 3: Organising and planning a fitness training programme

Key Terms:

- ✓ **One rep max** – the maximum weight that can be lifted once (one repetition).
- ✓ **Adaptability** - flexibility to adapt a programme if, for any reason, the session being performed cannot be followed precisely.
- ✓ **Objective measures** – facts that provide figures/ numbers, which can allow a performer to monitor improvement.

Figure 2.36 One rep max refers to the maximum weight that can be lifted once

Target area	Suitable activity
Cardiovascular endurance/ stamina	**Specific exercises:** any aerobic activity, for example cycling, swimming, jogging, walking, rowing **Overload intensity:** 60–80 per cent of maximum heart rate (220 – age) **Time:** 20 minutes or more of activity, three to four times per week
Muscular strength	**Specific exercises:** use of high resistance, for example weights, resistance machines, body weight **Overload intensity:** 70 per cent or more of one rep max (maximum lift); three sets of six to eight repetitions **Time:** 30 minutes or more
Muscular endurance	**Specific exercises:** use of low resistance, for example weights, resistance machines, body weight **Overload intensity:** less than 70 per cent of one rep max (maximum lift); three to four sets of 10–15 repetitions **Time:** 30 minutes or more
Agility	**Specific exercises:** shuttles or circuits that involve speed work while changing direction, for example sprinting round cones, ladder running **Overload intensity:** work : rest ratio of 1 : 3 (30 seconds work with 90 seconds rest between different exercises) **Time:** 30 minute sessions, two or three times per week
Speed	**Specific exercises:** use speed ladders, sprints, interval sprints **Overload intensity:** work : rest ratio of 1 : 3 (30 seconds work with 90 seconds rest between different exercises) **Time:** 30 minutes or more
Power	**Specific exercises:** interval training – high-intensity, short sharp activities; acceleration sprint training; plyometric training, for example box jumping and hurdle jumps **Overload intensity:** for example, box jumps with three to six sets of 8–15 repetitions, depending upon the stress of the exercise being done; sprints with a work : rest ratio of 1 : 3 (30 seconds work with 90 seconds rest between sprints) **Time:** 30 minutes or more
Balance, flexibility, co-ordination or reaction time	**Specific exercises:** use of predesigned circuit to include flexibility stretches, co-ordination drills or balancing exercises **Overload intensity:** two to three sets of 12 reps with 30-second recovery intervals **Time:** 30 minutes or more

Topic Area 4: Evaluate own performance in planning and delivery of a fitness training programme

Figure 2.38 Stretching forms a vital part of warm up and cool down routines

Subject:	Cambridge National Level 1 / 2 Sport Science	Years: 9, 10, 11
Unit:	R182: The body's response to physical activity and how technology informs this	Terms: 1-6

Big Questions

1) What is the function and role of the cardio-respiratory system?
2) How is technology used to inform us about the cardio-respiratory system?
3) What are the components and role of the musculo-skeletal system?
4) How is technology used to inform us about the musculo-skeletal system?
5) What are the short-term effects of exercise on the cardio-respiratory system?
6) What are the short-term effects of exercise on the musculo-skeletal system?
7) What are the long-term effects of exercise on the cardio-respiratory system?
8) What are the long-term effects of exercise on the musculo-skeletal system?

Topic Area 1: The cardio-respiratory system and how the use of technology supports different types of sports and their intensities

Key Terms:

- ✓ **Atria** - upper chambers of the heart that collect blood from veins.
- ✓ **Ventricles** – lower chambers of the heart that pump blood out through arteries.
- ✓ **Valves** - prevent the backflow of blood.
- ✓ **Deoxygenated** – venous blood (in veins) that does not carry oxygen.
- ✓ **Oxygenated** - arterial blood (in arteries) that carries oxygen.
- ✓ **Arteries** - blood vessels that mainly carry oxygenated blood away from the heart.
- ✓ **Capillaries** - tiny, thin walled blood vessels that join arteries (which carry blood away from the heart) and veins (which carry blood back to the heart).
- ✓ **Alveoli** - tiny air sacs in the lungs.
- ✓ **Veins** - blood vessels that mainly carry deoxygenated blood back to the heart.
- ✓ **Trachea** - tube connecting the mouth and nose to the lungs.
- ✓ **Lungs** - large spongy organs in chest; used for gas exchange.
- ✓ **Bronchi** - airways that lead from the trachea into the lungs.
- ✓ **Bronchioles** - air passages inside the lungs that connect the bronchi to the alveoli.
- ✓ **Diaphragm** - dome-shaped muscle causing inhalation and exhalation.
- ✓ **Radial pulse** - heart rate that can be felt at the wrist.
- ✓ **Carotid pulse** - heart rate that can be felt at the neck.
- ✓ **Vasoconstriction** – reduction in the diameter of a blood vessel to reduce blood flow through that vessel.
- ✓ **Vasodilation** - widening in the diameter of a blood vessel to increase blood flow through that vessel.
- ✓ **Cardiac output** – the volume of blood that the heart is able to pump out in one minute.
- ✓ **Stroke volume** – the volume of blood that leaves the heart during each contraction.

Topic Area 2: The musculo-skeletal system and how the use of technology supports different types of sports and their movements

Key Terms:

- ✓ **Clavicle** - the collarbone.
- ✓ **Scapula** - the shoulder blade.
- ✓ **Humerus** - bone in the upper arm.
- ✓ **Radius** - bone of the forearm; attaches to the thumb side of the wrist.
- ✓ **Ulna** - bone of the forearm; forms the point of the elbow.
- ✓ **Cranium** - skull bone, which surrounds the brain.
- ✓ **Ribs** - bones surrounding the heart and lungs, forming the chest cavity.
- ✓ **Sternum** - flat bone at the front of the chest, sometimes called the breastbone.
- ✓ **Vertebrae** - many single bones joined together to form the backbone.
- ✓ **Femur** - long bone of the thigh or upper leg, which extends from the hip to the knee.
- ✓ **Tibia** - the shin bone; forms knee joint with the femur.
- ✓ **Fibula** - bone in the lower leg that forms the ankle.
- ✓ **Patella** - the kneecap; covers the knee joint.
- ✓ **Deltoids** - muscles on shoulder joint that move the upper arm.
- ✓ **Trapezius** - muscle at the top of the back that moves the scapula and head.
- ✓ **Latissimus dorsi** – muscle at the side of back that moves the upper arm.
- ✓ **Pectorals** - muscles in the chest that move the upper arm.
- ✓ **Biceps** - muscles at the front of the upper arm.
- ✓ **Triceps** - muscles at the back of the upper arm.
- ✓ **Abdominals** – stomach muscles that protect internal organs.
- ✓ **Gluteals** - buttock muscles, which are used when running.
- ✓ **Hamstrings** - muscles at the back of the upper leg.
- ✓ **Quadriceps** - muscles at the front of the upper leg.
- ✓ **Gastrocnemius** - one of the calf muscles; used in walking.
- ✓ **Soleus** - one of the calf muscles; used in walking.

Subject:	Cambridge National Level 1 / 2 Sport Science	Years: 9, 10, 11
Unit:	R182: The body's response to physical activity and how technology informs this	Terms: 1-6

Big Questions

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8) What are the long-term effects of exercise on the musculo-skeletal system?

Key Terms (continued Topic 1):

- ✓ **Systolic blood pressure** - blood pressure when the heart is contracting.
- ✓ **Diastolic blood pressure** - blood pressure when the heart is relaxed.
- ✓ **Inhalation** - breathing in.
- ✓ **Exhalation** - breathing out.
- ✓ **Intercostal muscles** - muscles located between the ribs.
- ✓ **Diffusion** - the movement of a gas from an area of high concentration to an area of low concentration.
- ✓ **Wearable technology** - technology worn on the body during exercise to provide data.
- ✓ **Laboratory-based technology** - the use of technology inside a laboratory to provide data.
- ✓ **Field-based technology** - technology that can be used to provide data outside of a laboratory in the setting where sports take place, for example a football pitch.
- ✓ **Spirometer** - machine that produces a spirometry trace of breathing volumes.
- ✓ **Vital capacity** – amount of air expelled from your lungs when you take a deep breath and then exhale fully.
- ✓ **Pulse oximeter** – device used to measure how efficiently oxygen is being carried to the extremities by the heart (blood oxygen level).

Figure 3.10 Smartwatch

Topic Area 3: Short-term effects of exercise on the cardio-respiratory and musculo-skeletal systems

Key Terms:

- ✓ **Anticipatory rise** – slight increase in heart rate before exercise.
- ✓ **ROM** - range of movement.

Key Terms (continued Topic 2):

- ✓ **Synovial joint** - a freely moveable joint.
- ✓ **Ball and socket joint** - ball shaped end of bone fits into the socket of another, for example the hip.
- ✓ **Hinge joint** - end of bone fits against another bone allowing movement in only one direction, for example the knee.
- ✓ **Gliding joint** - one bone can slide over another, for example the carpals in the wrist.
- ✓ **Pivot joint** - rounded end of one bone fits into a ring formed by the other bone, for example the vertebrae of the neck, which allow head rotation.

Topic Area 4: Long-term effects of exercise on the cardio-respiratory and musculo-skeletal systems

Key Terms:

- ✓ **Fast twitch fibres** – muscle fibres that contract quickly and/or with high force; used during high-intensity work.
- ✓ **Slow twitch fibres** – muscle fibres that contract with a low force but do not fatigue quickly.
- ✓ **Bradycardia** – decrease in the resting heart rate because of training.
- ✓ **Goniometer** - device used to measure flexibility (range of movement at a joint).
- ✓ **Lung capacity** - the amount of air the lungs can hold.
- ✓ **Tidal volume** - the amount of air breathed in and out at rest.
- ✓ **Bone density** - the amount of bone mineral in bone tissue.
- ✓ **Capillarisation** – an increase in the number of capillaries as a result of endurance training.
- ✓ **Heart disease** - when the heart's blood supply is blocked or interrupted by a build-up of fatty substances in the coronary arteries that supply the heart with blood.
- ✓ **Heart attack** – medical emergency in which the supply of blood to the heart is suddenly blocked.

Subject: Religion Year Group: 11
Topic: Human rights Term: 2

Big Questions

What is social justice?

Do we have a moral responsibility to look after others?

How are the poor being exploited?

What is social justice?

This means in terms of wealth distribution, the law, equal rights and opportunities for all people. For social justice to exist, society must be fair to all regardless of race, age, gender, sexuality and disability. It also means that society has to be organised so that is open for all in terms of education, health care, housing and social welfare.

Social justice is difficult to achieve. Some argue that the poor need preferential treatment and a society is judge on how it treats its most vulnerable. Other believe that too much help can make people reliant on others.

What is the minimum wage?

The minimum wage is a law that protects those who are paid the least. This means that you cannot be paid less than the minimum wage. Low paid workers often do jobs of great necessity for everyday living, yet the wages they are paid don't reflect this. Remember fair doesn't mean equal as this would be impossible to achieve.

Wage band	Current rate (from 1 April 2023)
Age 23 or over (National Living Wage)	£10.42
Age 21 to 22	£10.18
Age 18 to 20	£7.49
Under 18	£5.28
Apprentice	£5.28

What are loans?

If you do not have the money for something you can borrow money. You will have to pay it back with interest. The higher the interest the more you must pay back.

The main ways people borrow money are:

Mortgage
Bank loans
Catalogues - Littlewoods etc
Credit cards
Car loans

Religious views on Human rights

Buddhism and Karuna

Compassion is a feeling of concern for others who are suffering and therefore makes a person want to do something to help. In Buddhism, compassion is called karuna. The Buddha taught that showing compassion to others is something all people can do, even if they find other parts of his teaching difficult to follow. Buddhists believe that they should show compassion to everyone. They should also try to think about how they would feel if it was them suffering, as this will help them to want to free others from that suffering. Compassion is one of the Four Sublime States, which the Buddha taught that people should work on and develop within themselves. People should do this so that they know (through wisdom) how to help others.

Loving kindness (metta)

Another one of the Four Sublime States is metta, or loving kindness. It is important as Buddhists want to develop this quality in order to help others to be free from suffering. Metta is a more positive way of looking at life than karuna, as metta is about trying to show love to others before they need help. A good example of this would be giving something to a friend to make them happy (metta) rather than helping someone if they fell over (karuna). Although both are important, metta is more positive as it involves acting before being prompted to do so by a bad situation. Metta leads people to be kinder, more considerate and more helpful.

Christian View

Christians believe that we are created in God's image and therefore we have a duty to protect and care for one another. This is called stewardship.

- "Love thy neighbour" (Jesus)
- "Love your enemies" (Jesus)
- "Treat others as you want to be Treated" (Jesus)

Key words:

Loans - a thing that is borrowed, especially a sum of money that is expected to be paid back with interest.

Payday loan - Payday loans are short-term loans for small amounts of money. They are available from high street shops and internet sites.

Minimum wage - the lowest wage permitted by law or by a special agreement.

Gender discrimination - Gender discrimination is when someone is treated unequally or disadvantageously based on their gender

Drama | Year: KS4 | Topic: HTS Unit 3 | Term: 2

Big Questions

Where was HTS originally performed?

What is Verbatim Theatre?

What style of performance is HTS Original performance?

What is anorexia?

What are the 4 main types of stage?

What are some appropriate rehearsal techniques for HTS

How should I plan my time in the exam?

GCSE DRAMA COMPONENT 3 KNOWLEDGE ORGANISER Hard to Swallow was originally performed by the Oaklands Youth Theatre at the Edinburgh Festival August

1988.

Mark Wheeller's play uses the words from Catherine's diaries and also of those most closely involved and affected. This is known as Verbatim Theatre.
The play has 31 characters in all: 6 female, 3 male and 22 characters of either sex.
The main characters are:
Catherine Dunbar
John Dunbar (Catherine's father), **Maureen Dunbar** (Catherine's mother) **Simon Dunbar** (Catherine's older brother) **Anna Dunbar** (Catherine's younger sister).

Hard To Swallow by Mark Wheeller

Written in 1989
Main Themes- High expectations, family, anorexia, Death, loss
Unit 3 Interpreting Theatre:
Worth 40% of overall grade

Structure & Style: It is based on the true story of a girl called Catherine Dunbar who suffered from Anorexia. The play was adapted from the book 'Catherine' by Maureen Dunbar. It is a mix of Abstract stylised scenes and naturalistic scenes and the stage directions will clearly state the intended style for each scene. There are stylised and physical theatre scenes. The play is teaching the audience about anorexia.

What is Anorexia Nervosa?

Anorexia nervosa – often simply called anorexia – is a serious medical and mental health condition that can be life-threatening without treatment.
Some of the more common anorexia symptoms include:

- **An obsessive fear of weight gain**
- **Refusal to maintain a healthy body weight**
- **Distorted body image**
- **Restricting caloric intake**
- **Purging calories consumed**

Anorexia nervosa is the most deadly mental illness, with a higher mortality (death) rate than any other mental illness. Due to this complexity, this condition requires comprehensive anorexia treatment from an experienced, multidisciplinary approach to include medical and psychiatric stabilization, nutritional intervention and psychological support.

Anorexia and co-occuring issues

Anorexia often occurs alongside other mental illnesses, including:

- **Depression**
- **Anxiety disorders**
- **Mood disorders**
- **Personality disorders**
- **Obsessive compulsive disorders**
- **Substance abuse**

Rehearsal techniques:

Hot seating – answering questions in character Improvisation – making up a new scene, but playing your character in the play.

Conscience alley – The cast makes two lines and one actor walks down the middle, listening to advice.

Character-based drama game – e.g. park bench Thought tracking – saying what your character would be thinking at any moment.

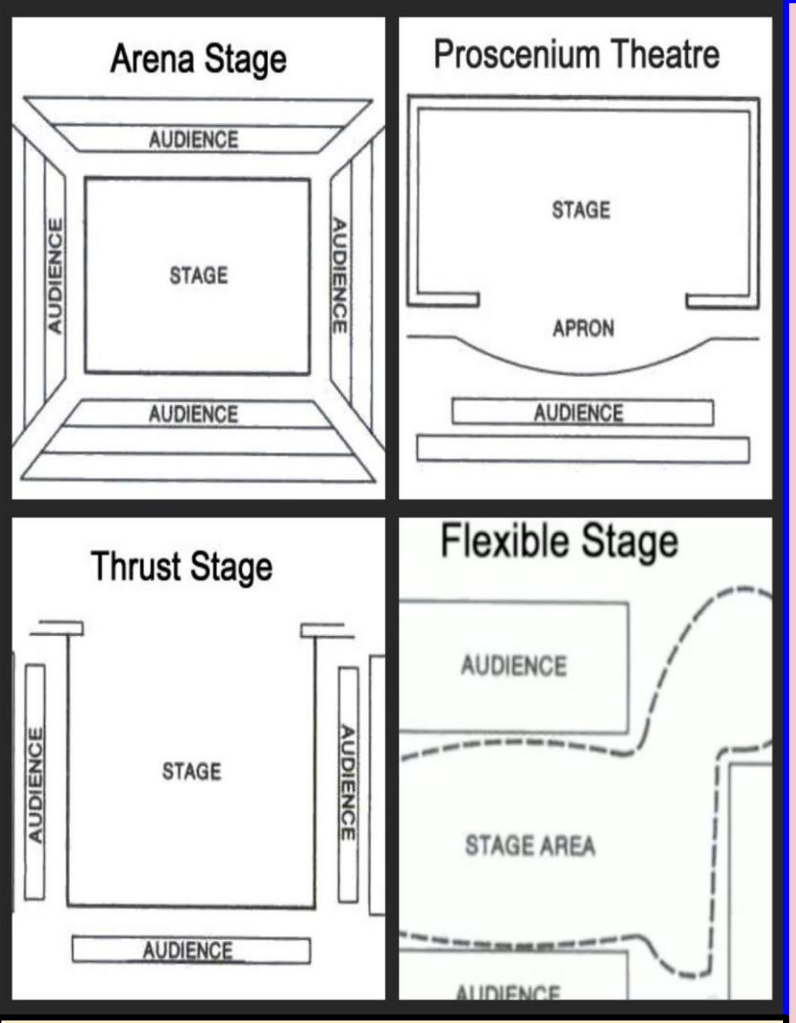
A vocal or physical warm up – to prepare the actor for the scene

Role on the wall – a drawn

Always read the stage directions for the scene you are writing about. Most of the information and even ideas on character or staging will be in the stage directions

Stages
Proscenium
Arch/Endon
Traverse
Thrust
In the round

Original staging conditions -
Downstage left was the meal table with cutlery and white plates and 5 chairs Downstage right was Catherine's bedroom desk At the back across the middle was a raised area Catherine's face was painted white to show the difference after she was sent home from school. It was usually performed end on.



Timing breakdown for exam questions

10 min read of script and questions
2 marks = 2 mins 3 marks = 4 mins 4 marks = 5 mins 6 marks = 9 mins 15 marks = 18 mins

Key Terminology

Costume
colour, fabric, time-period, texture, style, fit, worn, torn, material

Words to describe movement
defined, fluid, erratic, smooth, open, closed, naturalistic, non naturalistic, graceful, exaggerated, mimed, energetic. refined

Words to describe voice
tone, pitch, pace, pause, accent, inflection, volume, emphasis, intonation, articulation, projection

Lighting
angle, position, intensity, coloured - gel, profile spot, gobo, floodlight, shadow, up-lighting.

Sound and Music
tempo, pitch, tone, rhythm, atmosphere, volume

Dance
Dance Technique – Skills for Performance

Year: 11
Term: 2

BIG QUESTIONS

Define all skills listed.

Can you identify and offer specific movement examples of the 5 basic body actions?

How do expressive skills contribute to the overall performance of a piece of dance?

How do physical skills contribute to the overall performance of a piece of dance?

What is the difference between mental skills for process and mental skills for performance?

How might a dancer improve their expressive skills?

How can a physical skill be improved over time?

Can you define each of the 5 basic body actions?

Physical Skills: aspects enabling effective performance

Posture – The way the body is held
Alignment – Correct placement of body parts in relation to each other
Balance - A steady or held position achieved by an even distribution of weight
Coordination – The efficient combination of body parts
Control – The ability to start and stop movement, change direction and hold a shape efficiently
Flexibility - The range of movement in the joints (involving muscles, tendons and ligaments)
Mobility – The range of movement in a joint; the ability to move fluently from action to action
Stamina – Ability to maintain physical and mental energy over periods of time
Extension – Lengthening of one or more muscles or limbs
Isolation: an independent movement of part of the body

Expressive Skills: aspects that contribute to performance artistry and that engage the audience.

Projection – The energy the dancer uses to connect with and draw the audience in
Focus – The use of the eyes to enhance performance or interpretative qualities
Spatial awareness – Consciousness of the surrounding space and its effective use
Facial expressions – use of the face to show mood, character or feeling
Phrasing – The way in which the energy is distributed in the execution of a movement phrase
Musicality – the ability to make the unique qualities of the accompaniment evident in performance
Sensitivity to other Dancers – Awareness of and connection to other dancers

Mental Skills: skills in preparation for a performance

Systematic repetition – repeating something in an ordered way

Mental rehearsal – thinking through or visualising the dance

Rehearsal discipline – attributes and skills required for refining a performance – effective use of a rehearsal and time

Planning of rehearsal – organisation of when to go over material

Response to feedback – implementing changes and making improvements based on feedback/opinion given to you

Capacity to improve – willing to make changes and better, relearn, implement or adapt to make something better

Mental Skills: skills needed during a performance

Movement memory – the automatic recall of learned movement material without conscious thought

Commitment – dedication to a performance

Concentration – the power to focus all of one's attention

Confidence – the feeling or belief that one can have in one's performance or work

Technical Skills: the accuracy of content

- **Action Content**; 5BBA, use of different body parts
- **Spatial Content;** size, direction, level, pathway
- **Dynamic Content**; flow, speed, force
- **Relationship Content;** lead and follow, mirroring, action and reaction, accumulation, complement and contrast, counterpoint, contact, formations
- **Timing Content**
- **Rhythmic Content**

The Five Basic Body Actions: 5BBA
Jump, Turn, Travel, Stillness and Gesture

What is the overall impact of technical skills in a performance?

What is the acronym to remember physical skills?

Describe an exercise you could do to improve strength.

Describe an exercise you could do to improve your mental skills and how could this be developed over time?

Why do we need movement memory?

Homework Links

https://www.aqa.org.uk/resources/dance/gcse/dance/teach/subject-specific-vocabulary

Key Vocabulary

You must be able to identify and define ALL vocabulary listed.

You must be able to distinguish what category each skill falls under

EG: strength is a physical skill NOT a mental skill

Dance
Choreography – Creating a motif

Year: 11
Term: 2

BIG QUESTIONS

How can a motif be developed through action content?

How can a motif be developed through spatial content?

How can a motif be developed through dynamic content?

How can a motif be developed through relationship content?

Can you identify and define each content category?

What is action content?

What is dynamic content?

What is relationship content?

What is spatial content?

What is rhythmic content?

A motif – a section or phrase of a dance (performed by a soloist)
A motif should always refer to action, space and dynamics

Technical Skills: These include accuracy of action, timing, dynamic, rhythmic and spatial content and the reproduction of movement in a stylistically accurate way.
There are 6 technical skills. Each category is followed by the word 'content'.

1. **Action content**
2. **Dynamic content**
3. **Spatial content**
4. **Relationship content**
5. **Timing content**
6. **Rhythmic content**

Action Content: the movement

A range of action content must be used in your practical work.

You must show variation of the 5 Basic Body Actions; travel, turn, gesture, stillness and jump

You may choose to develop a motif through action content using the checklist below.

- Adding an action to a phrase
- Taking an action away
- Repeating an action
- Performing an action on a different body part
- Re-order motif

Example:

Motif = jump, turn, seat roll, reach arms to ceiling, fall
Motif developed = jump, jump, seat roll, reach arms to ceiling, fall handstand (jump repeated, turn taken away, new action added)

Dynamic Content: how an action is performed

A range of dynamic ontent must be used in your practical work.

Fast/slow – **speed**
Sudden/sustained – **execution**
Acceleration/deceleration – **tempo**
Strong/light – **force**
Direct/indirect – **route**
Flowing/abrupt - **flow**

A range of dynamics must be included in your practical work. When describing a movement always refer to a dynamic.

Example:

- jump slowly
- abruptly turn to face the front and then reach your arms out to the sides in a strong motion

Rhythmic Content: repeated patterns of sounds or movements

A range of rhythmic content must be used in your practical work.

Relationship Content: with who the action is performed

A range of relationship content must be used in your practical work.

Mirroring – reflecting the actions of another dancer as if there is a mirror line
Example: dancer 1 extends right arm whilst leaning to the right but dancer 2 extends left arm to the left

Action and reaction – a dancer responds to the action of another dancer's action
Example: dancer 1 elbows to left, dancer 2 falls to floor after dancer 1 has performed their action

Accumulation – the movements are added to existing movements in a successive manner
Example: A, AB, ABC = jump, jump + turn, jump + turn + slide

Complementary – perform actions or shapes that are similar but not exactly the same as another dancer's actions
Example: dancer 1 performs seat roll whilst dancer two performs an elevated turn

Contrast – movements or shapes that have nothing in common
Example: fast dynamics of sharp elevated actions vs slow fluid arm gestures

Counterpoint – when dancers perform different phrases simultaneously
Example: floor phrase in one place vs elevation

Contact – a moment of physical contact which could be in the form of a counterbalance, touch or lift
Example: fan lift, hand on shoulder, and sacrifice lift

Formations – where the dancers stand in the space
Example: zig zag, circular, vertical line, diagonal line, horizontal line, cluster, sporadic

Spatial Content: where an action is performed

A range of spatial content must be used in your practical work.

Pathways; circular, linear, diagonal, zig – zag

Levels; floor work, mid-level, standing, elevation

Direction; left, right, front, back, diagonal front, diagonal back

Size of movement; small, medium and large

Spatial design; upstage, centre stage, downstage, stage right, stage left

You may choose to develop a motif through spatial content using the checklist above.

Example:
Change of levels
Version 1: Reach right arm to ceiling, left arm up to ceiling whilst jumping in the air.
Version 2: The dancer could kneel and perform the same arm actions.

Timing Content: The use of time or counts when matching movements to sound and/or other dancers

A range of timing content must be used in your practical work.

Give examples of formations.

Describe a motif that includes contrast and complementary.

Why might a choreographer use mirroring in their dance work?

When performing contact, how can dancers perform safe practice?

Why might a choreographer use levels in their dance work? What could levels represent?

Homework Links

https://www.aqa.org.uk/resources/dance/gcse/dance/teach/subject-specific-vocabulary

Key Vocabulary

You must be able to identify and define ALL vocabulary listed. You MUST be ale to give movement examples of each skill listed.

Subject: Business
Topic: Market Research

Year 11
Term: 2

BIG QUESTIONS

- Do you know the different methods of market research undertaken by businesses?
- Can you explain the advantages and disadvantages of different methods of research?
- Can you interpret quantitative and qualitative research?

Before a business starts, it is important that the owners know exactly who their customers are likely to be.

Homework: Design a questionnaire on a new type of energy bar Zonetime, an exciting combination of exotic fruits and nuts with a new energy formula.

Primary	Pros	Cons
Questionnaire	▪ Cheaper than interviews ▪ Easily target certain people	▪ Difficult to predict how many will be completed ▪ people may not understand the questions
Interviews	• Questions can be explained • Customers can be easily targeted	• Expensive • Customers may feel uncomfortable
Trials	• Save money before making products widely available	• Costly to set up
Focus groups	• Data is accurate to the target market	• Only small groups that take part so expensive

Target market
The group of customers who a business aims to sell its products to

Primary research
Data collected first-hand (field research)

Secondary research
Data collected by others (desk research)

Qualitative data
Data based on opinions of those being asked

Quantitative data
Data based on facts or numbers

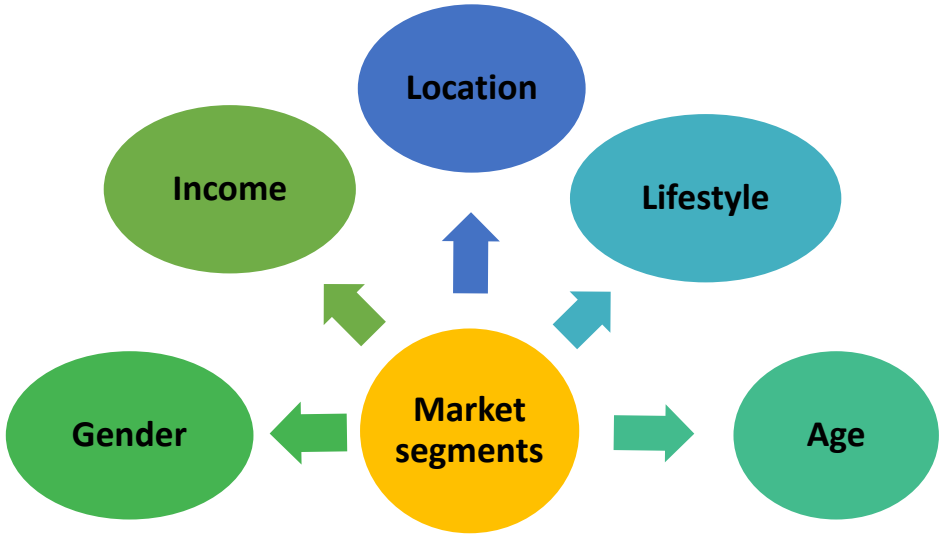
Subject: Business
Topic: Segmentation

Year 11
Term: 2

BIG QUESTIONS

- Can you define segmentation?
- Can you explain the problems/challenges that may be encountered if the market is not segmented?
- Do you know the different methods of segmentation?
- Can you explain the benefits of segmentation?

Marketing is:
finding the needs of customers and demonstrating how a business fulfils those needs in order to increase sales



Market segmentation
Splitting the market for a product into different parts, or segments

A watch can be segmented in a number of ways:

Age - Disney theme for children, plain for adults

Gender - made for men or women

Income - watches can be very cheap at £10 others can be very expensive at £1000's

Lifestyle - special watches for diving, running and other outdoor sports

Subject: Business **Year:** 11
Topic: Targeting and segmenting the market **Term:** 2

BIG QUESTIONS

- Can you explain the difference between B2B and B2C markets?

- Can you recommend a suitable promotional strategy for a business operating in the B2B market?

- Can you explain how a business can segment a market?

- Can you explain why segmentation is important for business success?

Key Words

- Segmentation
- Demographic
- Geographic
- Psychographic
- Behavioural
- Target
- Market

What is Market Segmentation?

Market segmentation means dividing up the market into different groups of customers based on a number of factors. This enables the business to identify and meet the needs of its customers more accurately.

Segmentation by…	Which means some businesses focus on…	Example business
Age	Babies and toddlers, others on the teen market or older customers	Mothercare and Disney stores focus on babies and toddlers
Gender	Gender-specific items including toiletries, cosmetics, clothing and magazines	Bobbie Brown produces make-up for women
Culture	Relates to peoples religion, language, customs, ethnicity and dietary habits	Halal butchers are promoted to Muslims
Income	Luxury goods are made for high earners, whereas other businesses target those on a budget	Luxury goods businesses include Harvey Nichols, Selfridges and Gucci
Lifestyle, hobbies and interests	Relating to the way we live. People will also spend money on their hobbies and the interests that take up their spare time.	Hobbycraft target people who like arts and crafts
Location	The local market. Often, these businesses are small. An exception is firms that trade online	Local businesses include greengrocers, hairdressers, sandwich shops and dog walkers

Subject: Business
Topic: Targeting and segmenting the market

Year: 11
Term: 2

BIG QUESTIONS

- Can you define demographic, geographic, psychographic behavioural segmentation?

- Can you give examples of products aimed at different segments?

- Can you explain how a product can be aimed at people with different interests and lifestyles?

- Can you compare promotional campaigns in terms of methods used and cost?

There are 4 main types of segmentation in business:

Demographic	Psychographic	Behavioural	Geographic
			
Age	**Values**	**Intent**	**Urbanicity**
Gender	**Attitudes**	**Usage**	**Location**
Income	**Personality**	**Occasion**	**Culture**
Education	**Interest**	**Buyer Stage**	**Language**
Social Status	**Opinion**	**Engagement**	**Climate**
Life Stage	**Lifestyle**	**Benefits**	**Population**

Businesses use segmentation instead of going after their entire market. They're able to show relevant messages to people more likely to care (saving time and money!).
It also helps with building long lasting customer relationships and improving your products and services.

Homework: *Spotify and Netflix are the leaders of behavioural segmentation due to their ability to personalise the customers engagement. 1. State 4 ways in which Spotify and Netflix personalise their users interaction? 2. Explain why you think personalised playlists and programmes are so effective?*

Subject: Business
Topic: Costs and Revenue

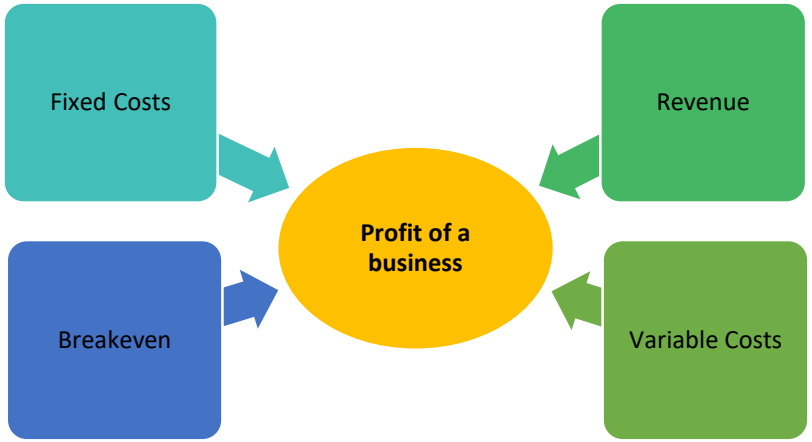
Year 11
Term: 2

BIG QUESTIONS

- Can you categorise a list of costs as fixed or variable?
- Can you calculate total revenue?
- Can you re-calculate the total revenue when prices and demand change?
- Do you know the difference between revenue and profit?
- Can you make recommendations on how a business can improve it's profitability?

Fixed and Variable Costs shows the expected flow of money into and out of a business

It is vital for any business to have accurate financial data. Without accurate data wrong decisions could be made which affect the business negatively.



Revenue
Quantity sold x selling price
Variable Costs
Quantity sold x variable cost per unit
Total Costs
Fixed costs + variable costs
Profit
Revenue - costs

How to improve profitability:

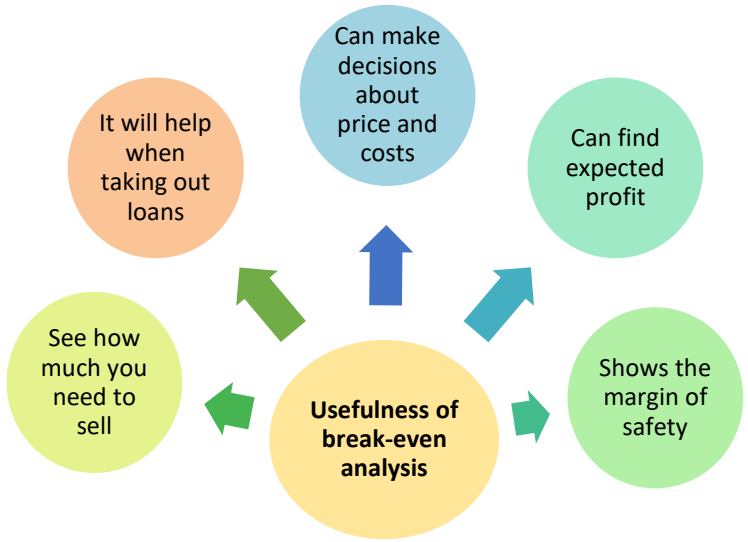
- Increase revenue through effective promotion
- Reducing variable and fixed costs by working with suppliers or moving location

Subject: Business
Topic: Breakeven

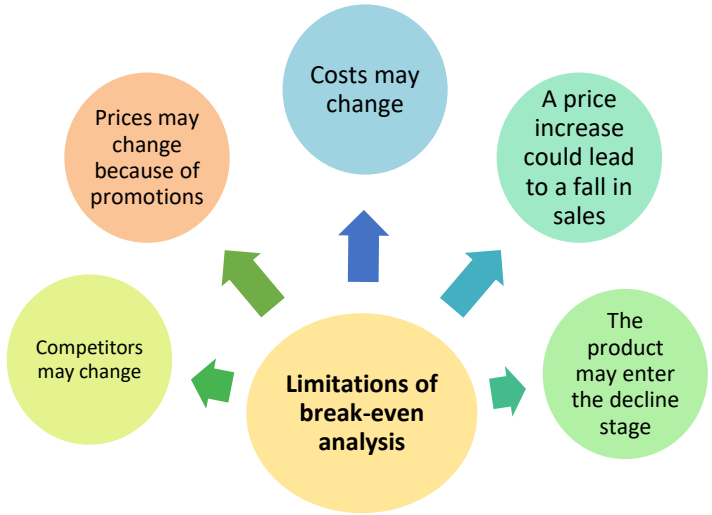
Year 11
Term: 2

BIG QUESTIONS

- Can you explain the concept of breakeven and its uses?
- Are you able to calculate the break-even quantity of a business?
- Can you identify the breakeven point on a graph?
- Can you explain the importance of the 'margin of safety' of a given business?



Calculating break even:
Total fixed costs ÷ (price - variable costs per unit)



Businesses use information about revenues and costs to calculate the break-even level of output

Break-even forecast
A prediction about the break-even quantity based on estimates of future sales revenues and costs

Break-even quantity
The amount a business must sell to earn enough revenue to cover its costs

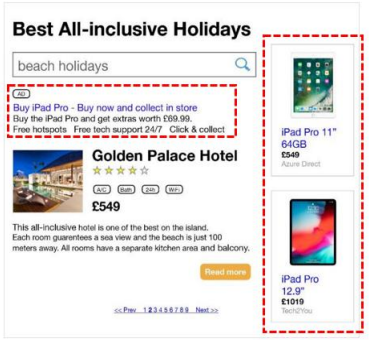
Margin of safety
The amount by which a business' actual output is greater than its break-even output

BIG QUESTIONS

1. Who is responsible for the shared use of data in society?
2. Should the government be responsible for the ethical use and disposal of computers?
3. Is all access to technology equal?
4. What is the purpose of an acceptable use policy and who is protected?
5. What are the legal and ethical consideration when using computers and who is responsible for maintaining and upholding misuse?

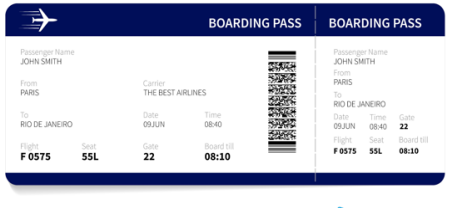
Online advertising

- The adverts are highlighted in red
- When you visit a search engine it stores a small file called a cookie on your computer
  - The search engine shares information with the website so that they can display the correct advertising



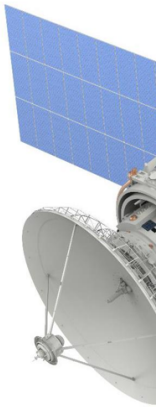
Transactional data

- Transactional data is data which is generated as the result of a transaction
  - Transactional data is likely to be passed to other parts of the organisation or other companies
- Examples of transactional data include:
  - Purchases
  - Invoices
  - Payments
  - Signups
  - Reservations
  - Subscriptions



Tracking data

- The GPS (Global Positioning Satellite) system is able to locate a smartphone to within a few metres
  - The phone needs to detect at least four satellites to work
- Alternatively, the phone can be located by its distance to a base station
- In order to send information about the location, the smartphone must also have internet access



Benefits of using shared data

- Some benefits of having shared data are:
  - Communication services such as email
  - Ability for multiple people to work on the same documents
  - Companies, such as online shopping, can automate tasks such as sending paperwork to customers and couriers

Drawbacks of using shared data

- The use of shared data has some drawbacks such as:
  - If the data is shared with someone untrustworthy, you may lose control of it
  - Specific laws must be obeyed when data is shared

Ethical use of data

- Product information needs to be clearly displayed
  - There have been cases of customers ordering furniture which, when it arrives, they find it is for a dolls house

Web standards for disabilities

- Web Content Accessibility Guidelines (WCAG)
  - Use alternative text for images so they can be read out loud
  - Use subtitles with video
  - Use transcripts of audio interviews
  - Allow webpages to be accessed by keyboard only
  - Do not use flashing images

Equality Act (2010)

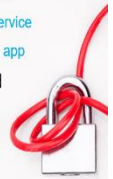
- This act gives equal opportunity to all people
- It combines over 116 pieces of legislation such as:
  - Equal Pay Act (1970)
  - Race Relations Act (1976)
  - Disability Discrimination Act (1995)
- People must be treated equally when accessing IT services and information such as apps and websites

Energy saving with electronics

- Unplug external devices that are not in use
- Shutdown computers when not in use
- Turn off lights when not in use
- Pick more energy efficient products
  - Fridges, microwaves, vacuum cleaners and other products will have an energy rating

Net neutrality

- We access the internet through Internet Service Providers (ISP) such as BT, Sky and Virgin
- It is possible for ISPs to restrict data
  - They could restrict a video streaming service
  - They could slow down access to a new app
- Treating all data the same is called net neutrality
  - In the UK most ISPs have signed up to the Open Internet Code of Practice which treats data equally



Professional guidelines and standards

- The professional body for IT is the BCS (British Computing Society)

Equal access to information and services

- Equal access to information and services means that everyone should have the same access. This includes access to:
  - The Internet
  - Websites
  - Apps
- Allowances should also be made for minority groups such as those with disabilities

Lifecycle of a computer

1. Mining for raw materials
2. Manufacture
3. Purchase and use
4. Recycling centre
5. Reprocessing plant

Environmental damage

- Mining raw materials leads to contamination and erosion
- Plastics damage the environment if not recycled
- Gas and coal are needed to power the factories
- Cooling systems use large amounts of water
  - Diesel is needed for transportation of raw materials, parts and the final product

Homework Links

Access to all tasks and quizzes can be found here:

https://www.knowitallninja.com/courses/effective-digital-working-practices/

Homework 1 and 2: Threats to data – Complete 3 tasks

Homework 3 and 4: Prevention and management of threats – Complete 3 tasks

Homework 5: Policy - Complete 2 tasks
Responsible use – complete 1 task

Key Vocabulary

Learning Aim	Acceptable use
Shared data	Policies
GPS	Sanctions
Transactional data	Data protection
Cookies	Trademarks
Privacy	Copyright
Ethics	Licensing
Upgrade	Permissions
Replace	Authorised
Recycle	Unauthorised access
Power-saving	
Equality	
Net Neutrality	

Media: Component 3 –Exam

Year 11 Term 2

Big Questions

What is an exam brief?
What elements make up a magazine page?
What are some of the current trends in Magazine Publishing?
What are Mainstream, niche and alternative media products?
What are the key magazine terms?
What is Primary research?
What is secondary research?
What do you need to include in an ideas log?
How do you develop your ideas from an ideas log to a design?
How can you develop your designs into a final product?

Component 3: Ideas Log- What should be included?

- Discuss what the brief is asking you to do
- Give your initial ideas
- Discuss current trends and how you intend to keep up with them
- Talk about the demographic and psychographic profile of your target audience and why you will focus on them
- Discuss the research you have done and how this has influenced your ideas
- Explain your first idea and why it would be effective (reference your research)

- Explain your second idea and why it would be effective (reference your research)
- Say which idea you are going with and why
- Discuss the elements of your first page (front cover) and why you have chosen them (primary or secondary image?)

(Thirds, masthead, main image, main cover line, other cover lines, price, banners, flashes)

- Discuss the elements of your second page and why you have chosen them (primary or secondary image?)

(Title, intros, layout, images, design features, pull quotes)

- Link back to the key requirements from the brief and say how you will meet these with your idea.

Modern Languages – French **Year: 11**
Module 7 – Au boulot – World of work **Term: 2**

BIG QUESTIONS

1) **Tu as fait un stage?**
   Did you do work experience?
2) **Que faisais-tu au stage?**
   What did you do at work experience?
3) **Tu parles quelles langues?**
   What languages do you speak?
4) **Pourquoi apprendre une nouvelle langue?**
   Why learn a new language?
5) **Pourquoi veux-tu ce poste?**
   Why do you want this job?
6) **How do I write about the world of work?**

Taking about work experience

L'année dernière (Last year)	j'ai travaillé (I worked)	dans un bureau (in an office)	où je servais des café, (where I used to serve coffees)	et je donnais des renseignements aux touristes, (and I used to give information to tourists,)	ce qui était ennuyeux (which was boring)	ce qui était enrichissant (which was enriching)
La semaine dernière (Last week)	j'ai fait un stage (I did a work experience)	dans un magasin (in a shop)	où je rangeais le magasin (where I used to tidy the shop)	et je répondais au téléphone, (and I used to answer the phone,)	ce qui était barbant (which was boring)	ce qui était passionant (which was exciting)
		dans un centre de loisirs (in a leisure centre)	où je servais les clients (where I used to serve the customers)	et je faisais des photocopies, (and I used to make photocopies,)	ce qui était inutile (which was useless)	ce qui était amusant (which was fun)
		dans un salon de coiffure (in a hair salon)	où je pliais les vêtements (where I used to fold clothes)	et je tapais des lettres, (and I used to type letters,)	ce qui était fatigant (which was tiring)	ce qui était sympa (which was nice)
		dans un office de tourisme (in a tourist office)	où j'aidais les mécaniciens (where I used to help the mechanics)	et je travaillais avec les enfants, (and I used to work with children,)		
		dans une école (in a school)				

Taking about languages

Je parle (I speak)	couramment (fluently)	un peu (a little)	l'allemand (German)	le français (French)	le polonais (Polish)	et je l'étuidie depuis (and I have been studying it for)	huit semaines (eight weeks)
	assez bien (quite well)	seulement (only)	l'anglais (English)	l'italien (Italian)	le portugais (Portuguese)		deux mois (two months)
	très bien (very well)	mal (badly)	l'arabe (Arabic)	le japonais (Japanese)	le roumain (Romanian)		cinq ans (five years)
			l'espagnol (Spanish)	le mandarin (Mandarin)	le russe (Russian)		

J'utilise des langues étrangères (I use foreign languages)	pour (in order to)	faire des amis (make friends)	demander mon chemin (ask for directions)
		découvrir une nouvelle culture (discover a new culture)	communiquer avec des clients (communicate with customers)
		parler avec des clients (speak to customers)	faire des annonces (make announcements)
		parler avec des collègues à l'étranger (speak to colleagues abroad)	donner des renseignements aux passagers (give information to passengers)
		commander quelque chose à manger (order something to eat)	aider des touristes (to help tourists)

How to: Describe a photo

Sur la photo (In the photo)	il y a (there is)		un homme (a man)	une groupe d'amis (a group of friends)	
			une femme (a woman)	des jeunes (some young people)	
			un garçon (a boy)	des enfants (some children)	
			une fille (a girl)	des étudiants (some students)	
Ils sont (They are)	au parc (at the park)	à la campagne (in the countryside)	où (where)	ils s'amusent (they are having fun)	ils étudient (they are studying)
	au centre commercial (at the shopping centre)	à la plage (at the beach)		ils se discutent (they are chatting)	ils travaillent (they are working)
	au collège (at school)	à la montagne (in the mountains)		ils mangent (they are eating)	ils regardent la téle (they are watching TV)
	au centre de loisirs (at the leisure centre)	à la maison (at home)		ils boivent (they are drinking)	ils utilisent leurs portables (they are using their phones)
	au bord de la mer (by the sea)	en ville (in town)		ils jouent (they are playing)	ils font les magasins (they are shopping)

November Mocks Preparation

Any of the following topics could come up in your mocks:

- Family and relationships
- Free Time
- Celebrations
- My town and region
- Holidays
- School
- Work
- The Environment

	Listening	Reading	Writing
Foundation	Section A = Questions in English, answers in English Section B = Questions in French, answers in French	Section A = Questions in English, answers in English Section B = Questions in French, answers in French Section C = Translation into English	Q1 = Describe a photo Q2 = 40 words (present + future tense) Q3 = 90 words (present, past + future tense) Q4 = x5 translation sentences into French
Higher			Q1 = 90 words (present, past + future tense) Q2 = 120 words (present, past + future tense) Q3 = translation paragraph into French

HOMEWORK

Every week you will be set an assignment on sentence builders.
My homework day is:

_____

The website is:

www.sentencebuilders.com

You should have your log-in details stuck in your planner. If you forget these, you must email your teacher or ask in lesson time for these details.

Your knowledge organiser has every answer that you will need to complete your homework. Have it open when you do your homework!

SentenceBuilders

Modern Languages – Spanish **Year: 11**
Module 7 – ¡A currar! – World of work **Term: 2**

BIG QUESTIONS

1) **¿Qué idiomas hablas?**
   What languages do you speak?
2) **¿Por qué aprender idiomas?**
   Why learn languages?
3) **¿Qué planes tienes para el futuro?**
   What plans do you have for the future?
4) **¿Por qué quieres trabajar aquí?**
   Why do you want to work here?
5) **¿Cómo hablo de mi trabajo?**
   How do I talk about my job?
6) **¿Cómo describe una foto?**
   How do you describe a photo?

Talking about languages

Domino el (I am fluent in) Hablo (I speak) Hablo un poco de (I speak a bit of)	alemán (German) español (Spanish) francés (French) inglés (English)	ruso (Russian) polaco (Polish) árabe (Arabic) mandarín (Mandarin)	y lo estudio desde hace (and I've been studying it for)	dos años (two years) tres años (three years) seis meses (six months)
Lo bueno de hablar otros idiomas es que (The good thing about learning other languages is that) Lo más importante es que (The most important thing is that) Hablar otro idioma (Speaking another language)	te permite (is that it allows you)		hacer nuevos amigos (to make new friends) descubrir nuevas culturas (to discover new cultures) viajar a otros países (to travel to other countries)	encontrar un buen trabajo (to find a good job) trabajar en el extranjero (to work abroad) estudiar en el extranjero (to study abroad)

Talking about future plans

En el futuro (In the future)	espero (I hope) quiero (I want)	me gustaría (I would like) voy a (I am going to)	aprender a conducir (learn how to drive) aprobar mis exámenes (pass my exams) buscar un trabajo (look for a job)	casarme (get married) tener hijos (have children) trabajar como voluntario (work as a volunteer)
Para mí (To me) Creo que (I believe that) Mi amigo dice que (My friend says that) Diría que (I would say that)	el matrimonio (marriage) la familia (family) sacar buenas notas (get good grades) el paro (unemployment)	encontrar un buen trabajo (finding a good job) la independencia (independence)	es (it is) no es (is not)	esencial (essential) importante (important) preocupante (worrying)
Si tengo buena suerte (If I am lucky) Si apruebo mis exámenes (If I pass my exams) Si tengo dinero (If I got money)	Si tengo éxito (If I am successful) Si trabajo mucho (If I work a lot)	encontraré un trabajo (I will find a job) compartiré piso con mi amigo (I will share a flat with my friend)	compraré un coche (I will buy a car) iré a la universidad (I will go to university)	tendré hijos (I will have children) me tomaré un año sabático (I will take a gap year)
Si me tomo un año sabático (If I take a gap year)	haré Interrail por Europa (I will go Interrailling around Europe.) mejoraré mi nivel de español (I will improve my level of Spanish) trabajaré en un proyecto medioambiental (I will work on an environmental project)	viajaré por el mundo (I will travel around the world) pasaré un año en Latinoamérica (I will spend a year in Latin America)	¡Qué emocionante! (How exciting!) Sería (It would be)	inolvidable (unforgettable) una experiencia única en la vida (a once in a lifetime experience)

How to: Describe a photo

En la foto (In the photo)	hay (there is)		un hombre (a man)	un grupo de amigos (a group of friends)		
			una mujer (a woman)	unos jóvenes (some young people)		
			un chico (a boy)	unos niños (some children)		
			una chica (a girl)	unos estudiantes (some students)		
Están (They are)	en el parque (at the park)	en la ciudad (in the city)	donde (where)	se divierten (they are having fun)	estudian (they are studying)	
	en el centro comerical (at the shopping centre)	en la costa (on the coast)		hablan (they are talking)	trabajan (they are working)	
	en el colegio (at school)	en la playa (at the beach)		comen (they are eating)	tocan instrumentos (they are playing instruments)	
	en el polideportivo (at the leisure centre)	en la montaña (in the mountains)		beben (they are drinking)	usan sus móviles (they are using their phones)	
	en el campo (in the countryside)	en casa (at home)		juegan (they are playing)	van de compras (they are shopping)	

November Mocks Preparation

Any of the following topics could come up in your mocks:

- Holidays
- School
- Family and relationships
- Free time
- Your town and region
- Celebrations
- Work
- The environment

	Listening	Reading	Writing
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SentenceBuilders

Child Development
Component 3: Supporting Children to Play, Learn and Develop

Year: 11
Term: 2

BIG QUESTIONS

To investigate individual needs and wants

- ✓ What are needs and wants?
- ✓ What are the 5 areas of development that needs can impact in a young child?
- ✓ What are the areas of development that are impacted-

B Create safe environments to support play, learning and development in children aged 0–5 years
Learners will consider how the environment can be adapted to safely meet the individual needs of children who require support to play, learn and develop. Learners will consider safety issues in the home, in community settings and in early years settings.

B1 Ensure all children are safe

- Manage risks and hazards of environments and activities:
- Consider the risks – likelihood of an environment, activity and/or resources causing harm
- Consider the hazards – potential for an environment, activity and/or resource to cause harm
- Risk assessments for activities – both indoors and outdoors
- Positive risk taking – balancing the potential risk of harm against the benefit of children participating in activities; the benefits of children exploring/experimenting in a safe but challenging environment
- Raising age-appropriate awareness of personal safety when in public areas
- Teaching children to use resources safely, while choosing age- and stage-appropriate resources and being aware of choking hazards for under 3-year-olds
- Knowing about safety labelling of resources, including the BSI Kite mark, age-advice symbol, the Lion Mark and the CE mark, including why it is important to check this before using equipment or resources

Homework-

1.1- Research a local play centre for children, explain how they keep children safe while they play

Child Development
Component 3: Supporting Children to Play, Learn and Develop

Year: 11
Term: 2

B Create safe environments to support play, learning and development in children aged 0–5 years

- Planning the adult to child ratio relevant to age, to carry out the activity safely.
- Teach children how to use internet-enabled technology safely (including computers and tablets, smart technology, wearable technology, toys with voice recognition, app-enabled toys):
- How to be safe online – setting up parental controls to prevent sharing of personal information and befriending strangers controls put in place by adults, including limiting time spent online, blocks on in-app purchases
- Talking to the child about internet safety and recognising and reporting age-inappropriate content.

B2 Health and safety considerations for inside environments for children with individual needs

- Width of doorways, corridors.
- Layout of furniture.
- Types of flooring and floor coverings in the space, considering potential trip hazards.
- How resources can be organised to enable children to find things easily.
- Continuity of use of specific areas for play activities and routines.
- Selecting appropriate resources to ensure safety, linked to the ability of the child.
- Monitoring activities to ensure safety is being maintained

Homework-

1.2 A safety poster for an early years setting for indoor/outdoor environment

Homework Links

Research from the following websites-
✓https://www.thebalance.com/how-to-separate-wants-and-needs-453592

✓ Key Terms LA-A/B

Hazard- a danger or risk:

Need-require (something) because it is essential or very important rather than just desirable

Risk assessment-is intended to identify hazards that could cause harm, or to assess the risks that may arise

Safety marks- something that is usual, typical, or standard

Safeguarding-protect from harm or damage with an appropriate measure:

Kite marks- UK product and service quality certification mark which is owned and operated by The British Standards Institution.

Internet - global computer network providing a variety of information and communication facilities, consisting of interconnected networks using standardised communication protocols:

Health and Social Care
Component 3 Health and Wellbeing

Year:11
Term:2

BIG QUESTIONS

Learning aim B
Interpreting health indicators:

Why is health monitoring a useful tool in illness prevention?

How is lifestyle and physiological data used to predict risks to future health?

What is a person centred approach to care?

B1: Physiological indicators

Measurable indicators of health include:

- Waist-to-hip ratio, your waist measurement divided by your hip measurement
- Cholesterol levels
- Blood glucose
- Liver function
- Resting pulse and recovery pulse rates after exercise
- Peak flow
- Blood pressure
- Height/weight
- Temperature

B2 Lifestyle indicators

Interpretation of lifestyle data, specifically risks to physical health associated with:

- smoking
- alcohol consumption
- inactive lifestyles.

C1 Health and wellbeing improvement plans

You will explore the features of health and wellbeing improvement plans. This links to, and consolidates, knowledge and understanding from Component 2, in particular support services and also care values in terms of the need for a person-centred approach.

We will consider:

- The importance of a person-centred approach that takes into account an individual's needs, wishes and circumstances

- Information to be included in plan:
- recommended actions to improve health and wellbeing o short-term (less than six months) and long-term targets
- appropriate sources of support (formal and/or informal).

Key Terms LA-B

Physiological -relates to how a person and their bodily parts function normally

Targets – goals and aims

Potential significance – could develop into something important

BMI – measure of fat in your body in relation to your height

Peak flow – measurement of how quickly you can blow air out of your lungs

Person-centred approach – is respecting and empowering individuals

Health and Social Care

Subject: 3D Design
Topic: Flight (Mock Exam)

Year / Group: 11
Term: 1 and 2

BIG QUESTIONS

How can the study of other artists help you find your own direction in the development of ideas?

Describe the process of development in artists work.

Compare similarities and differences in artists work.

Explain why primary sources are the richest form of research.

How can Secondary sources enrich the development of ideas?

List different ways of recording your observations of the subject matter.

Why should you plan a wide range of ideas before selecting a final one?

How can the refining process help you to fully realise intentions?

What does it mean to realise intentions?

Why is it important to Evaluate

Walking Talking Mock Exam Past Question- 'Flight' Artists, craftspeople and designers have often created work inspired by flight and flying. Aboriginal peoples of Australia carved and painted wooded boomerangs with decorative patterns. Nicola Godden created sculptures in response to the story of the flight of Icarus. The wall-mounted sculptures of Tom Hare are a response to flying seed pods. Air travel has led to designs for commemorative memorabilia and the development of in-flight services, such as the eco-friendly meal trays design by PriestmanGoode.

Study suitable sources and produce your own response to ***Flight.***

Key Skills

RECORD	DEVELOP
I will independently record... • images and information appropriate to the theme • using wet, dry and digital media • examples of artists/designers work appropriate to the theme • information about artists/designers, showing appreciation of how they use media and techniques to create meaningful work.	**I will independently develop...** • my observation skills using a range of media, techniques and processes. • artwork and ideas from primary sources • my knowledge and understanding of artist styles and techniques • my drawing and planning skills • ideas in response to a given theme, linking to artists work • my higher order thinking skills
REFINE I will independently... • experiment making the most of media and techniques relevant to my intentions • select ideas to adapt and improve e.g. adjustments to size, colour and composition. • develop a piece of work from one media into another	EVALUATE I will independently... • analyse and reflect on the development of my own work, through annotation making connections to artists and suggesting ways I could I improve. • evaluate artists using analytical writing skills and forming opinions.
PRESENT OUTCOMES I will independently... prepare a plan for a final piece to be completed during the 5-hour Mock Exam.	

Homework Links

Tasks linked to the theme 'Flight' (2 hours per two-week cycle)

Key Vocabulary

Flight/Texture/Shape/ Colour/Form/Scale/ Media/Technique/ Abstract/Research/ Primary source/Wings Secondary/Source/ Concept

I will be expected to recall keywords learned in previous projects and use them in the appropriate context.

EVALUATING ARTISTS' WORK

1. Describe the piece of art you are looking at
2. What is the name of the artist or type of art?
3. What art movement or culture does the art link to?
4. Research and list 5 or more things about the artist or culture?
5. What important things have happened in the country that the art comes from?
6. What has influenced the art E.g. other artists, people, personal experiences, society, culture, politics, gender, colour, pattern, movement, religion, travel, places, objects etc.
7. Describe the materials used to make the art
8. How has the art been produced?
9. What is being communicated through the art?
10. Which of these words best describes the mood of the picture? EMOTIONAL/POWERFUL/BUSY/SLOW/PEACEFUL/WARM/COLD/HAPPY/SAD/CALM/INTENSE/SCARY can you think of any other words?
11. What do you like or dislike about the picture? Explain your reasons…

ANNOTATING YOUR OWN WORK

- In this artwork I was trying to…
- The artist/culture that has influenced my work is…
- The source I have used is…
- I found the source I used at…
- In this artwork I used the technique of...
- The media I have used is...
- I like/dislike this piece because...
- My idea links to the theme because…
- I can improve this piece by…
- I could develop this work further by...

Annotate means to explain your own creations
Artist evaluation is when you write about the artist
Project evaluation is written about the whole project at the end

END OF PROJECT EVALUATION

1. Describe each stage of the project from start to finish
2. What media did you use to produce your work? E.g. Paint/Pencil/Clay etc.
3. Describe how you used different techniques in your project? E.g. painting/drawing/modelling with clay etc.
4. Which artist's culture have you looked at?
5. Write down 2 or more similarities between your work and the artist's work.
6. Which piece of your work best shows the Artist's style or the influence of another culture and why?
7. Describe some of your own ideas…
8. Have you used a primary or a secondary source?
9. Have you included the secondary source in your work? Where did you find it?
10. Imagine your final piece was displayed in a public place.... Describe the effect looking at your work might have on people and society. E.g. relax them, make them feel sad, curious, happy, angry, thoughtful, surprised, confused, nostalgic etc. explain why e.g. because of your use of colour, images, content, arrangement? etc.
11. Explain any other influences on your work e.g. personalities *(including your own)*, places, memories, objects, politics, events, activities, religion, fact, fiction etc.
12. Describe how your work links to the project theme?
13. Explain what you have done well…
14. Explain how you could improve…
15. What would you do differently, if you were to repeat any part of this project?

PSHE Year: 11
WPD Term: 2

Big Questions

PSHE Careers

Do I understand discrimination in the Workplace?

What is discrimination by association?

What are the nine protected characteristics under the Equality Act 2010?

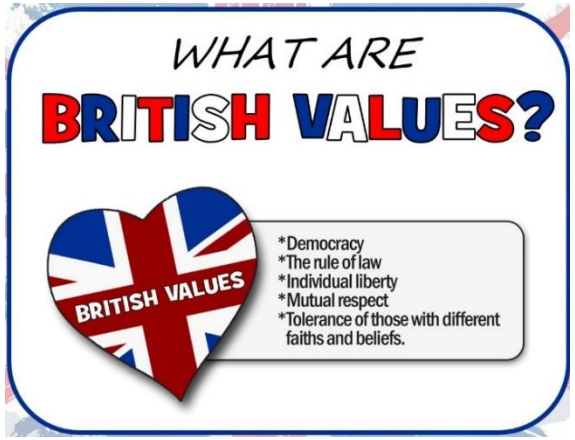
Where can you go for help if you feel you are being discriminated against in the workplace?

House competition:

House Christmas craft competition
Create at least one craft item that is in the colour of your house. This could be any craft that is not perishable such as knitting/crochet, sewing, clay, origami, jewellery, items made from wood/plastic, Christmas cards, soap, candles and so on. The item must be fit for sale as all items will be sold to raise money for charity. The house that produces the most items for sale will win and receive house points. The best craft item produced will win that student additional house points and a prize. Deadline for submissions (to Mirs Green please) is Monday 5th December. The craft sale will be in the last week of term. More details to follow via student email this term!

Year 11 Term 2	**Careers** Applying for Sixth Form or College Discrimination in the workplace • Equality Act 2010 • Discrimination in the workplace • Types of Discrimination		**Wider Personal Development** **INTERVENTION PROGRAMME** **Tutor Coaching** **Subject Specific intervention** **KS5 Taster Day** **KS5 Open Evening**		**Careers** Kent Choices Applications Applying for Sixth Form, College or Apprenticeships Careers Interviews

Careers:
Employability Focus during form time –Applying for Sixth Form and Discrimination in the Workplace
Careers Event – Industry Specific Event 'Health and Social Care'



Your Career Options

You have many choices open to you after Year 11, with the main options being:
•Stay on in full time education, at a school, college or with a training provider on a study programme.
•Take an apprenticeship.
•Work or volunteer and study part-time alongside (E.g., traineeship).

Please see Mr Forrest or Mrs Priestley if you need further information