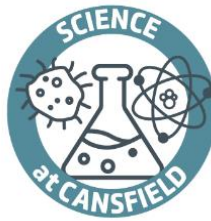
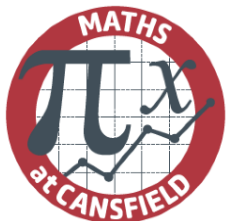




CANSFIELD
ACHIEVING EXCELLENCE TOGETHER

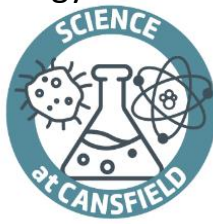
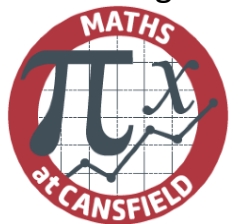
Year 11 Knowledge Organiser



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Y11 Higher Maths I

Probability

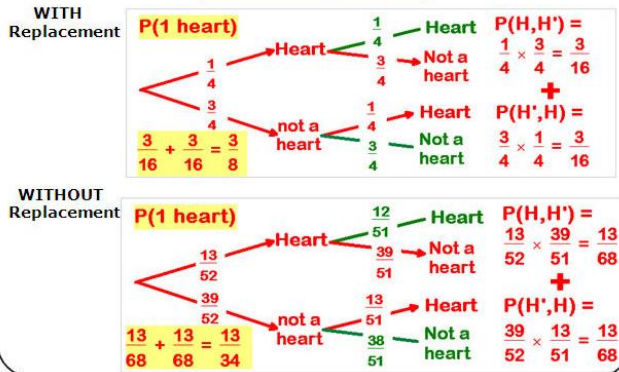
Independent events

Two or more events that occur in a sequence. If the outcome of the event **does not** affect the possible outcomes of the other event(s), then the events are independent.

When two events A and B are independent, the probability of both occurring is:
 $P(A \text{ and } B) = P(A) \times P(B)$

Probabilities of two or more events

Tree Diagrams

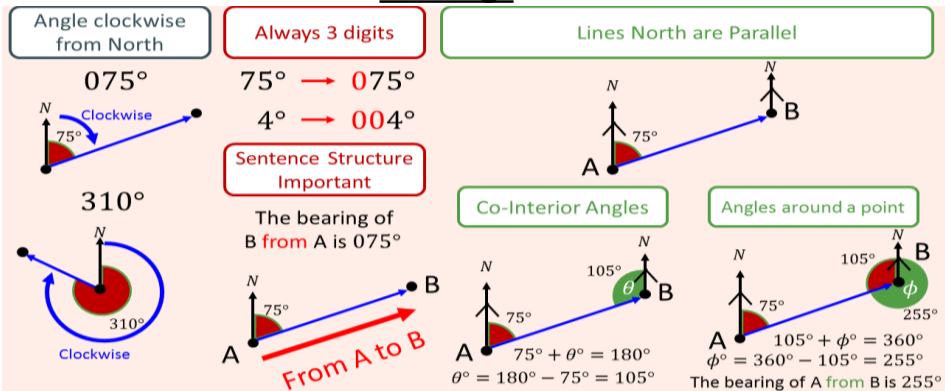


Experimental probability

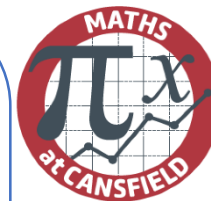
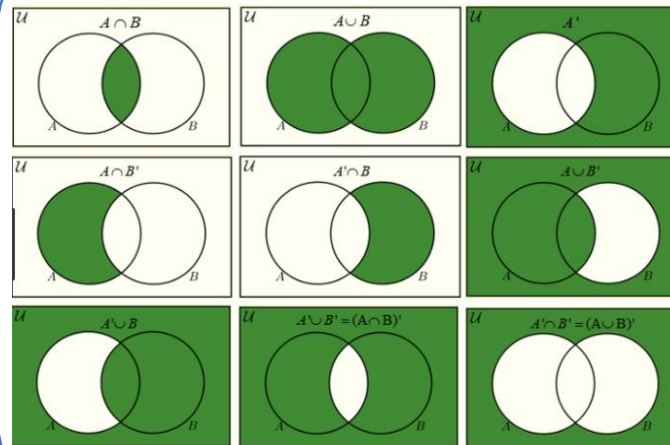
This is found by repeating an experiment and observing the outcomes.

$$P(\text{event}) = \frac{\text{number of times the event occurs}}{\text{total number of trials}}$$

Bearings



Venn Diagrams



For further revision use Corbett Maths.



Loci and constructions

The locus of a point is the path in which it moves under certain conditions. What do you draw for each criterion. The region is anything that satisfies the instructions in the question.

Equidistant from a point = a circle

Equidistant from a line = 2 lines parallel to the line and semicircles at the ends

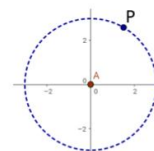
Equidistant from 2 points = perpendicular bisector

Equidistant from 2 lines = angle bisector

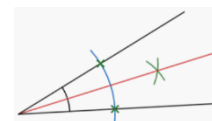
Equidistant from 2 parallel lines = line through the centre



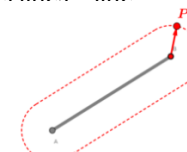
Perpendicular Bisector



Locus of points equidistant from a point A will form a circle with center A.



Angle Bisector



Locus of points equidistant from a line segment.

Key Terms

1. Loci
2. Equidistant
3. Probability
4. Independent
5. Clockwise

Y11 Higher Maths 2

Cumulative Frequency

A cumulative frequency table shows a running total of the frequencies. A cumulative frequency diagram reproduces this table as a graph.

The table below shows the lengths of 40 babies at birth. To calculate the cumulative frequencies, add the frequencies together.

Length (cm)	Frequency	Cumulative frequency
$30 < l \leq 35$	4	4
$35 < l \leq 40$	10	14 (= 4 + 10)
$40 < l \leq 45$	11	25 (=14 + 11)
$45 < l \leq 50$	12	37 (= 25 + 12)
$50 < l \leq 55$	3	40 (= 37+3)

A cumulative frequency diagram is drawn by plotting the cumulative frequency against the upper class boundary of the respective group. The upper class boundaries for this table are 35, 40, 45, 50 and 55.

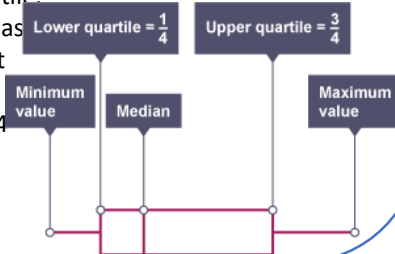
Box Plots

To find the median, work out 1/2 of the total frequency. Find this value on the vertical axis (the cumulative frequency axis). Draw a line across until it meets the curve. Draw a vertical line from that intersection to meet the horizontal axis. This will be the median. The **interquartile range** is the difference between the **upper quartile** and **lower quartile**.

To find the lower quartile,

use the same method as for the median, except

use 1/4. To find the upper quartile, use 3/4 instead.



Comparing Data

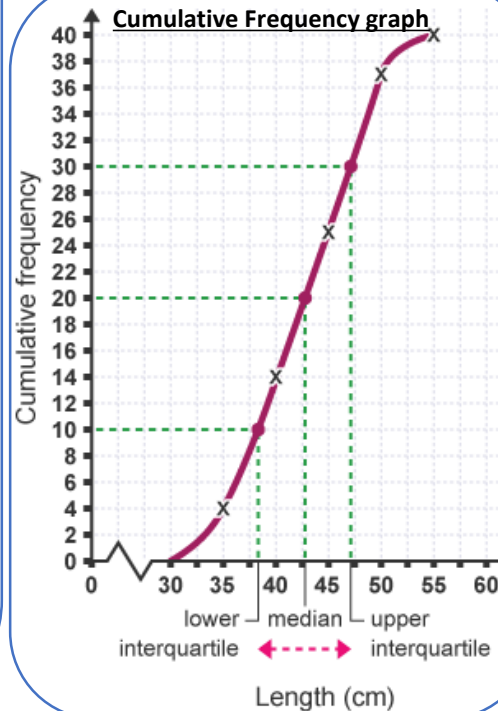
- Medians**, this tells you on average which is greater etc.
- Inter-quartile range**, this tells you which data set is more consistent.

Males: 68, 70, 75, 76, 77, 79, 81, 90, 120

Females: 71, 75, 76, 78, 83, 89, 90, 91, 92

a) Median and IQR unaffected by extreme values (e.g. by 120 in males list)

b) Males completed the race quicker, on average, (medians are 78 and 84.5) and their times were more consistent. (IQRs are 8 and 14)

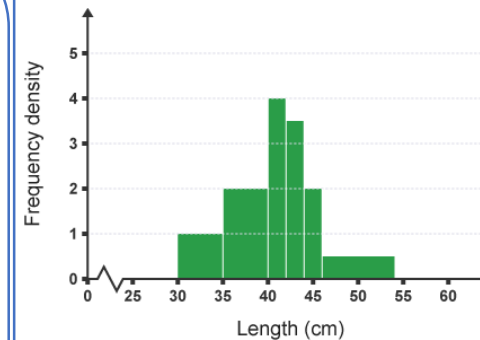


Histograms

Grouped data can also be displayed using a **histogram**, which looks like a bar chart, except **the area of the bar**, and not the height, shows the frequency of the **data**. The vertical axis shows the frequency density. Histograms are typically used when the continuous data is recorded in classes of unequal width.

$$\text{Frequency density} = \frac{\text{frequency}}{\text{class width}}$$

Length (cm)	Frequency	Class width	FD
$30 < l \leq 35$	5	5	$5 \div 5 = 1$
$35 < l \leq 40$	10	5	$10 \div 5 = 2$
$40 < l \leq 42$	8	2	$8 \div 2 = 4$
$42 < l \leq 44$	7	2	$7 \div 2 = 3.5$
$44 < l \leq 46$	4	2	$4 \div 2 = 2$
$46 < l \leq 54$	4	8	$4 \div 8 = 0.5$



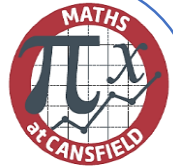
Using a histogram

Example

To estimate the number of babies whose length lies in the interval $33 < l \leq 41$, find the sum of the areas of the three rectangles, 33 to 35, 35 to 40 and 40 to 41:

$$\text{Frequency} = \text{density} \times \text{width}$$

$$(1 \times 2) + (2 \times 5) + (4 \times 1) = 2 + 10 + 4 = 16$$



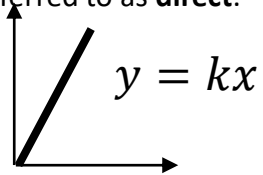
Key Terms

- Frequency density
- Cumulative
- Box plot
- Quartiles
- Proportional

Y11 Higher Maths 3

Direct Proportion

When one variable increases as another increases their proportionality is referred to as **direct**.



The value e is directly proportional to p.

When e=20, p=10. Find an equation relating e and p.

$$e \propto p$$

$$e = kp$$

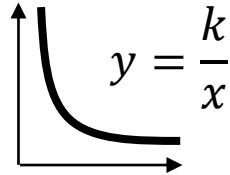
$$20 = 10k$$

$$k = 20 \div 10 = 2$$

$$e = 2p$$

Inverse Proportion

When one variable decreases as another increases their proportionality is referred to as **inverse**.



If g is inversely proportional to w and when g=4, w=9, then form an equation relating g to w.

$$g \propto \frac{1}{w}$$

$$g = \frac{k}{w}$$

$$4 = \frac{k}{9}$$

$$k = 4 \times 9 = 36$$

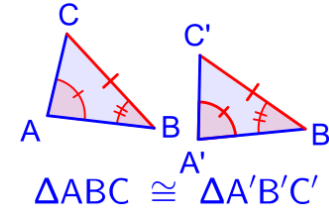
$$g = \frac{36}{w}$$

Congruent Shapes

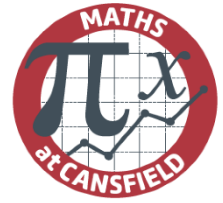
Shapes are congruency if they are identical – same shape and same size. Shapes can be rotated or reflected but still congruent.

4 ways of proving that two triangles are congruent:

1. SSS (Side, Side, Side)
2. RHS (Right angle, Hypotenuse, Side)
3. SAS (Side, Angle, Side)
4. ASA (Angle, Side, Angle) or AAS



ASS and AAA does not prove congruency.



Key Terms

1. Congruent
2. Density
3. Mass
4. Proportion
5. Similar

Similar Shapes

Shapes are similar if they are the same shape but different sizes. The proportion of the matching sides must be the same, meaning the ratios of corresponding sides are all equal.

The Scale factor - The ratio of corresponding sides of two similar shapes.

To find a scale factor, **divide a length** on one shape **by the corresponding length** on a similar shape.

Area - When we enlarge a shape by a scale factor, the area of the shape is multiplied by the square of the scale factor.

Volume - When we enlarge a shape by a scale factor, the volume of the shape is multiplied by the cube of the scale factor.

Example - Two similar posters have areas of 24 cm² and 384 cm². If the smaller poster has a perimeter of 20 cm, calculate the perimeter of the larger poster.

Scale factor for area = new area ÷ old area = 384 ÷ 24 = 16

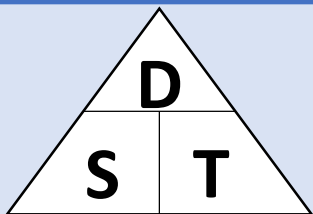
Area is the scale factor squared, so we need to find the square root of 16.

$$\sqrt{16} = 4$$

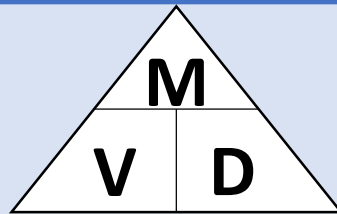
Scale factor for length = 4

Perimeter of larger poster = 20 × 4 = 80 cm.

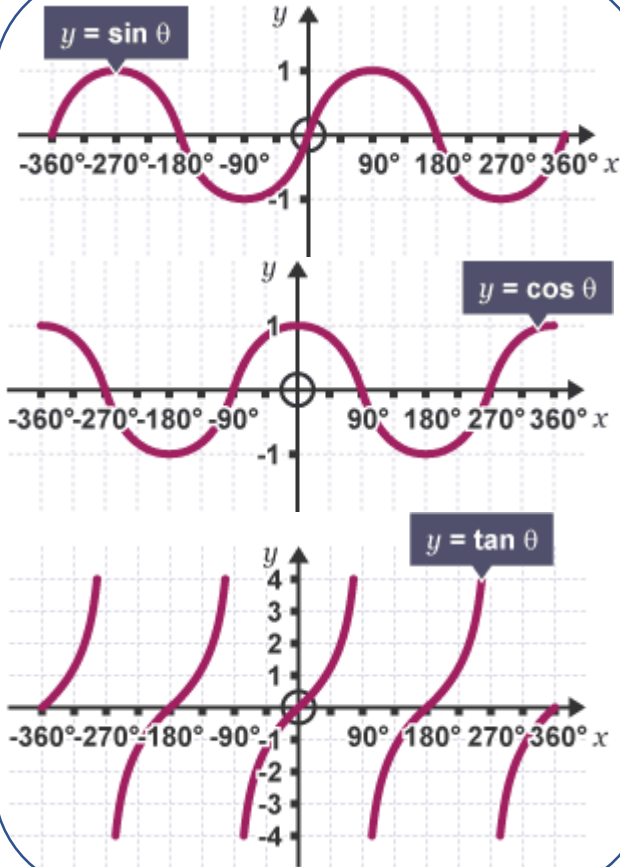
Speed – Typically measured in mph (miles per hour) or m/s (metres per second).



Density – Typically measured in g/cm³ (grams per cubic centimetre) or kg/m³ (kilograms per cubic metre)



Y11 Higher Maths 4

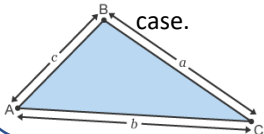


Key Terms

- 1 Sine Rule
- 2 Cosine Rule
- 3 Trigonometric Graphs
- 4 Transformations
- 5 Reflection

Labelling the triangle

Angles are labelled with a capital letter and the opposite length is labeled with the same but lower case.



The sine rule

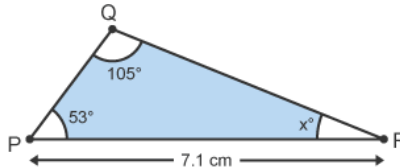
The sine rule to calculate lengths is:

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

The sine rule to calculate angles is:

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

Example – Calculate length QR to 3 sig figs.

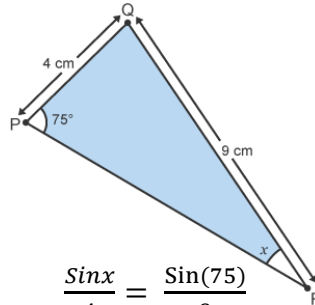


$$\frac{QR}{\sin(53)} = \frac{7.1}{\sin(105)}$$

$$QR = \frac{7.1 \times \sin(53)}{\sin(105)}$$

$$QR = 5.87 \text{ cm}$$

Example – Calculate angle x to 3 sig figs.



$$\frac{\sin x}{4} = \frac{\sin(75)}{9}$$

$$\sin x = \frac{4 \times \sin(75)}{9}$$

$$\sin x = 0.4293000 \dots$$

$$x = \sin^{-1}(0.4293000 \dots)$$

$$x = 25.4^\circ$$

The cosine rule

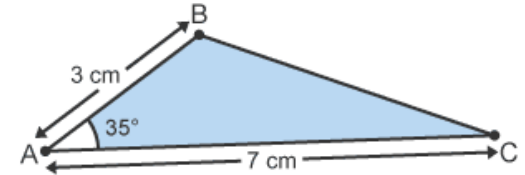
The cosine rule to calculate lengths is:

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

The cosine rule to calculate angles is:

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

Example – Calculate length BC to 3 sig figs.



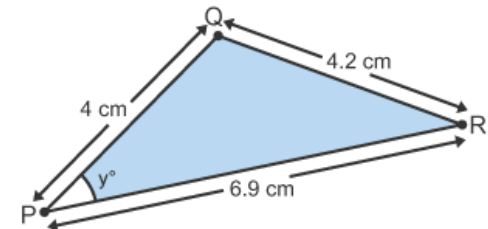
$$BC^2 = 3^2 + 7^2 - 2 \times 3 \times 7 \cos(35)$$

$$BC^2 = 23.59561414 \dots$$

$$BC = \sqrt{23.59561414 \dots}$$

$$BC = 4.86 \text{ cm}$$

Example – Calculate angle x to 3 sig figs.



$$\cos A = \frac{4^2 + 6.9^2 - 4.2^2}{2 \times 4 \times 6.9}$$

$$\cos A = 0.8327898 \dots$$

$$y = \cos^{-1}(0.8327898 \dots)$$

$$y = 33.6^\circ$$

Y11 Higher Maths 5

Vectors to describe translations

$$\begin{pmatrix} x \\ y \end{pmatrix}$$

Direction left/right

Direction up/down

Vectors notation

$$\overrightarrow{AB} \quad a \quad a$$

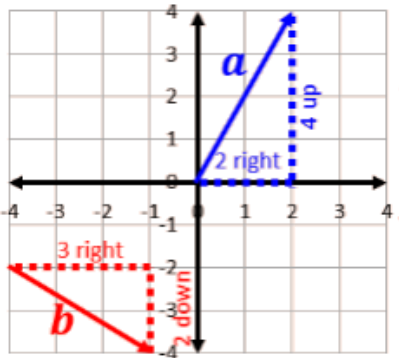
Magnitude = **Length** of arrow

Direction = **Where** arrow is pointing

Drawing vectors

$$a = \begin{pmatrix} 2 \\ 4 \end{pmatrix}$$

$$b = \begin{pmatrix} 3 \\ -2 \end{pmatrix}$$



Parallel vectors

Same direction, may have different magnitude

The vectors below have the same direction but different magnitude

$$a - 3b \quad 3(a - 3b)$$

Problem solving with vectors

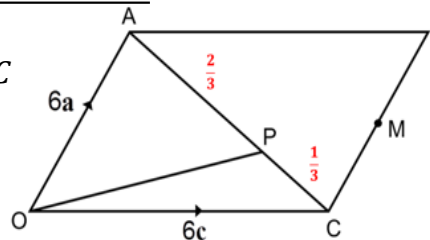
OABC is a parallelogram.

P is the point on AC such that $AP = \frac{2}{3}AC$

The midpoint of CB is M.

Prove that OPM is a straight line.

As it is a parallelogram, $CB = 6a$ and $AB = 6c \therefore CM = 3a$



$$\overrightarrow{OP} = 2a + 4c$$

$$\overrightarrow{OM} = 3a + 6c$$

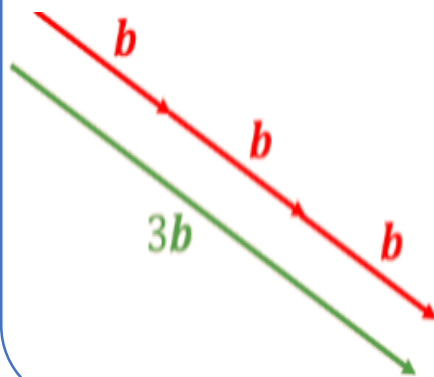
$$\overrightarrow{OM} = \overrightarrow{OC} + \frac{1}{2}\overrightarrow{CB} = 3a + 6c$$

$$\overrightarrow{OM} = \frac{3}{2}\overrightarrow{OP} \text{ With a shared point, O, therefore, OPM is a straight line.}$$

Vectors to describe translations

Only affects magnitude, not direction.

$$3b = b + b + b$$



Adding and subtracting vectors

$$a = \begin{pmatrix} 2 \\ -5 \end{pmatrix} \quad b = \begin{pmatrix} -3 \\ 4 \end{pmatrix}$$

Find $a + b$

$$\begin{pmatrix} 2 \\ -5 \end{pmatrix} + \begin{pmatrix} -3 \\ 4 \end{pmatrix} = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$$

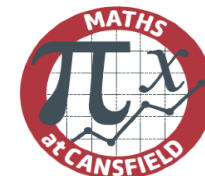
Find $b - a$

$$\begin{pmatrix} -3 \\ 4 \end{pmatrix} - \begin{pmatrix} 2 \\ -5 \end{pmatrix} = \begin{pmatrix} -3 - 2 \\ 4 - (-5) \end{pmatrix} = \begin{pmatrix} -5 \\ 9 \end{pmatrix}$$

Find $2a - b$

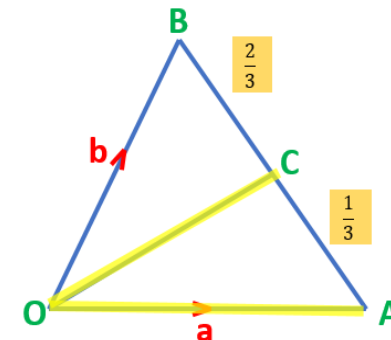
$$2\begin{pmatrix} 2 \\ -5 \end{pmatrix} + \begin{pmatrix} -3 \\ 4 \end{pmatrix} = \begin{pmatrix} 1 \\ -6 \end{pmatrix}$$

For further revision use Corbett Maths.



Vectors with ratio

The diagram shows the vectors $\overrightarrow{OA} = a$ and $\overrightarrow{OB} = b$. The point C lies on the line AB in the ratio 1:2.



Work out the vector \overrightarrow{AC}
We know that $\overrightarrow{AC} = \frac{1}{3}\overrightarrow{AB}$

$$\overrightarrow{AB} = b - a$$

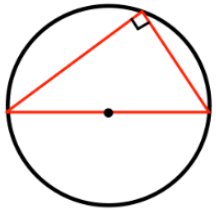
$$\therefore \overrightarrow{AC} = \frac{1}{3}(b - a)$$

Key Terms

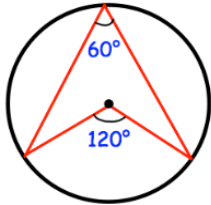
1. Parallel
2. Magnitude
3. Co-linear
4. Scalar multiple
5. Direction

Y11 Higher Maths 6

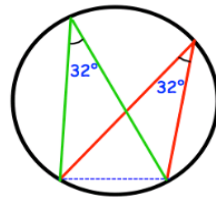
Circle theorems



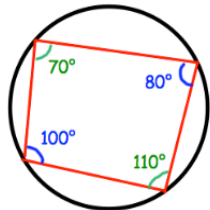
The angle in a semicircle is 90°



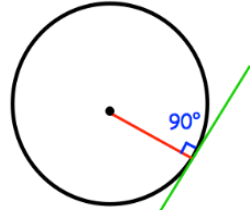
The angle at the centre is double the angle at the circumference



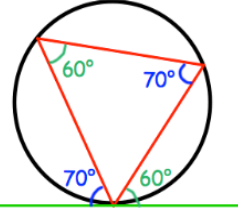
Angles in the same segment are equal



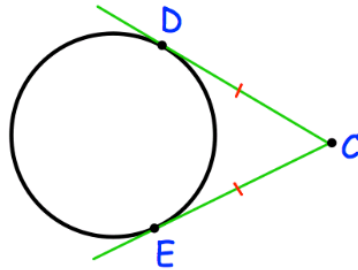
Opposite angles in a cyclic quadrilateral add up to 180°



The angle between a radius and a tangent is 90°



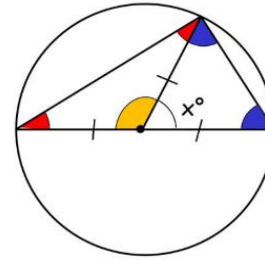
Alternate segment theorem



The tangent to a circle from the same point will be equal in length

Circle theorem proof

Prove that the angle in a semicircle is 90°



\Rightarrow 2 Isosceles Triangles

- Label an angle

$$\triangle = (180 - x)/2 = 90 - \frac{1}{2}x$$

$$\text{Yellow sector} = 180 - x$$

$$\triangle = (180 - (180 - x))/2 = \frac{1}{2}x$$

$$\triangle = 90^\circ$$

\Rightarrow Angle in a semi-circle is 90°

(or simply apply 'angle at centre') Q.E.D

Prove that opposite angles in a cyclic quadrilateral add to 180°

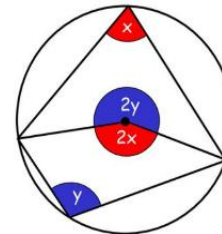
First, draw in radii

apply 'angle at centre'

$$2x + 2y = 360^\circ$$

$$2(x + y) = 360^\circ$$

$$x + y = 180^\circ$$



\Rightarrow Opposite Angles in a Cyclic Quadrilateral add up to 180°

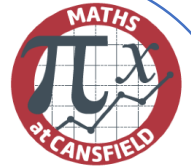
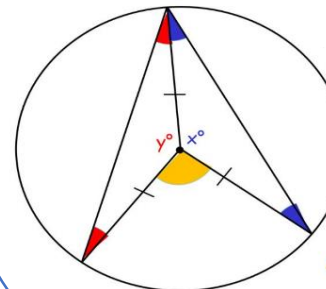
- First, draw a radius
2 Isosceles Triangles

$$\triangle = (180 - x)/2$$

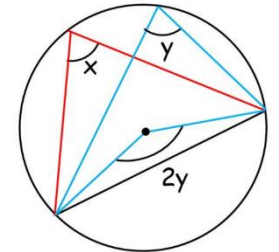
$$\triangle = (180 - y)/2$$

$$\triangle = 180 - \frac{1}{2}x - \frac{1}{2}y$$

$$\text{Yellow sector} = 360 - y - x$$



Prove that angles in the same segment are equal



- First, draw in radii

apply 'angle at centre'

$$\Rightarrow 2x = 2y$$

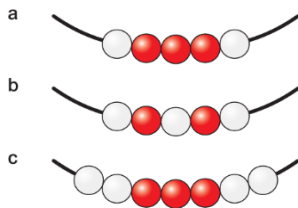
$$x = y$$

Key Terms

1. Cyclic quadrilateral
2. Alternate segment
3. Segment
4. Radius
5. Tangent

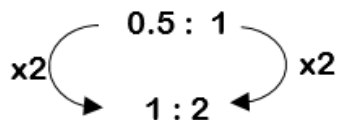
Ratio

1. Write the **ratio** of red beads to white beads for each of these necklaces.



- 3 red for every 2 white so the ratio is 3:2
- 2 red for every 3 white so the ratio is 2:3
- 3 red for every 4 white so the ratio is 3:4

2. Ratios in their simplest form do not have units



3. Share £25 in the ratio 3:2

			Total
Ratio	3	2	5
Amount	15	10	25

(Note: Blue arrows in the original image show 3 x 5 = 15, 2 x 5 = 10, and 5 x 5 = 25)

4. Julie and Pat share some money in the ratio 2:5. Pat gets £45 more than Julie. How much money did Pat get?

Julie	Pat	Total
2	5	7
30	75	105

(Note: Orange boxes in the original image highlight the amounts. Blue arrows show 2 x 15 = 30, 5 x 15 = 75, and 7 x 15 = 105)

Pat gets 3 more parts than Julie. There is £45 to share into these 3 parts. Each part is worth £15. Therefore, 2 parts is £30 and 5 parts is £75.

Proportion

1. A recipe for **8 people** requires **400g** of milk chocolate, how much is needed for **4 people**?

$$\begin{array}{l} \div 8 \quad 8 \text{ people} = 400\text{g} \\ \times 4 \quad 1 \text{ person} = 50\text{g} \\ \quad \quad 4 \text{ people} = 200\text{g} \end{array} \quad \begin{array}{l} \div 8 \\ \times 4 \end{array}$$

2. There are 8 girls and 7 boys in a class. The ratio of boys to girls is 8:7.

The proportion of boys is $\frac{7}{15}$ and the proportion of girls is $\frac{8}{15}$.

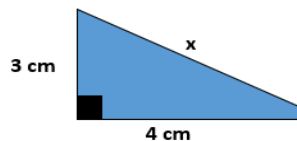
3. It takes **4 people 3 days** to lay the cables for high-speed fibre broadband. How long would it take **6 people**?

$$\begin{array}{l} \div 4 \quad 4 \text{ people} = 3 \text{ days} \\ \times 6 \quad 1 \text{ person} = 12 \text{ days} \\ \quad \quad 6 \text{ people} = 2 \text{ days} \end{array} \quad \begin{array}{l} \times 4 \\ \div 6 \end{array}$$

Pythagoras' Theorem

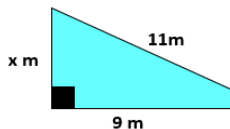
In a right-angled triangle, the square on the hypotenuse is equal to the sum of the squares on the other two sides.

Calculate the length labelled x.



$$\begin{aligned} x^2 &= \sqrt{4^2 + 3^2} \\ x^2 &= \sqrt{16 + 9} \\ x^2 &= \sqrt{25} \\ x &= 5 \end{aligned}$$

Calculate the length labelled x to 1 decimal place.



$$\begin{aligned} x^2 &= \sqrt{11^2 - 9^2} \\ x^2 &= \sqrt{121 - 81} \\ x^2 &= \sqrt{40} \\ x &= 6.3\text{m} \end{aligned}$$

To calculate the hypotenuse.

$$c^2 = \sqrt{a^2 + b^2}$$

To calculate a shorter side.

$$b^2 = \sqrt{c^2 - a^2}$$

or

$$a^2 = \sqrt{c^2 - b^2}$$

For further revision use
Corbett Maths.



Key Terms

1. Proportion
2. Ratio
3. Pythagoras
4. Hypotenuse
5. Inverse

Y11 Foundation Maths 2

Two Events

A **sample space** diagram shows all possible outcomes. You can use it to find a **theoretical probability**.

Example:

A fair dice is rolled, and a fair coin flipped.

- Draw a sample space diagram.
- Write the probability of getting a tail on the coin and an odd number on the dice.
- Write down the probability of getting a head on the coin and an even number on the dice.

a) Draw a two-way table to show the possible outcome

	1	2	3	4	5	6
Heads	H, 1	H, 2	H, 3	H, 4	H, 5	H, 6
Tails	T, 1	T, 2	T, 3	T, 4	T, 5	T, 6

b) There are 12 equally likely outcomes. Three are tails and an odd number: 'T, 1', 'T, 2', and 'T, 3'.

$$P(\text{T, odd}) = \frac{3}{12} = \frac{1}{4}$$

c) 6 outcomes are 'H, -' and 3 outcomes are 'T, even number',

$$3 + 6 = 9.$$

$$P(\text{Heads, even}) = \frac{9}{12} = \frac{3}{4}$$

Calculating Probability

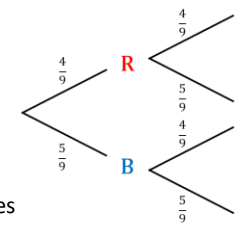
Write your answers as **fractions** or **decimals**.

$$\text{Probability} = \frac{\text{number of successful outcomes}}{\text{total number of possible outcomes}}$$

Tree Diagrams

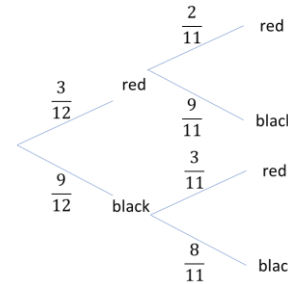
1st Selection 2nd Selection

Two events are **independent** when the results of one do not affect the results of the other.



When the outcome of one event changes the possible outcomes of the next event, the two events are **not independent**.

There are 12 marbles in a bag, 3 red and 9 blue.



The probability of two red:

$$\frac{3}{12} \times \frac{2}{11} = \frac{6}{121}$$

The probability of one of each colour will be

$$\begin{aligned} \frac{3}{12} \times \frac{9}{11} + \frac{9}{12} \times \frac{3}{11} \\ = \frac{27}{121} + \frac{27}{121} \\ = \frac{54}{121} \end{aligned}$$

Trigonometry

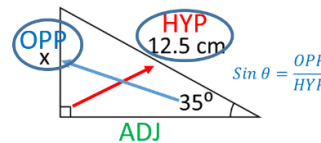
Use Trigonometric ratios, sin, cos, tan, to find missing sides or angles for right angled triangles

$$\sin 35 = \frac{x}{12.5}$$

$$x = \sin(35) \times 12.5$$

$$x = 7.169705454$$

$$x = 7.2 \text{ cm (to 1dp)}$$

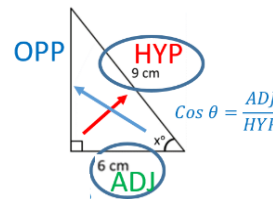


$$\cos x = \frac{6}{9}$$

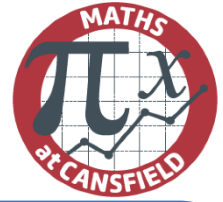
$$x = \cos^{-1}\left(\frac{6}{9}\right)$$

$$x = 48.1896851$$

$$x = 48.2^\circ \text{ (to 1dp)}$$



Corbett Maths



Venn Diagrams

These brackets { } show a set of values. \in means 'is an element of'.

$A \in \{\text{even numbers}\}$ means 'A is in the set of even numbers'.

An element is a 'member of a set'.

ϵ means the universal set – all the elements being considered.

The Venn diagram shows the numbers of students studying French and Spanish.

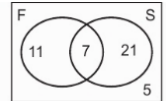
Work out

a) the total number of students represented in the diagram.

b) $P(F)$

c) $P(F \cup S)$

d) $P(F')$



a) Add the numbers in each part of the diagram together

$$11 + 7 + 21 + 5 = 44$$

b) Total number in $F = 11 + 7 = 18$

$$P(F) = \frac{18}{44}$$

c) Number of students in $F \cup S = 39$

$$P(F \cup S) = \frac{39}{44}$$

d) 21 + 5 students are not in F

$$P(F') = \frac{26}{44}$$

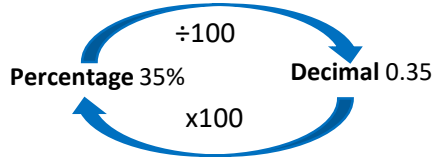
Key Terms

- Hypotenuse
- Sine
- Cosine
- Tangent
- Venn diagram

Y11 Foundation Maths 3

Percentages

Converting between percentages and decimals



Express one number as a percentage of another

$$\frac{\text{Number}}{\text{total}} \times 100$$

Percentage of amount

$$50\% \div 2 \quad 25\% - \div 4 \quad 10\% - \div 10 \quad 1\% - \div 100$$

Use these to calculate other percentages without a calculator

Percentage Increase/Decrease

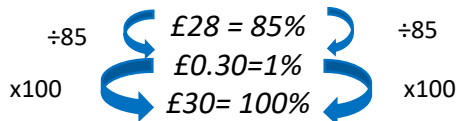
Calculate the percentage and add it on for an increase and subtract it for a decrease

Percentage Change $\text{Percentage change} = \frac{\text{change}}{\text{original}} \times 100$

Reverse Percentage

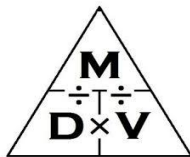
This is when you find the original/normal amount

Example: a top is reduced by 15% to £25.50. What was the original price?



Mass/Density/Volume

Density is a compound measure. It is the mass of substance in a certain volume. It is usually measured in g/cm^3 .



Growth and Decay

Using Percentage Multipliers

Multiplier for an increase of 4% ($100\% + 4\% = 104\%$)
As a decimal is 1.04.
Multiplier for a decrease of 15% ($100\% - 15\% = 85\%$)
As a decimal is 0.85.

Compound Interest

Sarah invests £500 in her savings account for 3 years with an interest rate of 4.2% per annum. Calculate how much money she will have in her account at the end of 3 years.

Amount \times (interest as multiplier)^{number of years}

$$500 \times (1.042)^3 = \text{£}565.683044$$

In money (2dps) = £565.68

Compound Depreciation

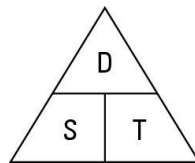
Depreciate means to decrease in value or amount- multiplier will be less than one

Jack buys a car for £8000. It depreciates in value by 5% each year. How much will the car be worth after 6 years?

$$8000 \times (0.95)^6 = \text{£}5880.735125$$

In money (2dps) = £5880.74

Speed/Distance/Time



$$D = S \times T$$

$$S = D \div T$$

$$T = D \div S$$

Speed is often measured in meters per second (m/s), kilometers per hour (km/h) or miles per hour (mph).

A car travels 90 kilometers in 2hour 15 minutes.

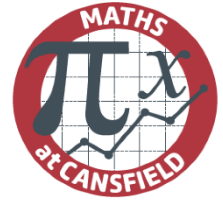
What is the average speed in km/h?

Distance = 90km Time = 2.25 hours

$$\text{Speed} = \frac{90}{2.25} = 40 \text{ km/h}$$

Key Terms

1. Depreciation
2. Compound Interest
3. Direct Proportion
4. Inverse Proportion
5. Density



Direct Proportion

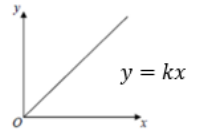
When two quantities, x and y , are in direct proportion:

$$y \propto x$$

$y = kx$, where k is a constant and $k \neq 0$

$$\frac{y}{x} = k, \text{ where } x \neq 0$$

The graph of y against x is a straight line passing through the origin with gradient k .



Inverse Proportion

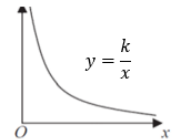
When two quantities, x and y , are in inverse proportion:

$$y \propto \frac{1}{x}$$

$y = \frac{k}{x}$, where k is a constant and $k \neq 0$

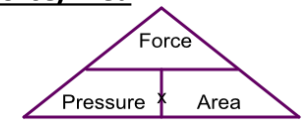
$$xy = k, \text{ where } x \neq 0$$

The graph of y against x is a curve.



Pressure/Force/Area

Pressure is a compound measure. It is the force applied over an area. It is usually measured in N/m^2 .



Y11 Foundation Maths 4

Scale Drawings and Maps

A scale is a ratio that shows the relationship between a length on a map or drawing and the actual length. Scale 1:25 000 means 1cm on the map represents 25 000cm in real life.

Locus and Constructions

The locus of a point is the path in which it moves under certain conditions. What do draw for each criterion. The region is anything that satisfies the instructions in the question.

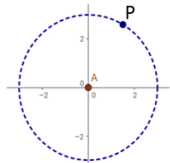
Equidistant from a point = a circle

Equidistant from a line = 2 lines parallel to the line and semicircles at the ends

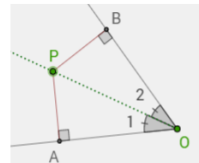
Equidistant from 2 points = perpendicular bisector

Equidistant from 2 lines = angle bisector

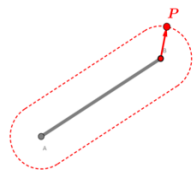
Equidistant from 2 parallel lines = line through the centre



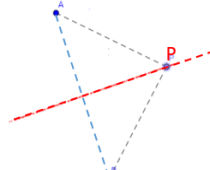
Locus of points equidistant from a point A will form a circle with center A.



Locus of points that are equidistant from two lines will bisect the angle formed by the two lines.



Locus of points equidistant from a line segment.



Locus of points equidistant from two points A and B forms a perpendicular bisector of the line AB.

Expanding Double Brackets

Expand $(x + 4)(x + 2)$

	x	$+4$
x	x^2	$+4x$
$+2$	$+2x$	$+8$

$$=x^2 + 4x + 2x + 8$$

$$=x^2 + 6x + 8$$

Factorising Quadratics

$$x^2 + 10x + 16$$

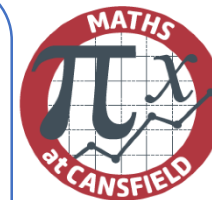
Find two factors of +16 that add to +10 = 8 and 2

$$=(x + 2)(x + 8)$$

Difference of two squares

Factorise $x^2 - 9$

$$\sqrt{9} = 3, \text{ therefore } (x + 3)(x - 3)$$



For further revision use Corbett Maths.

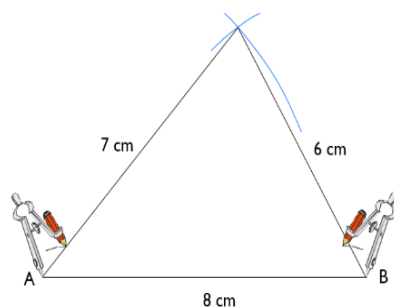


Constructing Triangles Given 3 Sides

To construct a triangle, given 3 sides.

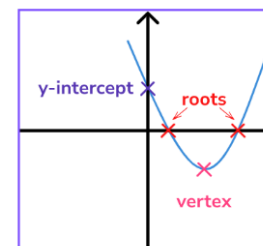
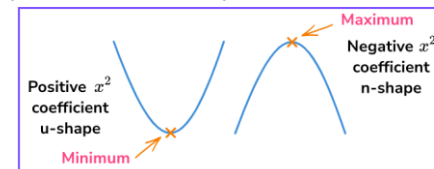
To construct a triangle of sides 8cm, 7cm and 6cm.

1. Draw a line 8cm long and use as the base.
2. Set compasses to 7cm, place pin in A and draw an arc.
3. Set compasses to 6cm, place pin in B and draw another arc, intersecting with the one previously drawn.
4. Join A to the intersection and then repeat, joining B to the intersection.



Quadratic Graphs

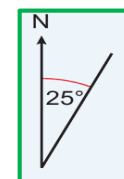
Quadratic Graphs have a symmetrical U-shaped curve called a parabola



The vertex, is the turning point. A quadratic equation can be solved by reading the x coordinates from the graph, called the roots.

Bearings

A bearing is an angle measured in degrees clockwise from north. A bearing is always written using three digits. This bearing is 025°.



Key Terms

1. Loci
2. Parabola
3. Vertex
4. Perpendicular
5. Bisector

Y11 Foundation Maths 5

Vectors to describe translations

$\begin{pmatrix} x \\ y \end{pmatrix}$ Direction left/right
 Direction up/down

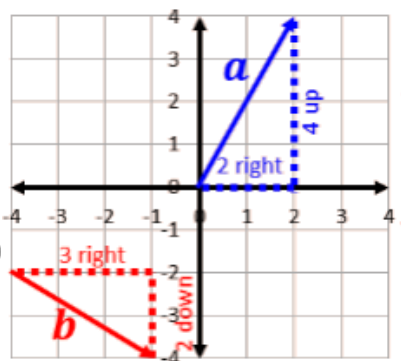
\overrightarrow{AB} Vectors notation
 \underline{a} \underline{a}

Magnitude = **Length** of arrow
 Direction = **Where** arrow is pointing

Drawing vectors

$$a = \begin{pmatrix} 2 \\ 4 \end{pmatrix}$$

$$b = \begin{pmatrix} 3 \\ -2 \end{pmatrix}$$



Spheres

$$\text{Surface Area} = 4\pi r^2$$

$$\text{Volume of a Sphere} = \frac{1}{3}\pi r^2 h$$

For a **hemisphere**, don't forget to **halve** your answer

Adding and subtracting vectors

$$a = \begin{pmatrix} 2 \\ -5 \end{pmatrix} \quad b = \begin{pmatrix} -3 \\ 4 \end{pmatrix}$$

Find $a + b$

$$\begin{pmatrix} 2 \\ -5 \end{pmatrix} + \begin{pmatrix} -3 \\ 4 \end{pmatrix} = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$$

Find $b - a$

$$\begin{pmatrix} -3 \\ 4 \end{pmatrix} - \begin{pmatrix} 2 \\ -5 \end{pmatrix} = \begin{pmatrix} -3 - 2 \\ 4 - (-5) \end{pmatrix} = \begin{pmatrix} -5 \\ 9 \end{pmatrix}$$

Find $2a - b$

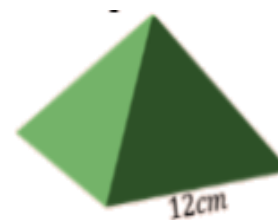
$$2 \begin{pmatrix} 2 \\ -5 \end{pmatrix} + \begin{pmatrix} -3 \\ 4 \end{pmatrix} = \begin{pmatrix} 1 \\ -6 \end{pmatrix}$$

Volume of a pyramid

The volume of a pyramid is always $\frac{1}{3}$ of the prism that surrounds it.

$$\text{Volume} = \frac{1}{3} \times \text{area of the base} \times \text{height}$$

Calculate the volume of the square based pyramid if its height is 15cm



$$\text{Volume} = \frac{1}{3} \times 12 \times 12 \times 15$$

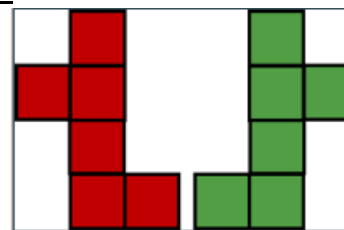
$$\text{Volume} = 720\text{cm}^3$$

Congruence

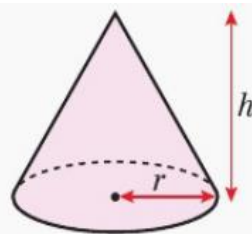
Shapes are **congruent** if they are exact replicas of one another.

The **angles** and **side lengths** remain the same.

The shapes may be oriented differently
Two shapes are congruent if they are **reflections** of one another.



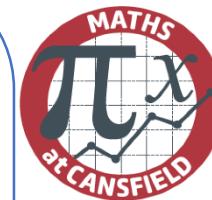
Cones



$$\text{Curved Surface Area} = \pi r l$$

$$\text{Total Surface area of a cone} = \pi r l + \pi r^2$$

$$\text{Volume of a Cone} = \frac{1}{3}\pi r^2 h$$



For further revision use Corbett Maths.



Key Terms

1. Cone
2. Sphere
3. Congruent
4. Enlargement
5. Scale factor

Macbeth by William Shakespeare



Plot

Act 1	Macbeth and Banquo are two Scottish noblemen who encounter three witches on a heath. The witches give both men predictions and then vanish. One of the predictions given to Macbeth comes true almost immediately. Macbeth writes a letter to his wife. She is excited by the news and summons evil spirits to give her the courage to commit murder. Macbeth arrives to announce that King Duncan is coming to spend the night at their castle.
Act 2	Having agreed to kill King Duncan, Macbeth sees a dagger and wonders if it is a "dagger of the mind", because he is having second thoughts. However, he resolves to kill King Duncan, who is found dead at dawn by Macduff. The king's sons flee, fearing for their lives. In their absence, Macbeth is chosen to be king.
Act 3	Banquo suspects that Macbeth was involved in Duncan's murder. Macbeth fears Banquo and so plans to have Banquo and his son, Fleance, murdered away from the castle. Banquo is killed but Fleance escapes. The ghost of Banquo appears at a feast to haunt Macbeth. The guests become suspicious of Macbeth because of his violent reactions to a ghost that only he can see.
Act 4	Macbeth, filled with insecurity, returns to the witches and is given three more predictions: <ul style="list-style-type: none"> Beware Macduff, beware the Thane of Fife None of woman born can harm Macbeth Macbeth shall never be beaten until Birnam Woods moves towards his castle Macbeth learns that Macduff has fled Scotland. He orders the execution of Macduff's wife and children.
Act 5	Lady Macbeth appears on stage sleepwalking. Her mental health has deteriorated terribly. She is burdened by feelings of guilt, which she sees as blood on her hands that she is unable wash away. Duncan's son Malcolm, backed by the English army and Macduff, approach Macbeth's castle. They chop down branches from the trees at Birnam Wood to disguise how big their army is. Birnam Wood appears to move. Macbeth says he fears no man as all men are born by women. Macduff announces he was not born naturally but was "ripp'd" prematurely from his mother's womb. Macduff kills Macbeth and Malcolm becomes the next King of Scotland.

Characters

Macbeth	A "brave" and loyal warrior whose vaulting ambition leads him to commit regicide
Lady Macbeth	Macbeth's wife. Coerces Macbeth into committing regicide. Loses control and commits suicide at end of play.
Banquo	Scottish nobleman; close friend of Macbeth. Betrayed and killed. Ghost haunts Macbeth at a feast.
Fleance	Banquo's son.
King Duncan	A fair and generous ruler who is butchered by Macbeth.
Macduff	A Scottish nobleman, loyal to Duncan. Kills Macbeth to restore order to Scotland.
Malcolm	Duncan's eldest son, the Prince of Cumberland.
Witches / 'weird sisters'	Presented by Shakespeare as supernatural beings who seem to foretell the future.

Key Themes:
ambition, supernatural, power, kingship, fate and freewill, appearance and reality.

Macbeth was written in 1606, early in the reign of James I, who had been James VI of Scotland before he succeeded to the English throne in 1603.



Key Quotes:

"Fair is foul and foul is fair"

"Stars, hide your fires. Let not light see my black and deep desires."

"Look like the innocent flower but be the serpent under't."

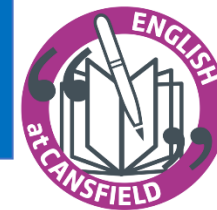
"Is this a dagger which I see before me?"

"Out, damned spot! out, I say!"

"Life's but a walking shadow, a poor player that struts and frets his hour upon the stage, and then is heard no more. It is a talk told by an idiot, full of sound and fury, signifying nothing."

Key Terms

1. Ambition
2. Hamartia
3. Paradox
4. Regicide
5. Supernatural



Reading skills

Question	Skill	Question focus	Marks	Top tips
1	Identify	Choose four statements which are true.	4	<p>This question is worth 4 marks.</p> <ul style="list-style-type: none"> Read the lines specified to find the information. Double check the wording. Ensure to shade the boxes.
2	Summary	Write a summary of the differences between Source A and B	8	<p>This question is asking you to look at reasons for the differences.</p> <ul style="list-style-type: none"> Find approx. 3 differences. Write comparison paragraphs explaining the differences and possible reasons. Use clear small quotes from both sources in each paragraph. Do not use/ explore language devices language devices.
3	Language	How does the writer's use of language?	12	<p>Here, you are looking at what the author has done to create meaning and how it impacts on the reader.</p> <p>This means you should be looking at:</p> <ul style="list-style-type: none"> Word choices used by the author (their meaning and connotations) Techniques used by the author and their effect Punctuation and sentence structures and how they create effect <p>You will be looking for information that is suggested/ implied - not obviously said.</p> <ul style="list-style-type: none"> You must look at breaking down meaning in a quotation, then explain how it links to the focus of the question.
4	Comparison	Compare how the two writers convey their different attitudes to...	16	<p>Here, you are being asked to compare ideas and perspectives over two texts – and the language they used to put these across.</p> <ul style="list-style-type: none"> Find 4/5 differences for the question focus. Find a quote from each source for each of the differences. Find language or structure devices in those quotes. Use connectives to link paragraphs and connect ideas. Write 4-5 paragraphs, using subject terminology and focusing on the question.

Writing skills



Question 5: 40 marks

This is a persuasive or argumentative piece of writing in a non-fiction form such as a news article, letter or speech

Take 5/10 minutes to plan your ideas.

- Attempt to keep your reasoning believable – you can take ideas from Source A and B.
- Remember this is a non-fiction piece of writing and should include facts, opinions, statistics, quotes etc. Make these up as you need to.
- Match your page layout to the form (i.e address and date for a letter, headline for a newspaper).
- Keep your piece relevant and focused throughout.
- Use persuasive methods throughout

Remember this is an opinionated piece so it needs to have a strong voice. Avoid 'I think / I agree' – be convincing and sound like an expert.

Remember to use paragraphs and different types of sentences. Use a range of punctuation.

Last 5 minutes: Reread and proofread your paper.



Language help

- | | |
|---------------------|--------------------|
| Simile | Repetition |
| Metaphor | Flattery |
| Personification | Exaggeration |
| Alliteration | Facts |
| Rhetorical question | Statistics |
| List of three | Connectives |
| Emotive language | Counter-argument |
| Commands | Address the reader |

Key Terms

- Perspective
- Viewpoint
- Audience
- Form
- Evoke



Ozymandias
Percy Shelley

Narrator meets a traveller who tells him about a statue in the middle of the desert. The statue is of an ancient and cruel ruler from a past civilization. The poem is about the temporary nature of power. Ultimately, power will fade, art cannot immortalise power and nature will be long-lasting.

London
William Blake

Narrator describes a walk around London and comments on the despair and misery that he sees. Blake was influenced by the French Revolution and wanted social and political equality. He wanted the people to rise up against the powerful (church, monarchy) and in turn emancipate (liberate/free) themselves.

The Prelude: Stealing the boat
William Wordsworth

This is only an extract of the poem and is autobiographical. It is about a confident narrator who finds a boat and takes it out on the lake. Although confident to begin with and enjoying the scenery, the narrator sees the mountain appear on the horizon and is overwhelmed with its size and power. It causes the narrator to retreat and change his view of nature, he now realises its power. Wordsworth was a romantic poet (Romantics challenged people about they way they thought. They also saw the power of nature over mankind.)

My Last Duchess
Robert Browning

A Duke is showing a visitor a portrait of his Duchess (former wife) who is now dead. Whilst observing the painting he tells the visitor that the Duchess was flirtatious and displeased him. As he speaks we realise that the Duke is insanely jealous and probably had the Duchess killed. We learn at the end of the poem that the visitor has come to arrange the Duke's next marriage and is representing the woman he is set to marry.

Storm on the Island
Seamus Heaney

The narrator describes how a community are waiting to be hit by a storm. It is obvious that they have been hit before because of the landscape of the island (houses squat). The narrator starts off confident but as the storm hits the power of the storm creates feelings fear and trepidation. Heaney grew up in a farming community in Ireland; much of his poetry uses agricultural/natural images.

Tissue
Intiaz Dharker

The poem uses tissue as an extended metaphor for life. She describes how life, like tissue is fragile. However, she also discusses some of the literal uses of paper that are intertwined with our lives, such as recording names in the Koran- She then goes onto to discuss how we are made from tissue (living tissue which is our skin) emphasising that life is fragile. Dharker has Pakistani origins and was raised in Glasgow. Many of her poems looks at issues of identify.

The Emigrée
Carol Rumens

The speaker speaks about a city that she left as a child. The speaker has a purely positive view of the city. The city she recalls has since changed, perhaps it was scene of conflict, however, she still protects the memory of her city. The city may not be a real place but represent a time, emotion -perhaps the speaker's childhood. According to Ben Wilkinson (critic), Rumens has a 'fascination with elsewhere.'

Checking Out Me History
John Agard

The narrator discusses his identity and emphasises how identity is closely linked to history and understanding your own history. In school he was taught British history and not about his Caribbean roots to which he feels resentful. He mocks some of the pointless things he was taught and contrasts the nonsense topics with admirable black figures.

Key Terms

1. Compare
2. Stanza
3. Colloquial
4. Semantic field
5. Honour



'An Inspector Calls' by J.B Priestley



Dramatic Devices Used	
Lighting	A change in lighting shows the change in atmosphere that the Inspector brings, indicating the truth being revealed.
Doorbell	The doorbell interrupts Birling's speech on his capitalist ideas that community is 'nonsense'. The inspector disrupts this.
Photograph	The Inspector only shows the photograph to one person at a time. This means that no one character can ever be sure that they have seen the same photograph as any other character.
Dramatic Irony	Birling's first speech is full of inaccuracies. This makes us question the reliability of his capitalist judgements. Mrs Birling's hypocrisy is also shown through the use of dramatic irony.
Contrasts	Priestley juxtaposes the beliefs of Birling and the Inspector. He links Sheila and Eva to highlight the differences in their lives because of their different social classes.
Cliff hangers	Act 1 ends with the Inspector saying 'Well?' to Gerald. Act 2 ends as Eric reappears, just as we realise he is the father.
Entrances	The timing of Mrs Birling, the Inspector and Eric's entrances are significant.
Twist	The final denouement is a shocking surprise to the characters on stage and the audience – a 'twist in the tale'.

Plot
An inspector arrives at the Birling house. He tells them how a girl called Eva Smith has killed herself - he wants to ask them some questions. The Inspector reveals that the girl used to work in Arthur Birling's factory and he had her sacked for going on strike. Mr Birling refuses to accept any responsibility for her death. The Inspector then reveals that Sheila thought that Eva had made fun of her, complained and got her sacked. Sheila is deeply ashamed and feels responsible for the girl's death.
The Inspector forces Gerald to confess to an affair he had with Eva. Sheila respects Gerald's honesty but returns the engagement ring he gave her. It is revealed that Sybil Birling had refused to help the pregnant Eva.
It turns out that it was Eric who got Eva pregnant, and stole money from his father to help her. The Inspector leaves. The family ring the infirmary and there is no record of a girl dying. Suddenly the phone rings, Mr Birling answers it, to his horror the phone call reveals that a young woman has just died from drinking disinfectant and the police are on their way to question them about it. The curtain falls and the play ends.



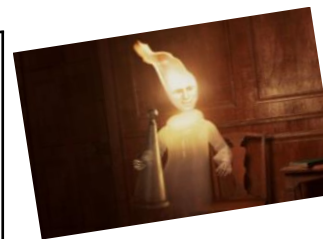
Characters	
Mr Birling	Mr Birling represents greedy businessmen who only care for themselves. Priestley uses him to show that the Eva Smiths of the world will continue to suffer if people like Birling remain in positions of power.
Mrs Birling	Sybil Birling represents a middle-class snobbery that existed prior to the World Wars. Priestley hoped these attitudes would die out; he uses Mrs Birling to show how they can lead to cold and thoughtless behaviour
Shelia Birling	Sheila, like Eric, allows Priestley to show his opinions on youth. He felt that there was hope in the young people of post-war Britain. This is seen in how Sheila is deeply affected by Eva's death, she accepts responsibility straightaway and promises to never behave in such a way again.
Gerald Croft	Priestley uses Gerald to attack the upper-classes of post-war Britain. He shows that this class of people were still capable of questionable behaviour. Priestley also suggests that they saw themselves above the problems of the working classes - Gerald tries to get himself and the Birlings out of trouble.
Eric Birling	Priestley uses Eric, like Sheila, to suggest that the young people of a post-war Britain would be the answer to a hopeful future. With Eric, Priestley addresses concerns he had about the dangers of immoral behaviour. Through Eric, he shows that excessive drinking and casual relationships have consequences.
Eva Smith	We never meet Eva Smith during the course of the play, but she is a very important character. It is her death that is the cause of the Inspector's investigation which in turn drives the drama. She is symbolic of all victims of social injustice.
Inspector Goole	Inspector Goole sheds a light on all the concerns that Priestley had at the time of writing AIC around age, gender, class and social responsibility. Priestley uses the Inspector to make the audience question their own behaviour. The issues the Inspector highlights are just as relevant to a modern-day audience.

Key Terms
1. Omniscient
2. Socialism
3. Capitalism
4. Stereotype
5. Morality

A Christmas Carol by Charles Dickens



Stave One	<ul style="list-style-type: none"> Introduced to Ebenezer Scrooge on Christmas Eve. He is a lonely miser obsessed with money. He won't pay to heat the office properly – meaning Bob Cratchit is very cold We learn Jacob Marley, Scrooge's business partner, died exactly seven years earlier. Scrooge is irritated that Christmas Day seems to be interrupting his business. Scrooge is visited by his nephew Fred, who invites his uncle to Christmas dinner. Scrooge refuses. Scrooge is visited by two charity workers, asking for donations. Scrooge refuses and exclaims he wants to be left alone. Scrooge allows Bob to have Christmas Day off. Scrooge, when he is home, is visited by the Ghost of Jacob Marley – warning him he will be visited by three more ghosts to help him change his ways.
Stave Two	<ul style="list-style-type: none"> Scrooge is visited by the Ghost of Christmas Past who takes him to witness his past. Scrooge is taken first to his schoolboy years and he is reminded how his friends would go home from Christmas while he was left at school. We see him with his sister, who one year took him home for the holidays. Next we are shown Scrooge as a young apprentice, working for Fezziwig. Dickens describes the Christmas ball Fezziwig organised for his employees. Finally, Scrooge is taken to see his ex-fiancée, Belle. We see the scene when they break up, as money has taken over Scrooge's life. Scrooge cannot bear to see any more and struggles with the spirit.
Stave Three	<ul style="list-style-type: none"> Scrooge is then visited by the Ghost of Christmas Present. The spirit shows Scrooge how the Cratchit family celebrate Christmas. Scrooge asked if Tiny Tim will live. The spirit explains unless there are changes, he will die. The spirit reminds Scrooge of his earlier words: 'If he is to die, he had better do it, and decrease the surplus population' Scrooge is then taken to see how others celebrate Christmas: miners, lighthouse workers, sailors on a ship. He is then taken to Fred's house at Christmas, where they are playing games. The spirit then begins to age, and see under the spirit's robes two children: Want and Ignorance. The Ghost of Christmas Yet to Come then appears.
Stave Four	<ul style="list-style-type: none"> The Ghost of Christmas Yet to Come is described. The spirit takes Scrooge to see a group of businessmen discussing someone who has died. Scrooge is then taken to see Old Joe, where he is in the process of buying property of the dead man – which have been stolen. Scrooge then returns to Bob Cratchit's house, where it is revealed Tiny Tim has died. Scrooge is then taken to the graveyard and is shown a grave stone and realises this is for him. Scrooge falls to his knees and begs that he will change his ways.
Stave Five	<ul style="list-style-type: none"> Scrooge wakes up in his own bed. Scrooge wonders how much time has passed and calls to a boy. He then sends the boy to the poulterer for the prize turkey to give to Bob Cratchit. Scrooge meets one of the charity collectors from earlier and whispers to him that he will give a large donation. Scrooge then goes to Fred's house and is welcomed in. He enjoys the dinner and party. On Boxing Day, Scrooge arrives early to work, and plays a trick on Bob. Scrooge then tells him he is going to raise his salary and promises to help Bob's struggling family. Scrooge is described to have completely changed and becomes a 'second father' to Tiny Tim – 'who did not die.'

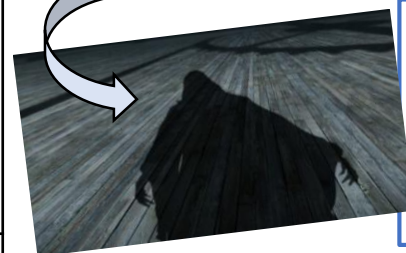


THE GHOST OF CHRISTMAS PAST: Contradictory, strong, gentle, quiet, forceful, questioning, mysterious, ephemeral.

This spirit personifies what Scrooge has been. It takes Scrooge on a journey to see his past Christmases and forces him to reflect on his past.

THE GHOST OF CHRISTMAS PRESENT: Compassionate, abundant, generous, cheerful, jolly, friendly, severe, sympathetic, prophetic.

This ghost's function is to illustrate what life is like for different people in Victorian Britain at Christmas and to compare this with Scrooge's previously declared views.



THE GHOST OF CHRISTMAS YET TO COME: Mysterious, silent, ominous, intimidating, frightening, resolute, menacing.

This is the most mysterious of the ghosts, reflecting the fact that the future is uncertain and depends on our present actions. It shows Scrooge what will happen if he doesn't change his ways.

Dickens' ideas and intentions

Dickens' intention in A Christmas Carol is to draw readers' attention to the plight of the poor and to highlight the hypocrisy of Victorian society. He juxtaposes the wealth and greed of capitalists with the poorer classes and draws attention to the way in which the greed and selfishness of some impacts on the quality of the lives of others. His moral message appears to be that we should care for our fellow man. The transformation of Scrooge suggests that Dickens feels it is never too late for change and redemption. Dickens emphasises the importance of family, friendship and charity in bringing about this change.

- Key Terms**
1. Allegory
 2. Mouthpiece
 3. Critique
 4. Redemption
 5. Empathy



- **Know each of your texts inside out!**
 - Reread/ rewatch the texts. Twenty minutes of reading a day would allow you to re-read each text at least once.
- **Groundwork Drills.**
 - We have chosen these quotations for a reason and are testing them weekly to ensure you know them and can use them in the exam.
 - Return to all of your old lists and ask someone to quiz you!
- **Revise little and often.**
 - Using your Snap Revision guides, where the information is given in small chunks, take a character or a theme per revision slot.
 - Use YouTube (Mr Bruff or Stacy Reay) to target your weaker areas. They are real English teachers so know the exams inside out!
 - There are numerous videos on each of the texts and both Language papers. Students can identify their personal areas for development and type in what they want to find e.g. 'structure AQA Paper 1' and a relevant video will come up.
- **Use your reading and writing skills.**
 - We are SO LUCKY that we know the questions before we enter our English Language exam so use this to your advantage!
 - Have a bank of phrases and sentences that you can use to answer the questions.
 - Select anything to describe or write a story about: something on the news; look out of your window; describe an event from your day!
- **Engage with the news and the world around you!**

Aim to watch the news at least weekly or access news headlines on Twitter or the internet. The writing tasks relate to topical issues or subjects that the exam board would imagine that teenagers would have opinions about. If you don't have opinions on an issue then no amount of work from us about structure, punctuation or persuasive techniques is going to help you.

Examination Information:

English Literature Paper 1 (1 hour 45): **Shakespeare and the 19th Century Novel**

English Literature Paper 2 (2 hours 15): **Modern texts and poetry**

English Language Paper 1 (1 hour 45): **Explorations in Creative Reading and Writing**

English Language Paper 2 (1 hour 45): **Writers' Viewpoints and Perspectives**

Key Terms

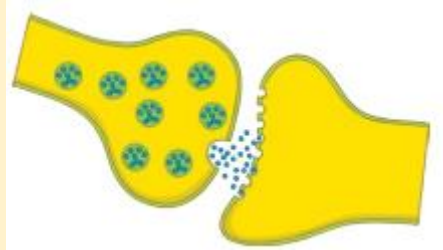
1. Analyse
2. Describe
3. Compare
4. Evaluate
5. Perspective

Y11 Biology I

Homeostasis is the regulation of a constant internal environment. In humans, homeostasis regulates **blood glucose** (sugar) levels, **temperature**, **CO²** levels and **water** levels. The levels are monitored and regulated by automatic control systems which can be either nervous responses, coordinated by the **nervous system**, or chemical responses, coordinated by the **endocrine** (hormone) system. Information about the environment is called a **stimulus** and is detected by cells called receptors. The information is processed by a **central coordination** system and a response is initiated by an **effector**.

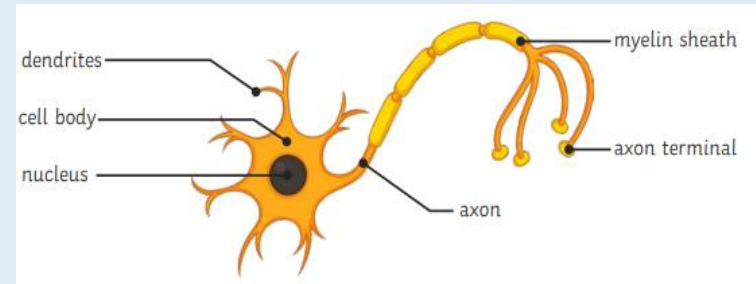
Synapses

A **synapse** is the gap where the ends of two neurons meet.



When an electrical impulse arrives at the terminal of the first neuron, it causes the release of a **neurotransmitter** chemical. This chemical diffuses across the synapse (gap) and binds to **receptor** sites on the next neuron. The receptor binding sites *are specific* for each type of neurotransmitter. A nerve impulse will only be triggered in the second neuron when a complimentary chemical binds.

The nervous system allows a fast, short-lived response to a stimulus in the surroundings. The information is received by a receptor and passed along the neurons (nerve cells) as an electrical impulse.



The nervous impulse travels along the axon which are often surrounded by fatty cells called the myelin sheath which helps to insulate the electrical impulse. The branched endings, dendrites connect with other neurons to create a network.

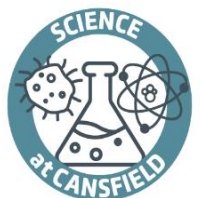
sensory neuron	relay neuron	motor neuron

Key Terms

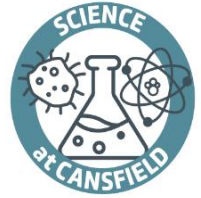
1. stimulus
2. receptor
3. effector
4. neuron
5. Homeostasis

A **stimulus** is a change in the environment (internally or externally). In a typical response to stimuli. Information received by a receptor is sent as an electrical impulse along a **sensory neuron** towards the **central nervous system (CNS)**. The CNS consists of the brain and the spinal cord. Here the impulse is passed through **relay neurons** and a response is coordinated. This could be consciously or subconsciously. The CNS sends information along a **motor neuron** as an electrical impulse. The effector receives the impulse and carries out the response. An effector could be a muscle or a gland.

[stimulus] → receptor → sensory neuron → CNS → motor neuron → effector → [response]



Y11 Biology 2



Method	How it works
Selective breeding	Select male and female parents with desired characteristics, breed them, select the best offspring and breed again, repeat.
Cloning	Cells are replicated to produce genetically identical cells.
Genetic modification	Inserting the gene for a desired characteristic into another organism during development.

Extinction – when no more of a species is alive.

Causes – climate change, habitat destruction, new diseases, new predators, catastrophic event.

Biodiversity – number of all living organisms in a habitat/environment. Can be preserved by: protecting habitats, conservation programmes, captive breeding programmes.

Genetics

Allele – a different version of the same gene. Can be dominant (only one copy needs to be inherited and is always expressed) or, recessive (two copies must be inherited for the characteristic to be expressed).

A **Punnett square** is used to show the **probability** of which alleles are inherited.

Some diseases can be inherited such as, **cystic fibrosis** (recessive) and **polydactyly** (dominant).

Mother	Father	
	B	B
b	Bb	Bb
b	Bb	Bb

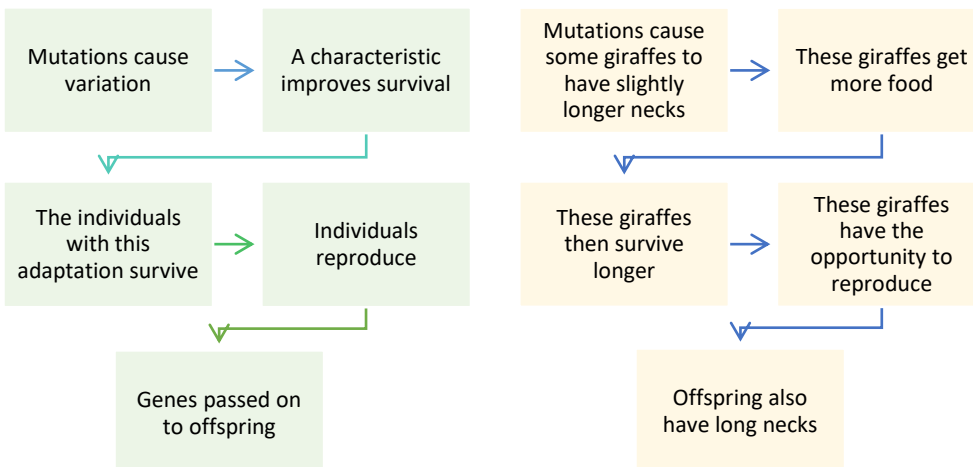
Variation

Species	Group of similar individuals that breed to produce fertile offspring.
Variation	Differences between individuals. Improves survival of the species.
Genetic variation	Caused by inherited genes e.g. eye colour, blood group.
Environmental variation	Caused by the environment e.g. scars, piercings.
Genetic + environmental variation	Caused by a combination of genes and environment e.g. height, body mass.
Continuous data	Can take any value within a range (e.g. height). Represented as a line/ scatter graph.
Discontinuous data	Either have the characteristic or not (e.g. blue eyes). Represented as a bar chart.

Fossils

- Hard body parts (e.g. bones & shells) are replaced by minerals.
- Parts haven't decayed due to conditions (e.g. preserved in amber).
- Traces of organisms (e.g. footprints, burrows) are covered by sediment which becomes rock.

Darwin's theory of evolution by Natural selection:



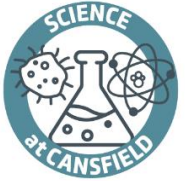
Reasons why Darwin's theory was initially not accepted:

- People believed **God created all life**.
- **Lack of evidence** (not no evidence).
- **DNA** had not been discovered.

Key Terms

1. Allele
2. Biodiversity
3. Cloning
4. Evolution
5. Variation

Y11 Biology 3



Habitat – the place where an organism lives

Population – all the organisms of one species living in a habitat

Community – the populations of different species living in a habitat.

Abiotic factors – non-living factors of the environment e.g. pH, temperature

Biotic factors – living factors of the environment e.g. food

Ecosystem – the interaction of a community of living organisms (biotic) with the non-living (abiotic) parts of the environment.

Adaptations

Structural – these are features of a body's structure e.g. shape, colour. Example: An arctic fox has a white fur so they are camouflaged against the snow.

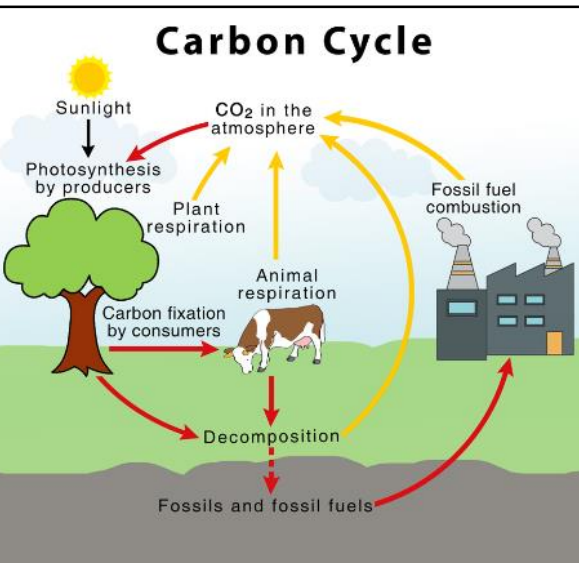
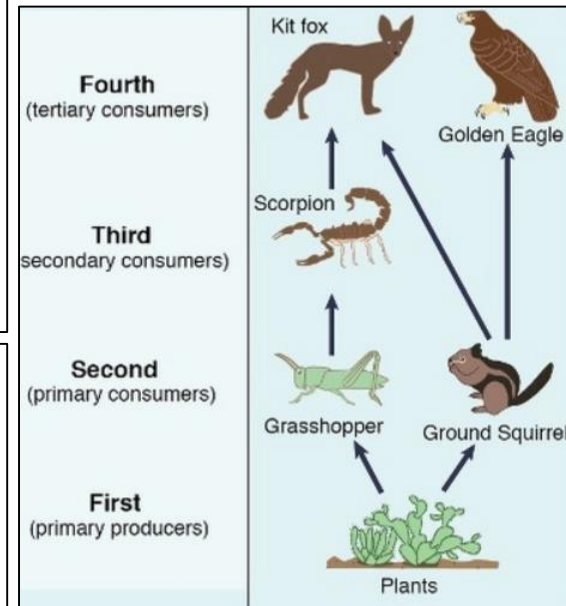
Behavioural – The ways that organisms behave. Example: Some birds e.g. swallows, migrate to warmer climates for the winter.

Functional – These are things happening inside the organisms body.

Example: Desert animals conserve water by producing very little sweat and small amounts of concentrated urine.

An **extremophile** is an organism that is adapted to survive in an extreme environment e.g. a volcanic vent.

Food chains/webs always start with a **Producer**. Producers make their own food using energy from the Sun. The arrows show the transfer of energy through the food web.



Carbon dioxide is removed from the atmosphere by plants and algae during **photosynthesis**.

When plants and animals **respire** carbon dioxide is returned to the atmosphere.

When plants and animals are eaten by animals, some carbon becomes part of the fats and proteins in their bodies.

When plants and animals die, detritus feeders and microorganisms (bacteria, fungi) feed on the remains. When these **decay** organisms respire, they release carbon dioxide back into the air.

Animals also produce waste which is broken down by detritus feeders and microorganisms.

The **combustion** of wood and fossil fuels releases carbon dioxide back into the air.

Key Terms

1. Biotic
2. Abiotic
3. Adaptation
4. extremophile
5. detritus

Y11 Chemistry I

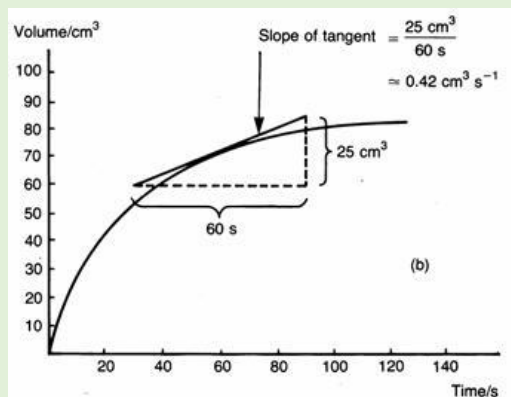
Rate of chemical reaction

This can be calculated by measuring the quantity of reactant used or product formed in a given time.

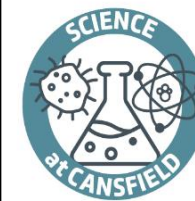
$$\text{Rate} = \frac{\text{quantity of reactant used}}{\text{time taken}}$$

$$\text{Rate} = \frac{\text{quantity of product formed}}{\text{time taken}}$$

Quantity	Unit
Mass	Grams (g)
Volume	cm ³
Rate of reaction	Grams per cm ³ (g/cm ³) HT: moles per second (mol/s)



Collision theory	Chemical reactions can only occur when reacting particles collide with each other with sufficient energy.	Increasing the temperature increases the frequency of successful collisions and makes the collisions more energetic, therefore increasing the rate of reaction.
Activation energy	This is the minimum amount of energy colliding particles in a reaction need in order to react.	Increasing the concentration, pressure (gases) and surface area (solids) of reactions increases the frequency of successful collisions, therefore increasing the rate of reaction.

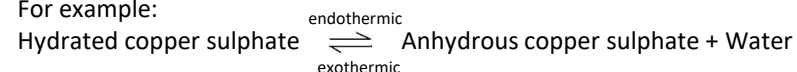


Factors affecting the rate of reaction		Catalyst	A catalyst changes the rate of a chemical reaction but is not used in the reaction.
Temperature	The higher the temperature, the quicker the rate of reaction.		
Concentration	The higher the concentration, the quicker the rate of reaction.	Enzymes	These are biological catalysts.
Surface area	The larger the surface area of a reactant solid, the quicker the rate of reaction.	How do they work?	Catalysts provide an alternative reaction pathway which lowers the activation energy needed to react when they collide.
Pressure (of gases)	When gases react, the higher the pressure upon them, the quicker the rate of reaction.		

Reversible reactions	In some chemical reactions, the products can react again to re-form the reactants.
Representing reversible reactions	$A + B \rightleftharpoons C + D$
The direction	The direction of reversible reactions can be changed by changing conditions: $A + B \xrightleftharpoons[\text{cool}]{\text{heat}} C + D$

If one direction of a reversible reaction is exothermic, the opposite direction is endothermic. The same amount of energy is transferred in each case.

For example:



Le Chatelier's Principles: when a system experiences a change in conditions, it will respond to restore a new equilibrium.

Changing concentration: increase concentration of reactant = more product.

Changing temperature: Increase temperature = reaction moves to the endothermic side.

Decrease temperature = reaction moving to the exothermic side.

Equilibrium in reversible reactions	When a reversible reaction occurs in apparatus which prevents the escape of reactants and products, equilibrium is reached when the forward and reverse reactions occur exactly at the same rate.
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Changing pressure:

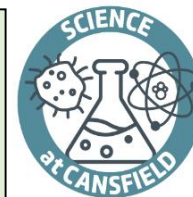
Pressure increase = equilibrium position shifts to side of equation with smaller number of molecules.

- Pressure decrease = equilibrium position shifts to side of equation with larger number of molecules.

Key Terms

1. Activation energy
2. Catalyst
3. Collision theory
4. Concentration
5. Rate

Y11 Chemistry 2



Crude oil is a fossil fuel and a mixture of compounds called Hydrocarbons. Most of these hydrocarbons are called **alkanes**.

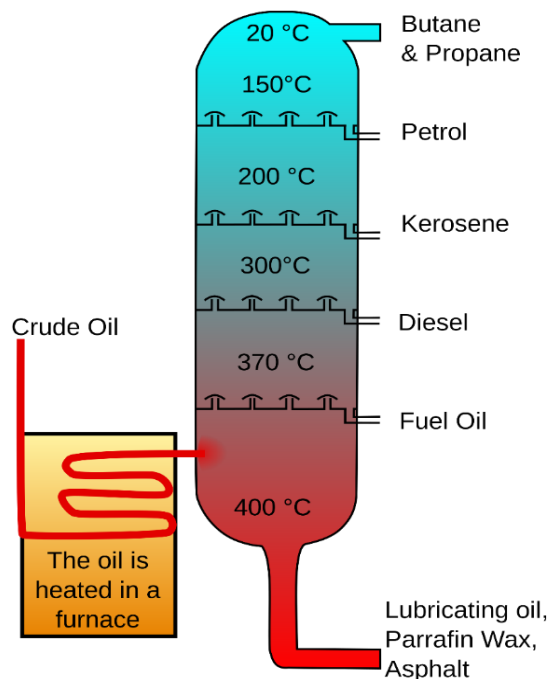
methane CH ₄	$\begin{array}{c} \text{H} \\ \\ \text{H}-\text{C}-\text{H} \\ \\ \text{H} \end{array}$	
ethane C ₂ H ₆	$\begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ \text{H}-\text{C}-\text{C}-\text{H} \\ \quad \\ \text{H} \quad \text{H} \end{array}$	
propane C ₃ H ₈	$\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \\ \quad \quad \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{H} \\ \quad \quad \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$	
butane C ₄ H ₁₀	$\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \\ \quad \quad \quad \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{C}-\text{H} \\ \quad \quad \quad \\ \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \end{array}$	

Alkanes have the general formula C_nH_{2n+2} . Long chain alkanes are not useful as fuels and are **cracked into short chain alkanes and alkenes**.

Catalytic cracking uses a temperature of approximately 550°C and a **catalyst** known as a zeolite which contains aluminium oxide and silicon oxide.

Steam cracking uses a higher temperature of over 800°C and no catalyst.

Fractional Distillation is the process used to **separate fractions of crude oil** into useful substances called **Hydrocarbons**. These contain the elements **Hydrogen** and **Carbon ONLY**. The hydrocarbon chains are **different lengths** which affects their **boiling point**. **Long chains** (more carbon atoms) have **higher boiling points** and are **separated at the bottom** of the column whereas, **shorter chains** (less carbon atoms) have **lower boiling points** and are **separated towards the top** of the column.



Boiling Point (temperature at which liquid boils)	As the hydrocarbon chain length increases, boiling point increases.
Viscosity (how easy it flows)	As the hydrocarbon chain length increases, viscosity increases.
Flammability (how easily it burns)	As the hydrocarbon chain length increases, flammability decreases.

Complete combustion of methane:
Methane + oxygen → carbon dioxide + water + energy
 $CH_4(g) + 2O_2(g) \rightarrow CO_2(g) + 2H_2O(l)$

Using Fractions – We depend on many of these as fuels; petrol, diesel and kerosene. Many useful materials are made by the petrochemical industry; solvents, lubricants and polymers.

Combustion - During the complete combustion of hydrocarbons, the carbon and hydrogen in the fuels are oxidised, releasing carbon dioxide, water and energy.

Key Terms

1. Hydrocarbon
2. Distillation
3. Alkane
4. Alkene
5. Cracking

Y11 Chemistry 3

Pure substances

Pure substances only contain one type of element or one type of compound.

Elements are made up of one type of atom e.g. oxygen is made up of oxygen atoms.

Compounds are two or more elements that are chemically combined e.g. Sodium chloride – NaCl

Mixtures are two or more elements or compounds that are not chemically joined together.

Pure substances have a specific melting point. Impure substances melt over a range of temperatures.

Formulations

Formulations are mixtures of compounds or substances that do not react together. They are a product with desirable characteristics or properties to suit a particular function. Examples include: deodorants, medicines, paint, sun cream.

Key Terms

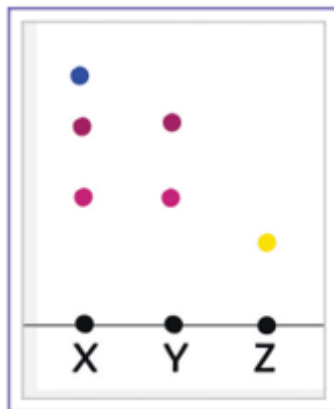
1. Hydrocarbon
2. Distillation
3. Alkane
4. Alkene
5. Cracking

Chromatography

Paper chromatography is a separation technique used to separate mixtures of soluble substances. The more soluble a substance, the further it will travel across the paper.

The solvent is the **mobile phase**, it moves through the paper. The absorbent paper is the **stationary phase**.

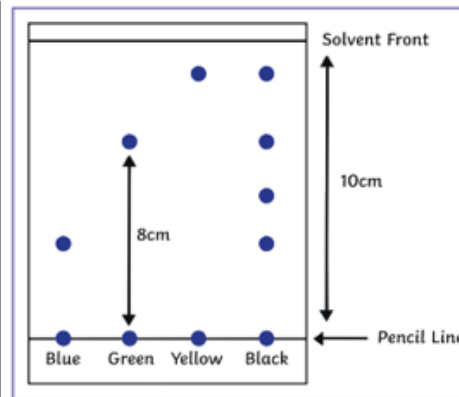
Separation of the dissolved substances produces a chromatogram.



Pure substances have one spot on a chromatogram as they are made from a single substance. Impure substances have two or more spots.

By calculating the **R_f values** for each of the spots, it is possible to identify the unknown substances.

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



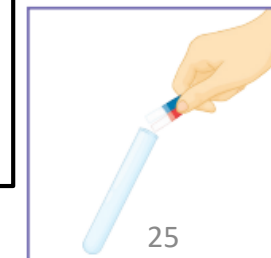
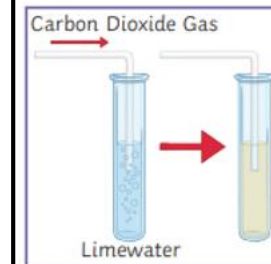
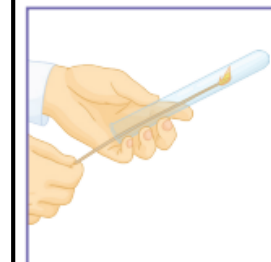
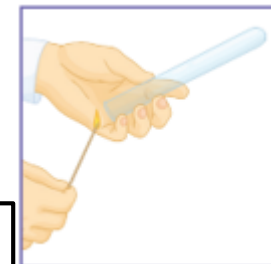
Identification of common gases

Test for Hydrogen – Place a burning splint into the opening of the test tube. A squeaky pop is heard if the gas is hydrogen.

Test for Oxygen – Place a glowing splint inside a test tube. The splint will re-light if the gas is oxygen.

Test for Carbon dioxide – Bubble the gas through limewater. The limewater will change colour from clear to cloudy if the gas is carbon dioxide.

Test for Chlorine – Damp litmus is held in the gas. The litmus paper becomes bleached and turns white.



Y11 Chemistry 4

Greenhouse gases

Carbon dioxide – released by the combustion of fossil fuels and deforestation.
Methane – from rice fields and cattle farming.
Water vapour



Global warming

Increase in greenhouse gases has been responsible for an increase in the average temperature of the Earth.



Climate change

Changes in weather patterns over time
Sea levels rise
Extreme weather events
Amount and time of rainfall
Changes to ecosystems and habitats



Carbon footprint

The amount of carbon dioxide and methane released into the atmosphere by a product, person or process.
Reducing this can reduce greenhouse gases



How has the atmosphere changes over time?

4.6 to 2.7 billion years ago – high levels of carbon dioxide, nitrogen, water vapour and other gases, mostly due to volcanic activity. Very little oxygen present. Difficult to know as there is little evidence
2.7 billion to 200 million year ago – atmosphere changes due to cooling and photosynthesising organisms. Water vapour forms liquid water. Oxygen levels increase. CO₂ decreases as it dissolves in water and is used in photosynthesis.
200 million years ago to present – Nitrogen 80%, Oxygen 20%, Carbon dioxide 0.04%, small amounts of other gases and water vapour.

Potable water - Water that is safe to drink. Low levels of salts. Safe levels of harmful microbes

From fresh water

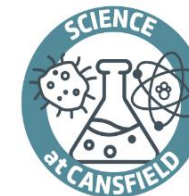
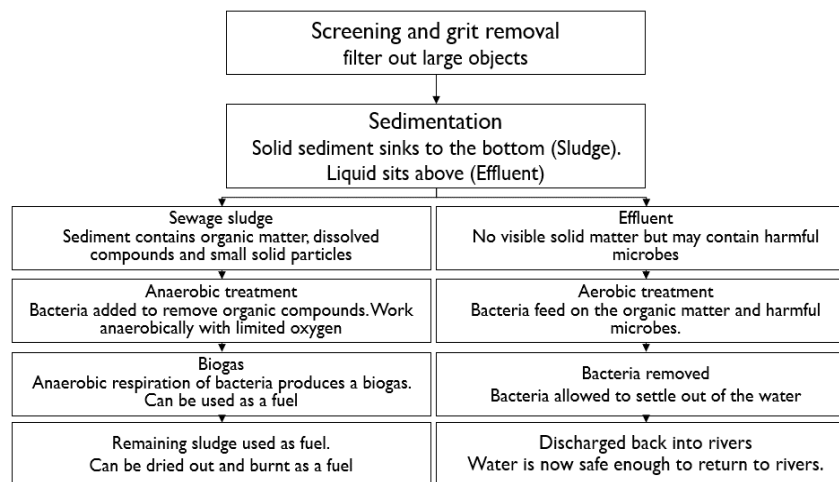
Lakes and rivers.
Pass it through filters to collect large objects.
Sterilise to kill microbes using ozone, chlorine or UV light

From salty water

Desalination by:
distillation – heating water and condensing the vapour.
Reverse osmosis – using pressurised water and membranes. Both expensive.

Waste water

Sewage is human faeces. Along with agricultural waste, can contain organic matter and harmful microbes.
Industrial waste can contain organics matter and harmful chemicals



Retrieval Questions

What do we use the Earth's resources for? Warmth, shelter, food, fuel, transport

What are some examples of natural resources? cotton, wool, timber

What are some examples of synthetic resources? plastic, polyester, acrylic

What is a finite resource? A resource that will eventually run out

What is sustainable development? Development that meets the needs of current generations without compromising the ability of future generations to meet their own needs

What are the four main types of water? pure water, salt water, fresh water, potable water

What is potable water? Water that is safe to drink

Key terms

Particulate
Carbon footprint
Global dimming
Potable
Desalination

Y11 Physics I

Scalar and Vector Quantities

A scalar quantity has magnitude only. Examples include temperature or mass.

A vector quantity has both magnitude and direction.

Examples include velocity.

Speed is the scalar magnitude of velocity.

A vector quantity can be shown using an arrow. The size of the arrow is relative to the magnitude of the quantity and the direction shows the associated direction.

Contact and Non-Contact Forces

Forces either push or pull on an object. This is as a result of its interaction with another object.

Forces are categorised into two groups:

Contact forces – the objects are touching e.g. friction, air resistance, tension, contact force.

Non-contact forces – the objects are not touching e.g. gravitational, electrostatic, magnetic forces.

Forces are calculated by the equation:

$$\text{Force (N)} = \text{mass (kg)} \times \text{acceleration (m/s}^2\text{)}$$

Forces are another example of a vector quantity and so they can also be represented by an arrow.



Balanced - no resultant



Unbalanced - resultant

Key words:

scalar, vector, resultant, contact, balanced



Gravity

Gravity is the natural phenomenon by which any object with mass or energy is drawn together.

The mass of an object is a scalar measure of how much matter the object is made up of. Mass is measured in kilograms (kg).

The weight of an object is a vector measure of how gravity is acting on the mass. Weight is measured in newtons (N).

$$\text{Weight (N)} = \text{mass (kg)} \times \text{gravitational field strength (N/kg)}$$

An object's centre of mass is the point at which the weight of an object is considered to be acting. It does not necessarily occur at the centre of the object.

The mass of an object and its weight are directly proportional. As the mass is increased, so is the weight. Weight is measured using a spring-balance (e.g. Newton-meter) and is measured in newtons (N).

Resultant Forces

A resultant force is a single force which replaces several other forces. It has the same effect acting on the object as the combination of the other forces it has replaced.

The forces acting on this object are represented in a free body diagram. The arrows are relative to the magnitude and direction of the force.

The resultant force on the car is $50\text{N} - 30\text{N} = 20\text{N}$.

When a resultant force is not zero, an object will change speed or change direction.

When an object is stationary there are still forces acting upon it.

On the pie, the resultant force is $30\text{N} - 30\text{N} = 0\text{N}$.

The forces are in equilibrium and are balanced.

When the forces are balanced the object will remain stationary or continue to move at a constant speed.



Y11 Physics 2

Distance – A scalar quantity and is how far an object has moved.

Displacement is a vector quantity. It measures the distance in a straight line from an object's starting point to its finishing point. The direction could be relative to a point e.g. towards the school, or a bearing, which is a three-digit angle from north e.g. 035°.

Terminal velocity

When an object falls through a very large distance eventually its acceleration decreases and it reaches a constant velocity. This is known as the

terminal velocity.



Key Words

1. Displacement
2. Velocity
3. Acceleration
4. Gradient
5. Terminal Velocity

Acceleration

Acceleration is how quickly the velocity is changing.

Acceleration can be calculated using this formula:

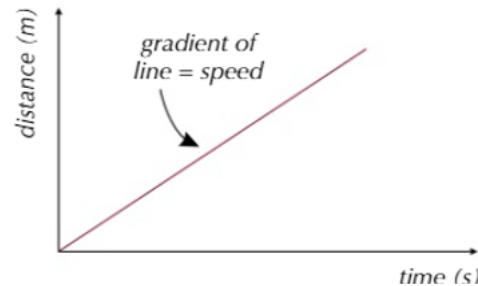
$$\text{Acceleration} = \frac{\text{Change in velocity}}{\text{time}}$$

If the acceleration is not constant then this will give you the average acceleration.

The units of acceleration are: m/s^2

Distance-time graphs

Speed is distance divided by time so the gradient (slope) of a distance-time graph tells us the speed. The steeper the line the faster the object is moving.



Gradient = speed

Straight line sloping upwards = constant speed

Flat, horizontal line = Stationary/ at rest

Curved lines = acceleration/deceleration

Constant acceleration can be called **uniform acceleration**. It can be calculated using the formula: $v^2 - u^2 = 2as$

v = final velocity (m/s)

u = initial velocity (m/s)

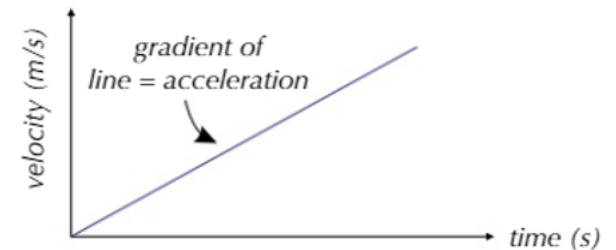
a = acceleration (m/s²)

s = distance (m)



Velocity-time graphs

Acceleration is change in velocity divided by time so the gradient (slope) of the velocity-time graph tells us the acceleration. The steeper the line the faster the acceleration.



Gradient = acceleration

Flat, horizontal line = constant speed

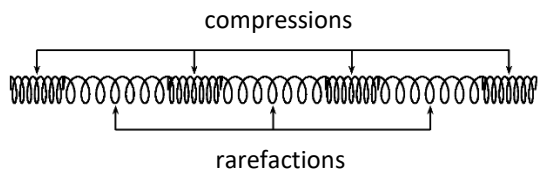
Upward lines = acceleration

Downward lines = deceleration

Y11 Physics 3

1. Transverse & longitudinal waves

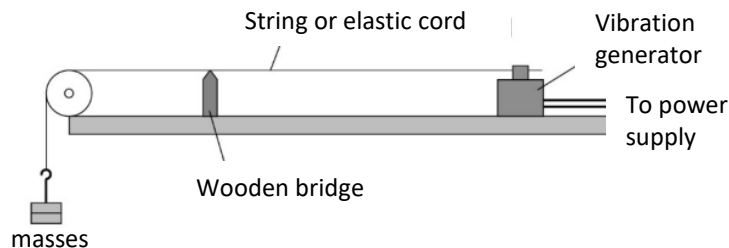
- **Medium:** the substance a wave is travelling through.
- **Transverse waves:** oscillations (vibrations) are perpendicular to the direction of energy transfer E.g. All EM waves, ripples on water.
- **Longitudinal waves:** oscillations are parallel to the direction of energy transfer. E.g. sound, ultrasound.



- Only energy moves from place to place, not the medium E.g. air doesn't go from your mouth to a person's ear when you talk (or you would have a vacuum in your mouth). A float in ripples just bobs up and down. It doesn't move along the water.

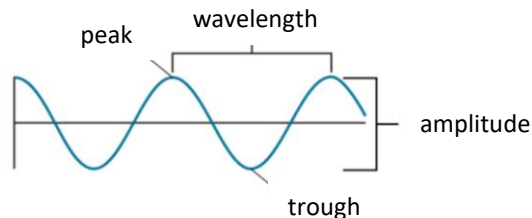
C. Observing waves in a solid

1. Measure the total length of however many vibration waves can be seen.
2. Divide length by the number of whole waves present to get the *wavelength*.
3. Look at the setting for *frequency* on the vibration generator.
4. Use $v = f \lambda$ to find the speed.



2. Properties of waves

- **Amplitude:** the height of the wave from the middle
- **Wavelength:** horizontal length of one wave e.g. peak to peak or trough to trough.



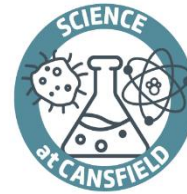
- **Frequency:** how many whole waves pass a point each second. Measured in Hertz (Hz). 1 Hz means one wave per second.
- **Period:** time for one whole wave to pass

B. Speed of water ripples

1. Measure the length of as many waves as possible (at least 10)
2. Divide length by number of waves to get the *wavelength of one wave*.

$$v = f \lambda$$

Speed (m/s) Frequency (Hz) Wavelength (m)



3. Required practical: Measuring wave speed

A. Speed of sound in air

1. Measure time between clap and hearing echo with a stopwatch.
2. Time multiple claps e.g. 100, for improved accuracy
3. Calculate speed: Speed = distance/time
4. Remember to double the distance because the sound went there and back.
5. Divide the time by the number of claps you did e.g. 100

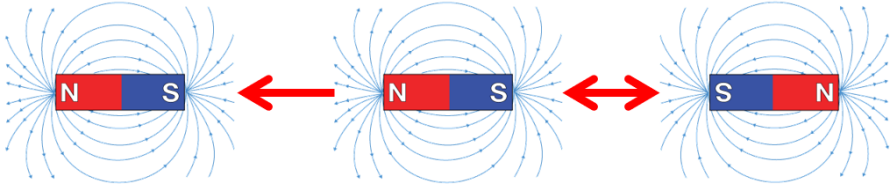
3. Count the number of waves passing a point in the pattern over a given time (say 10 seconds).
4. Divide time by number of waves to get the *frequency*.
5. Use $v = f \lambda$ to find the speed.

Key Terms

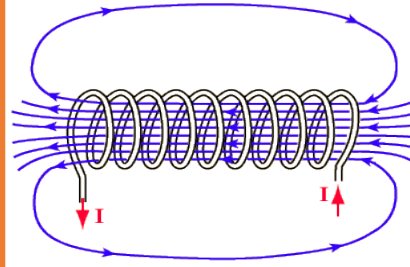
1. frequency (f)
2. wavelength (λ)
3. Time period (T)
4. reflection
5. refraction

Y11 Physics 4

North poles and **south poles** are **attracted** to each other. If you try to bring two of the same type of **magnetic pole** together, they **repel** each other.



Electromagnets are made by passing a current through a coil of wire (solenoid):



The strength of an electromagnet can be increased by:

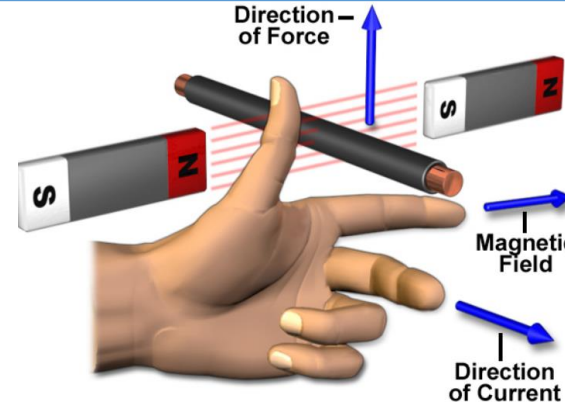
- Increasing the number of coils.
- Increasing the current
- Adding an iron core

The motor effect

If a current carrying wire is placed in a magnetic field, the two magnetic fields will interact.

This interaction results in a force which will push the wire out of the magnetic field.

To work out the **direction** on this force we can use Fleming's left hand rule →



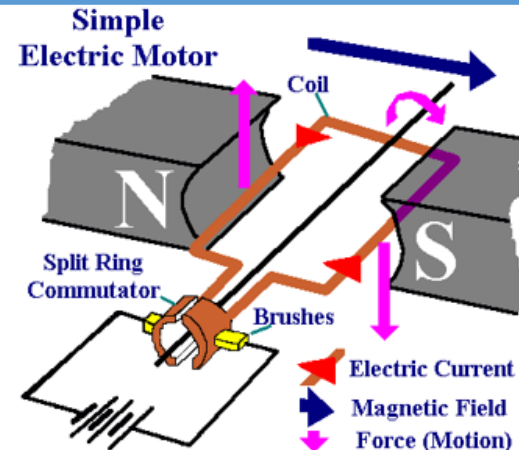
For the full force to act on the wire, the wire must be perpendicular to the magnetic field.

If the wire is parallel to the magnetic field, the force will not act on it.

To work out the strength of this force we can use the equation below:

$$F = B \times I \times l$$

Force (N) = magnetic flux density (T) x current (A) x length of wire (m)

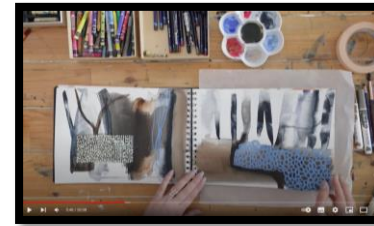


- Key Terms**
1. Solenoid
 2. Motor
 3. Motor effect
 4. Split ring commutator

Your guide to a successful Sketchbook.



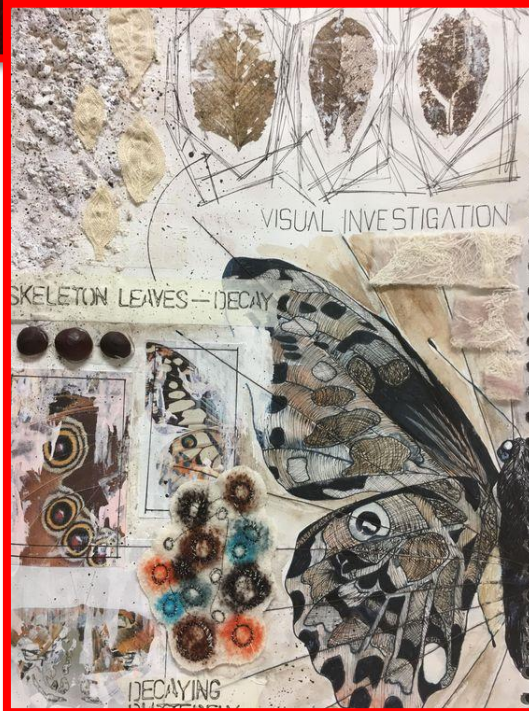
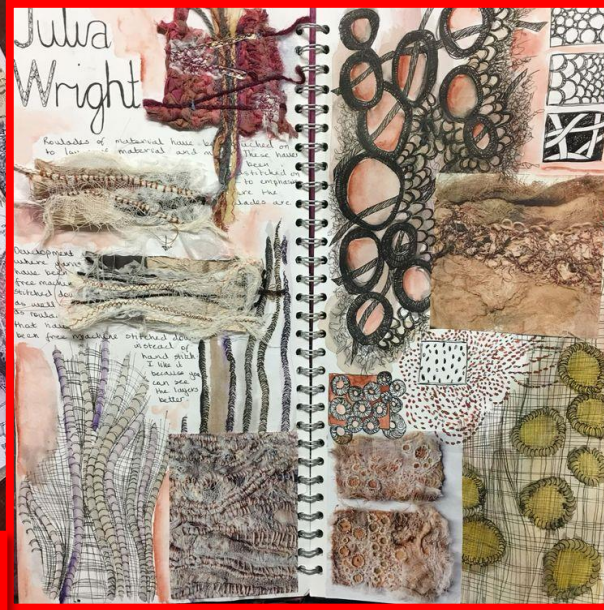
Your sketchbook is key to creative success. It should be a celebration of your creative journey leading to a final outcome. It tells the creative story of your reference to artists/cultures, experimentation and observational drawing. From these essential components you will be able to plan your outcomes and ideas.



Watch: Sketchbook creativity and development.

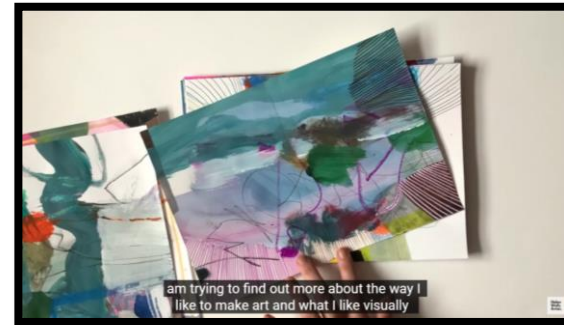
Key Terms

1. Investigate.
2. Demonstrate.
3. Experiment.
4. Organise.
5. Research.





Demo - Playing with Ink and Collage



Watch: Listen to Artist Helen Wells talking about her sketchbook experimentation and creativity.

Demo – Layers of paint



What makes a GREAT abstract painting? INSTANTLY up your painting game!! [5 TOP TIPS]

Experimentation.



Key Terms

1. Media.
2. Investigate.
3. Organise.
4. Explore.
5. Apply.



Watch: Annotating your sketchbook.



Why use annotation?

Analyse the work of an inspirational artist.

Record a technique.

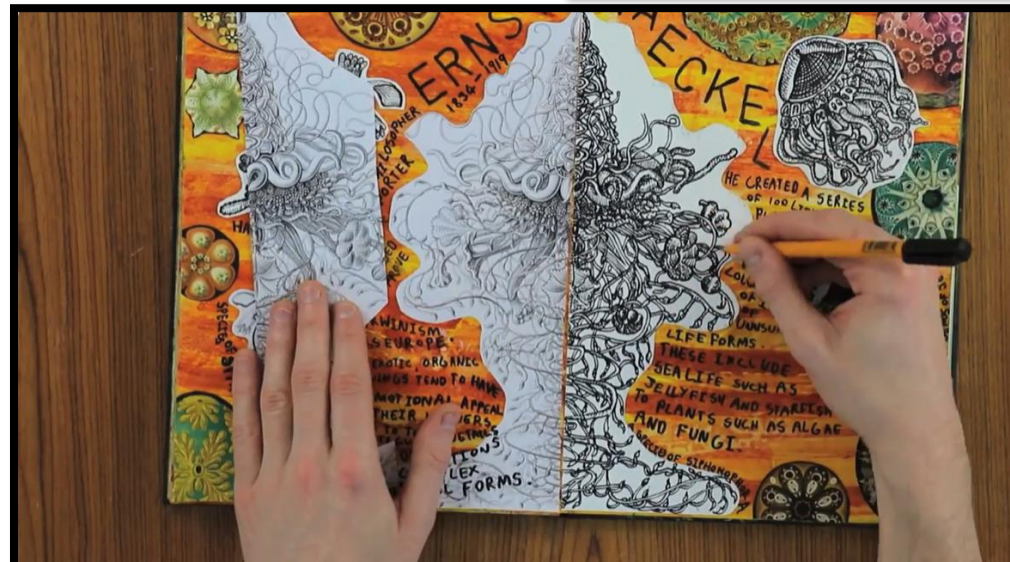
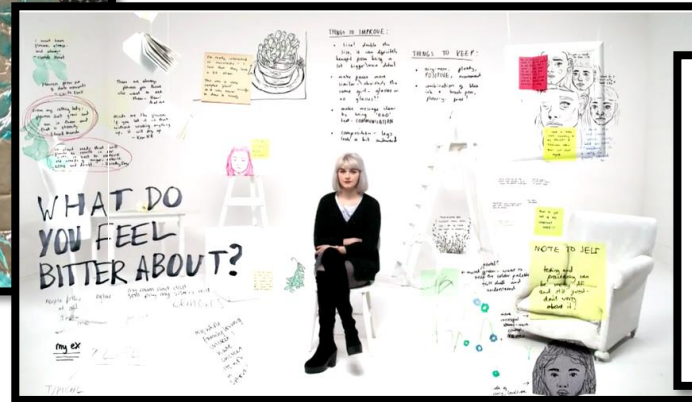
Record ideas.

Explain the thinking behind an idea.

Analyse the success of a technique, idea or process.

Explain how and why an artist has influenced you.

Watch: Effective annotation.



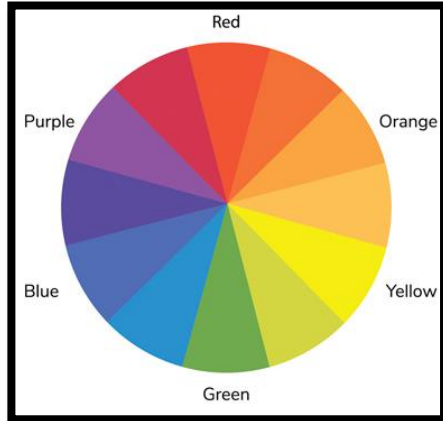
BBC Bitesize: Artist Kate Powell explains how she uses annotation as a way to have a conversation with herself about her work, and as an analytical tool.

Key Terms

- 1 Inspiration.
- 2 Intentions.
- 3 Understanding.
- 4 Ideas.
- 5 Monochromatic.

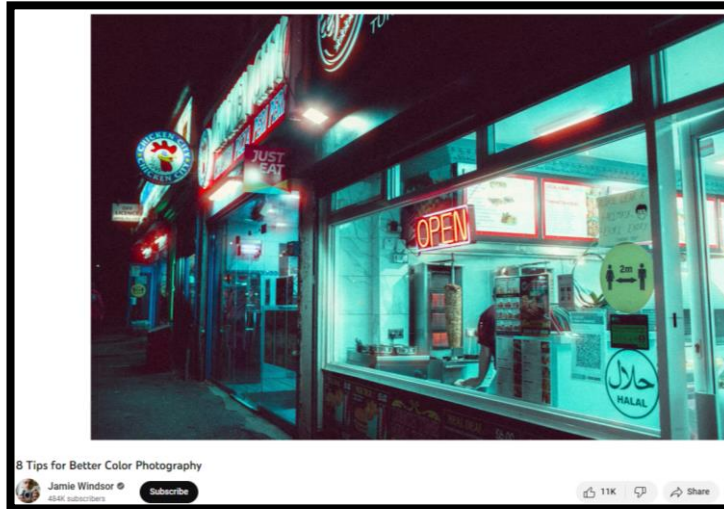


Colour Up!



Find colour in these themes and record your observations in a variety of viewpoints, details and angles .

- Objects
- Patterns
- Peacocks
- Peeling Paint
- People
- Landscapes
- Leaves
- Lights
- Weather
- Wildlife
- Windows
- Woods
- Fruit
- Gardens
- Gates
- Graffiti
- Neon Signs
- Reflections
- Rocks
- Rows of Things
- Rust
- Sand dunes
- Sea Shells
- Shoes
- Signs
- Statues
- Still life
- Structures
- Sweets
- Textures
- Cloth

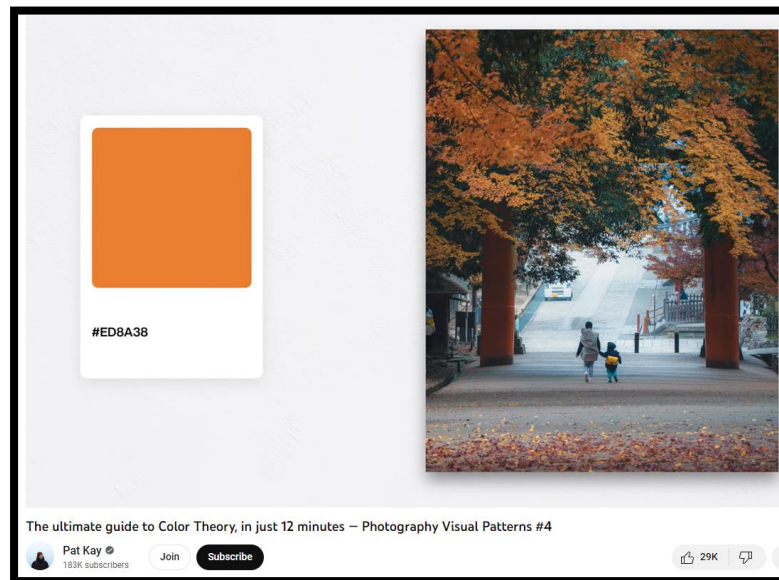


8 Tips for Better Colour Photography.

Observational Photography Ideas

Capturing Colour (AO3)

1. Use The Colour Wheel To Obtain Contrasting Colours.
2. Find A Pop Of Colour.
3. Use Colour To Create An Abstract Photo.
4. Use Bright Colourful Backgrounds
5. Understand Dominant And Receding Colours.
6. Produce a series of photography in either hot or cold colours.

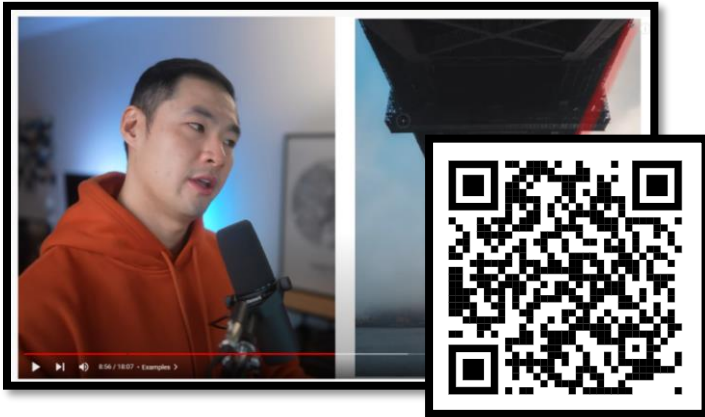


The ultimate guide to Colour Theory.

Key Terms

1. Observational
2. Symbolic
3. Document
4. Meaning
5. Themes 34

Y11 Photography 2

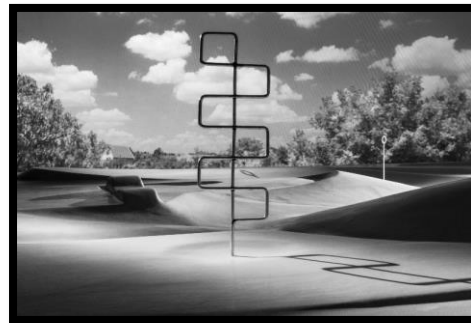
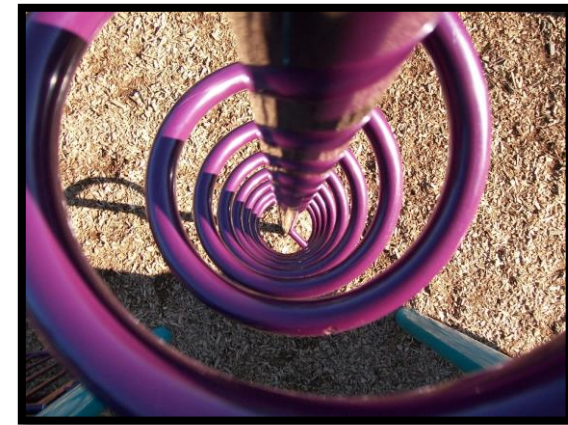


A Comprehensive Look At Leading Lines,
A Photography Staple — Photography Visual Patterns



Photography Composition :: Line

Watch the films above and expand your understanding of line and leading lines in photography.



Find Those Leading Lines

Finding leading lines to use in your shots shouldn't be too hard—they are everywhere around you! From the pavement leading towards the bus stop or a pencil laying on a desk pointing towards a blackboard to the edge of your kitchen counter that leads towards your living room, it's not hard to find them every place you go.

The following are several examples of leading lines you might find nearby that you can practice working with:

- Roads
- Fences
- Window panes
- Builds
- Doorways
- Bridges
- Rivers
- Shorelines
- Lamp Posts

Key Terms

1. Linear.
2. Composition.
3. Flowing.
4. Leading lines.
5. Observational

Y11 iMedia 1



What is a Client Brief?

Written Brief – a statement of what’s needed.
 Script – for a short film or animation.
 Specification – more detailed, formal, signatures, dates and version numbers.
 Client Discussion – ask the client questions.

Content of Client Requirements?

Product – what type of Media product?
 Purpose – inform, entertain, advertise, educate, promote?
 Content – text, images, logos etc.
 Theme – depends on the purpose
 Style – may need to be kept in the same style as the rest of a company’s products.
 Genre – action/adventure, romance, drama, racing etc...
 Target audience – age range, genre, without discrimination.
 Timescales – deadline date.
 Constraints – may have some restrictions.

Content of a work plan:

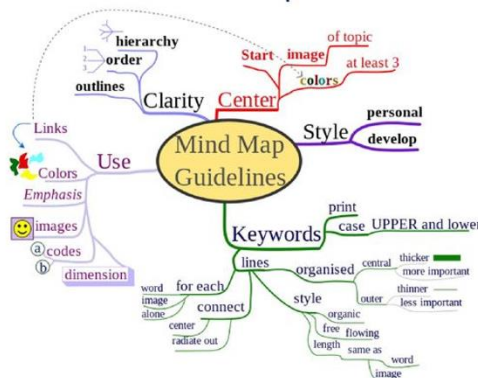
Tasks – planning/pre-production then generating the final production
 Activities – e.g. gathering assets, preparing assets, constructing the main graphic, saving, exporting in the required format.
 Time scale – amount of time a task is expected to take
 Milestones – key dates when a section is completed
 Deadlines – completion date.
 Resources – what is needed
 Contingencies – back up plan, extra time if needed

Useful Links



Key Terms

1. Visual Identity
2. Graphic Design
3. Slogan
4. Brand Identity
5. Typography



	Duration (hrs)	1	2	3	4	5	6	7	8	9	10
PLANNING											
• Meet with Hopton Tourist Board	2										
• Generate Ideas	2										
• Storyboard	10										
• Location recce	3										
• Write script	4										
• Book equipment	1										
• Health and safety checks	1										
• Milestone – check with client	1										
VIDEO SHOOT											
• Shoot video	15										
• Capture background sound	3										
• Contingency for weather	10										
• Milestone review	1										
EDITING											
• Edit video	20										
• Record narration	4										
• Add narration to video	2										
• Add captions and titles	2										
• Add background sound	1										
• Milestone review	1										

1. Title
2. Tasks
3. Activities
4. Timescales
5. Contingencies
6. Milestones
7. Workflow



Mind Maps

Content of a Content of a mind map:

- Central node with the main theme
- Sub-nodes with interconnecting lines/branches
- Text
- Images can also be used

Why use a Mind Map/spider diagram?

- To get your ideas down on paper as you think of them
- To explain your ideas to your client.

Visualisation Diagrams

Plan the layout a product to see what the design will look like.

Show how the finished item may look and make changes where needed.

A visualisation diagram can be shown to your client to discuss your design before you start making it in the specific software e.g. Photoshop, serif web plus.

Key Terms

1. Nodes
2. Sub Nodes
3. Branches
4. Mood Boards
5. Scripts

Have a go at
designing a
Storyboard



Story Boards

Provide a visual representation of how a media project will look along a timeline.

To show the order of the scenes and how they fit together
To help to visualise the characters.



Scripts

Purpose of a script:

Provide stage directions for actors and production crew
Provide dialogue for actors so that they know what to say.

Content of a script:

- Set/locations
- Scene/stage directions
- Camera shot types
- Camera movement
- Sounds and sound effects
- Names of actors/characters
- Dialogue



Y11 iMedia 3



Work Plan

Key term	Definition
Tasks and associated activities	What you will do to create and source content and produce the product.
Resources	The equipment you require to create your product, e.g. pen, paper, scanner, etc.
Workflow	The order that your activities and tasks need to be completed in
Timescales	The deadline that you need to meet.
Milestones	Key aspects of the production that have to be completed before you can move onto the next phase, e.g. planning, creating and evaluation phases
Contingencies	Key time scales might need to be increased or decreased. Having backups of assets that you have sourced, etc.

Assets/Sources

Primary – the images, videos and sounds that you create.

Secondary – the images, videos and sounds you find from the internet.

Task	Planned time	Resources used	Time in minutes																	
			60	10	30	60	20	15	60	75	60	60	60	10	20	60				
L01 – website evaluations and internet connection methods	60	Powerpoint, computer, keyboard and mouse.																		
Milestone																				
Spider diagram	10 min	Paper, Pencil, Scanner and email																		
Test plan	30 min	Microsoft word, computer, keyboard and mouse.																		
Client Requirements	60 min	Microsoft word, computer, keyboard and mouse.																		
Work Plan	20 min	Powerpoint, computer, keyboard and mouse.																		
Site plan	15 min	Powerpoint, computer, keyboard and mouse.																		
Visualisation diagram	60 min	Powerpoint, computer, keyboard and mouse.																		
Asset table	75 min	Microsoft word, computer, keyboard and mouse.																		
Milestone																				
Website Master slide	60 min	Serif Webplus, computer, mouse and keyboard																		
Website pages	120 min	Serif Webplus, computer, mouse and keyboard																		
Test table	10 min	Microsoft word, computer, keyboard and mouse.																		
Folder structure	20 min	Microsoft word, computer, keyboard and mouse.																		
Evaluation	60 min	Microsoft word, computer, keyboard and mouse.																		

Legal Consideration

Definition

Copyright	Is the legal right that allows the owner to distribute, licence and profit from its use. This is relevant to any assets you use on your website and this means that I will reference them on the assets table when I do save them. I am also protected under copyright when I take an image and use this. If I do use images that don't belong to me I need to contact the owner to ask permission and be prepared to pay a fee. Due to this being a school project and the fact that I will not be benefitting financially for the content I use then I will just log it on the assets table.
Trademarks	They are used to identify an organisation or product, for example a logo – this is relevant to web design because usually website contain logos.
Intellectual Property	Usually looks at inventions.
Royalty Free	This means work can be used without the need to pay royalties to the owner of the content. You can do royalty free searches on Google and this is a good way of getting around copyright.



Y11 Hospitality & Catering 1

AC 1.1



Commercial = for profit/make money
Non Commercial = not for profit

Establishment types

Residential = you can sleep there
Non Residential = no accommodation there



Hospitality
 Covers all aspects of the accommodation and catering industry, for people away from home. "the friendly and generous treatment of guests and strangers"

Catering
 Providing a food & beverage service to people. E.g. restaurant, fast food.

Sectors

- Accommodation
Hotels, resorts, lodging
- Food & Beverage
Restaurants, fast food, catering
- Travel and tourism
Cruise, airlines, holiday parks
- Entertainment
Leisure attractions, Retail stores

Commercial (aims to make a profit)

Residential
 Provides accommodation (somewhere to stay)
 Hotels - Guest houses - Holiday parks - Cruise ships - Glamping - Farmhouses - B & B's

Non residential
 No accommodation Hospitality & catering only
 Restaurants - Cafes - Pubs - Bars - Fast food outlets - Take away - Casinos - Food vans - Tourist attractions (e.g. theme park) - Sport stadiums - Concert/gig venues - Delicatessen - School meals - transport catering - B & B's

Clients
 Business groups for longer meetings in a different city - Individuals, groups or families - Holidays & leisure - Guests attending an event i.e. wedding, celebration - Overseas visitors - School trips

Clients
 Individuals - Families - Groups - Tourists & visitors - Workers on regular hours - Shift workers

Non commercial (doesn't aim to make a profit)

Residential

- Public sector
 - a) Health and welfare
NHS, care homes, emergency services, prisons
 - a) Education
Colleges, schools, universities
 - a) Armed forces
Army, navy & air force
- Private sector
 - a) Private nursing
 - b) Private care home
- Hostels and shelters

Non residential

- Public sector
Schools, nurseries
- Workforce catering
Canteens in shops, factories etc.
- Voluntary/health & welfare
Lunch club charities, soup kitchen, day care centres




Clients
 Varies, depending on sector i.e. prisoners, elderly, students, homeless people etc.

Restaurant Standards

Michelin Star- Used to grade restaurants on their quality. Very prestigious award only given to the top restaurants. Criteria is based on quality of ingredients, cooking techniques and taste. 1= very good, 2= excellent cooking and 3=exceptional cuisine.

AA Rosette Award- Used to grade restaurants, similar to Michelin star (not as prestigious). 1= prepared with care, understanding and skill, 2= excellent restaurant demonstrating greater precision in cooking, 3= outstanding restaurant with a selection of the highest quality ingredients, 4= demonstrate superb technical skill and 5= compares with the best in the world.

The Good Food Guide- An annual guide to the best restaurants in the UK. It gives all restaurants a score for 1-10.

Hotel & Guesthouse Standards

★★★★★
 Hotels are rated using a star-rating system from 1-5. a 5 star hotel has the following things: Open all year round, proactive service, multilingual receptionist, spa facilities or business centre, Enhanced services, restaurant open everyday for all meals, ensuite facilities, 80% of rooms have a bath and shower.

Counter Service	Buffet	A selection of food laid out on a table or counter for customers to help themselves to. There are different types of buffet: finger buffet, sit down buffet and fork buffet.
	Cafeteria	A menu is displayed and customers walk past food counters selecting the items that they want. Food is paid for before they eat it.
	Fast Food	A take away service where it is possible to eat in or take away. There is usually a limited menu to allow it to be cooked quickly. Food is ordered and collected from a counter.

Food Service Systems		
Table Service	Banquet	Formal sit down meal, usually involving a large number of people often for a special event e.g. weddings etc.
	Family Style	Dishes are put on the table with serving spoons and customers serve themselves.
	Gueridon (movable trolley)	Food is served from a side table or movable trolley. Food is finished off at the table.
	Plate	Meal plated in the kitchen and brought out to the table via the waiting staff
	Silver Service	A waiting used a spoon and a fork held in one hand to transfer food from a dish in the other hand onto the customers plate.

Personal Service	Home Delivery	Establishments which cook the food ordered and drop it off at the customers house.
	Takeaway Restaurants	Establishments which cook the food ordered and the customer collects it and takes away.
	Tray/Trolley	Where food is served to people on a tray or trolley e.g. trains, aeroplanes and hospitals.
	Vending Machine	A automated machine where customers can choose a snack though a glass window.

Y11 Hospitality & Catering 2

Structure of the Industry

AC 1.1 Job Requirements

Supply & Demand

Supply = the ability to create something (e.g. a service, food, job)
Demand = the desire for something (e.g. a service, a food, a job)
 The hospitality & catering industry is the third largest employer in the UK – so supply & demand is high for a range of jobs – from skilled roles such as pastry chefs and silver service waiting staff, to less skilled but just as important jobs such as cleaning staff.
 Supply & demand changes at different times of year, week & day
 - **Busier times of year:** summer holidays, Christmas, new year, Valentine's day, Mothers & Fathers day
 - **Busier times of the week:** Friday evening, weekends
 - **Busier times of the day:** Morning rush hour for coffee etc, lunch time, evening, breakfast on weekends
 Supply & demand also varies at **different locations** – i.e. cities have higher footfall (people passing through) so supply & demand is usually higher, as well as tourist locations.



AC 1.1 Job Requirements

Qualifications & Training

At any level of career:
 Food Safety & hygiene certificate
School level:
 - Level 1/2 Hospitality & Catering
 - GCSE Food & Nutrition
 - City & Guilds courses (hospitality & Catering, culinary skills, food service)
 - Springboard courses
College & University level (diplomas, certificate or degrees)
 - Hospitality management
 - Professional cookery
Non academic routes:
 - Apprenticeship – train & work
 - Progress through the kitchen or hotel through experience

Rates of Pay

The rate changes annually depending on the economy (the supply of money & state of a country)
 - **National Minimum Wage** for school leavers
 - **National Living wage** (which is higher) for anyone aged 25 & over-this is what has been calculated for what people can actually 'live on'
 - **Apprenticeship rates** are lower as they are also receiving training whilst working



AC 1.3 Factors affecting success

Costs, Profit, Economy

Material costs: e.g. ingredients, napkins, cloths
Labour costs: e.g. salaries, wages
Overhead costs: neither of above e.g. energy bills
 - Variable: can change e.g. cost of food
 - Fixed costs: stay same e.g. rent payments

Gross income = money taken in a day
Gross profit = sales income - food costs
Net profit = sales income - all costs

Economy – supply of money & state of the country
 VAT – a tax (20%) of food & drink sales to government
 Exchange rate – if the value of the £ is good, more tourists
 Supply – weather problems where food is grown – price rise
 Strength of economy – during a recession, people spend less

Customer Expectations

Expectations:
 - High quality food
 - Value for money
 - Advice and help
 - Good service
 - Safe & secure
 - Problems dealt with

Meeting expectations or good customer service =
 - happy
 - returns
 - recommends to others
 = good reputation
 = more business

Businesses need to know their demographic (information about the area – age, gender, income)
 e.g. Disabled customer – accessibility, lifts, walk in shower
 Families – activity books, highchairs, kids' menu, cots
 Elderly – help with ordering, smaller portions, walk in bath
 Dietary needs – menu labelled or advice given
 Business customer – fast service, Wi-Fi, conference rooms

Personal Attributes

A **personal attribute** (e.g. honesty) is a personality trait or characteristic
 A **skill** (e.g. piping icing) is ability to do an activity or job well, especially because you have

Industry in general

- Hard working
- Punctual
- Reliable
- Helpful
- Approachable
- Team work
- Calm
- Communication

Management

- Leadership
- Decisive
- Communication
- Confident
- Responsible
- Leadership
- Delegation
- Organisation

Front of house

Waiting staff:
 Communication;
 Friendly; Polite, Calm.
Skills: Knowledge of menu;
 Able to deal with complaints;
 Efficient; Steady hands

Receptionist:

Confident; Polite;
 Good listener;
 Communication;
Skills: Multitasking
 Technology; Organisation

Back of house

Head chef
 Same as management plus:
 - Creativity
 - Passion
 - Stamina (work long hours)
 - Handle criticism
 - Organisation
 - Multitasking
 - Flexibility



AC 1.2 Employment contracts

Type	What it means	Advantages & disadvantages	
		To employer ('boss')	To employee ('worker')
Permanent (Full time)	The number of hours and shift times are. A contract is provided. Usually get a salary – a fixed amount of money in a period of time, usually annually (e.g. £25,000 per year).	Reliable; staff have a good knowledge/experience; Bound by contract terms which is expensive (sick, holiday, maternity pay etc.); require paid breaks unlike part time staff	Regular income; job security; regular hours of work; contract benefits (see below) Less flexibility
Permanent (Part time)	The specific days, number of hours and shift times are specified, a contract is provided.	Can be employed at busier times of the day so don't have to pay wages at quiet times; Need to pay for training of more staff rather than fewer full-time staff	Good for parents – work around school day etc.; Good for students who need work on a weekend; Less money earned
Zero hour	Work for the company but no guaranteed/ minimum hours given (i.e. part time staff may get a minimum of 8 hrs per week which they must be paid for). A contract is provided	Can be employed for functions/busy times; still have trained staff available rather than paying agency fees; No wages to pay if staff aren't required; People do not want zero-hour contracts	Can refuse to work the shift; No regular income or routine; Often don't know where they will be working until the week/day before;
Casual	Can be either seasonal or through an agency Contract not provided Seasonal – at busy times of the year i.e. waiting staff during Christmas. Agency – employer call agency when staff needed (i.e. cover illness/ chef for wedding) then agency contacts possible staff.	Can be employed for functions /busy times of the year; Only pay for staff when needed; -; Not bound to contract terms; Staff may not be loyal to company; unreliable; agency fees; staff don't know routines/not as well trained/unfamiliar with services provided	Staff can decide whether they want to take on the job or not; no minimum hours (good for a student or single parent); not tied into set shifts; Short notice; no regular income;

Environment



Waste – ends up in landfill, streets, oceans. It uses a lot of energy to make & transport the food/ packaging in the first place which is then thrown out

Reduce

- Reduce portion size
- Provide 'doggy bags'
- Compost food waste
- Less packaging – especially plastics

Reuse

- Leftovers/extra food i.e. mash > fishcakes
- Packaging i.e. jars
- Ask guests to reuse towels in hotels

Recycle

- Use recyclable packaging
- Recycle bins in hotels
- Use large bottles of shampoo/ketchup



Reducing energy

- Install solar panels, double glazing & insulation
- Use correct size pan & hob
- Batch bake
- Cover pans with lids
- Buy energy efficient appliances



Reducing water

- Only boil the water you need
- Boil foods together
- Only use dishwashers / washers when full
- Encourage showers
- Don't leave taps running



Seasonal food

- Buying food in season, which are grown locally = fewer food miles (distance food has travelled) = less CO2 emissions

Sustainable farming

- Grow crops/rear animals in an environmentally friendly way (no chemical fertilisers or pesticides)

Technology

- Computer systems for storing data bookings & orders
- Online bookings
- Mobile phone room keys
- Contactless payment
- Email lists for promo materials
- Social media - advertise & connect
- Recruiting staff online (bigger field)



Media

- **Social media:** attracts large audience for free - people can recommend, deals can be shared. A downside - people can have negative comments
- **Celebrity endorsement/influencers**
- **Internet:** customer can see images on web sites of how the hotel/food looks.
- **Review sites:** customer can view feedback before booking
- **Newspapers, TV & magazines** - advertising
- **Maps** – customers can easily find



Emerging/innovative cooking techniques & trends

- Multicultural trends & fusions
- Increase of vegan/vegetarians
- Healthy alternatives (cauliflower rice, spirals courgette)
- Insects (sustainable protein)
- Fermented food (i.e. kefir, kimchi)
- Micropubs
- Cocktail bars



Competition

When another business provides a similar product or service. Strategies:
 - Wedding/prom/event venue
 - Quiz nights & food events
 - Carry out market research
 - Research demographics of town
 - Advertisements
 - Deals, loyalty schemes, group discount
 - a unique selling point – i.e. vegan menu



Political Factors

- Changes in politics can affect a business i.e. Brexit
- **Policies, laws & regulations**
- Licensing law – selling alcohol
- Employment laws – including health & safety, discrimination, sick pay, redundancy, contracts, trade unions
- Health & Safety – fire escapes, food safety act, public liability insurance



What having a contract means:

- Holiday pay/leave:** Paid time off work
- Sick pay/leave:** If you are ill & can't work, you are entitled to be paid **PAID LEAVE**
- Maternity pay:** Paid while you take time off to care for a baby



(only casual workers do not receive a contract)

Training

- Employers should provide training if required (e.g. food hygiene)
- Uniform**
- Correct uniform should be provided for protection & identification

Pension

- Part of your wage is paid into a scheme which you receive when retired

Remuneration

This includes tips from customers for good service, & rewards/ bonus payments for exemplary work

Y11 Hospitality & Catering 3

Foods avoided by different religions

Religion	Pork	Beef	Lamb	Chicken	Fish
Islam	✗	Halal only	Halal only	Halal only	✓
Hinduism	✗	✗	✓	✓	✓
Judaism	✗	Kosher only	Kosher only	Kosher only	✓
Sikhism	✗	✗	✓	✓	✓
Buddhism (strict)	✗	✗	✗	✗	✗



How cooking affects nutrients

Diet through the life stages

Babies Up to 6 months – breast fed/formula. Contains all nutrients. At 6 months babies start to get weaned. (introduced to solid foods) pureed – must be soft as teeth are not formed. A combination of raw & cooked foods should gradually be increased (getting lumpier) to get the baby used to textures.



Toddlers - diet should be based on the Eat well guide. Children have small stomachs so should have small meals more frequently for energy. Dairy is important - calcium. They should be encouraged to try new food. They can be fussy so new food should be mixed with food they like, with choices offered.



Children - very active & growing, so have high energy needs. Need a balanced diet with fruit and vegetables, calcium & vitamin D to help absorb the calcium. Sugar should be avoided – sweets are common. Eating habits are learnt from parents so the whole family should eat healthily.



Pregnancy diets need to be adapted through pregnancy. Increase energy to 200kcal per day towards end of pregnancy for baby growth – no more to prevent weight gain. Folic acid (vitamin B9) prevents spina bifida in the baby.



Teenagers Teenagers usually eat too much sat. fat, salt & sugar, as well as being inactive due to TV, games etc. Growth spurts occur in early teen years -protein is required for muscles & calcium for skeleton (vitamin D will help absorb calcium). Teenage girls begin menstruation (blood loss) = loss of iron. This needs to be replaced in the diet (with vitamin C to help absorb it) Teenagers usually deal with stress for the first time with school & social media pressures) so this can lead to poor eating habits such as anorexia, or overeating which leads to obesity.



Adults – stopped growing so needs don't vary much. The Eatwell Guide should be followed. The metabolic rate of adults slows through age – muscle is lost & fat is gained – less energy is needed. Women continue to lose blood so iron is important.



Elderly – elderly are usually less active and so need less energy. They need to take care not to gain weight, cutting down on sat fat will reduce heart disease. Taste & smell change, which can affect enjoyment of eating/appetite. Important nutrients are calcium, vitamin D & vitamin B12: calcium (to reduce risk of brittle bones & osteoporosis) – vitamin D helps absorb calcium. B12 prevents memory loss (found in dairy, fish & beef. Some elderly do not get nutrients from a balanced diet & so need supplements. It is common that they have lost their teeth/have dental problems so sometimes meals need to be adapted so they are softer to eat & chew.) This can affect digestion of foods so fibre prevents digestive system becoming weak



Special Diets

Lactose intolerant

Lactose – sugar in milk. Sufferers are intolerant to this. (causes adverse effects). Must substitute milk for alternatives (i.e. soya, almond) & dairy products



Coeliac

Gluten (in wheat, barley, rye) which produces bread, biscuit, cake, pasta, sauces. Substitute – coconut, rice, corn turn into flour. Check label



Nut allergy

Fatal reactions if nuts are eaten so must be careful. Adapt recipes i.e. for cake & biscuit. Labels MUST state if they contain nuts.



Diabetic

Glucose isn't used up by body for energy so it stays in the body. Regular meals, include carbohydrates, cut down the 3 S's



Allergens 14 common allergens are:

1. Gluten
wheat, rye, oats
2. Crustaceans:
prawns, crabs
3. Eggs
4. Fish
5. Peanuts
6. Soybeans
7. Milk (lactose)
8. Mustard
9. Nuts;
almonds, hazelnuts, walnuts
10. Celery
11. Sesame,
12. Sulphur dioxide
used as a preservative
13. Lupin,
can be a flour
14. Molluscs
(mussels, oysters, squid)



NUTS



CELERY



MUSTARD



SESAME



SO₂ - SULFITES



CRUSTACEANS



LUPIN



GLUTEN



MOLLUSCS



EGG



FISH



PEANUT



SOY



DAIRY

Type of Vegetarian	Included Foods	Excluded Foods
Lacto-Ovo	Milk, dairy products, eggs	Meat, fish, poultry
Lacto	Milk, dairy products	Meat, fish, poultry, eggs
Ovo	Eggs	Meat, fish, poultry, milk, dairy products
Pesco (Pescatarian)	Fish, seafood May include dairy products and eggs	Meat, poultry
Semi (Flexitarian)	May occasionally include dairy products, eggs, chicken, fish, meat	
Vegan	Only plant-based foods	Any animal products, including meat, fish, poultry, eggs, dairy, honey, gelatin, etc.

A.C. 1.2.1 The operation of the kitchen

Storage area

Suitable temperature, humidity & ventilation.
Cool, dry area to store the fridge and freezers.

Preparation and cooking area

Wet cold area – fish, veg and meat
Hot area for cooking
Hand washing sink separate to food sinks

Serving

Where food is presented/plated
Hot hold to keep food warm – maintained at 63°C

Dirty/waste

Waste bins and pot washing
Pest control (including bin lids to prevent pests)
Should be away from storage & prep area

Staff room – an area away from prep area
– for changing into uniform etc.

Kitchen Layout



Stock control

- Important for success of business
- Databases are vital for this

Jobs for stock controller:

- Stock ledger/inventory - list & quantities
- Current price for budget
- Keep logs and receipts
- Find best prices

Stock should be organised using FIFO (first in, first out) to prevent foods at the back going out of date and wasted.

Perishable – high risk foods which spoil quickly so need weekly supply.

Staple – can be kept at ambient temperature so ordered in advance
Daily use – not perishable as such but foods like bread.

Equipment & materials

Large
i.e. Ovens, cooking range, walk in freezer/fridges, fryer standing mixer, deep fat fryer, blast chillers

Small and hand held
i.e. Jugs, bowls, sieve, knives

Mechanical (move)
i.e. Mincer, processor, mixer

Food safety equipment
Coloured chopping boards, tongs, knives – day of the week stickers



Dress Code

A uniform shows customer staff represent company
- Professional, clean, neat and tidy

Purpose of chef uniform:
Protect from burns and splashes
Comfortable
Sweat absorbent
Easy to wash and iron
Hygienic barrier

Must change into
Daily change



Chef uniform

Hat/toque - absorb sweat

Hair net for long hair - prevent contamination/fire

Long sleeves - prevent scalds, splashes from pans

Knee length apron – protect uniform

Cotton trousers – keep cool but protected

Non slip shoes with toe protectors – prevent slips and drops onto toes

No jewellery, make up, nail or perfume to avoid contamination/odours



Documentation & admin

Staff documentation

Training logs
Sickness & accident log
Employment log

Health and safety

Building and COSHH risk assessments
Customer feedback
Financial documents

Stock logs/inventories
Food safety certificates/
Temperature control logs (i.e. Fridge)

Safety – fire, trips, slips, equipment (blender), cuts, burns, heavy items falling



Materials

Cleaning – cloths, mops, brushes and detergents

Preparation – foil, bags

Waste – bags, bins

Maintenance – filters, bulbs

Employee welfare – toilet roll, hand wash, fire extinguisher

Maintenance of equipment

Servicing - Clean - PAT tested

Factors affecting equipment choice

Size – Uses - Noise - Cleaning
Parts – Warranty -Weight - Energy



Rules for kitchen layout

Ventilated - comfortable to work in
Extractor fans – remove any smoke etc.
Air conditioning to keep cool (hot area!)

Non slip floors
Easy to clean joints on benches (harbour bacteria in cracks!)

Correct storage areas (separating high risk food)
Adequate water supply available
Space to move around – especially around hobs/equipment.

Workflow

It should be logical! Order of flow:
Entrance delivery > Storage area > Preparation area > Cooking area > Plate up > Orders to serve > To dining room (meal eaten) > Dirty dishes/leftovers back to kitchen > Waste food disposed > Pot wash and return to equipment area > Waste collection and recycling



A.C.1.2.3 Meeting customer requirements

Customer Needs Forms the start of relationship with customer and business. i.e. need a meal, or accommodation

Customer Expectations Factors which decide whether or not the customer is satisfied with the service provide. i.e. the customer service, standard of comfort, how the meal is in terms of quality or value for money

Customer Wants

The business needs to find out what a customer requires – they can do this by carrying out market research. i.e. – surveys - verbal feedback from customers
- online or paper feedback - - reading about trends

Trends

Customer trends need to be identified to ensure success



- Online services – want fast, instant, user friendly technology
- Messaging – through social media
- Online comparison
- Social media advertising/menus
- Availability & delivery service
- Competition – find out what it is
- Personalised service
- Environmentally friendly
- Self service now popular with customers, rather than dealing with a person face to face



Customer service

important for:
- Satisfaction
- Loyalty and repeat business
- Reputation – more customers
- Employee pride and confidence = job satisfaction
- Few complaints

Quality of service/experience

Ingredients & materials – foods, bedding
Consistency – of service, foods, accommodation
Customer service – helpful, polite
Availability – opening hours suitable, food available
Environment – comfortable, suitable temperature
Accessibility – disabled access/toilets

Dietary requirements

- Nutritional information should be available
- Allergy & intolerance information must be displayed
- Dietary needs (vegan etc.)
Usually using keys i.e. GF for gluten free
- Staff should be trained on these



Equality & customer rights

- **Customer Rights Act** – Ensures products purchased must be of satisfactory quality, fit for purpose and as described. (protects customer)
- **Consumer protection act 1987** – prevents unsafe products sold, health & safety messages (protects customer)
- **Trade descriptions act** – no misleading advertising/ incorrect descriptions (protects customer)
- **Equality act 2010** – Ensures equal treatment regardless of age, race, religion, disability, gender and sexual orientation (protects customer) & employee



Customer Types

Leisure/tourist

For holiday/ experience
Near attractions
Reviews more important
Gym - Spa - Bar

Business/Corporate

Corporate = large business
May require hospitality & catering for:
- Conferences/meetings (Meeting rooms, suitable IT, pens & paper, refreshments & meals – usually buffet)
- Award ceremonies (Temporary restaurants, bars, VIP lounges)
- Staff training or team building days
- Trade shows

Local residents

The hospitality & catering industry can boost local economy:
- Increase tourism
- Employ local people
- Local people can use the facilities
- Build relationships with them by
• Preventing noise levels
• Provide parking so they don't park in local streets
• Provide security
• Set reasonable pricing for local events i.e. Proms, fetes



A.C. 2.2.1 The operation of front of house

Layout

Front of house refers to restaurant or hotel entrance/reception

Entrance/reception

- Customers are greeted
- First impression (smile, eye contact etc)
- Should be a pleasant environment
- Menus on display
- Disabled access

Waiting area

- Customer waits at busy times, (might be annoyed so comfort is important)
- Offer drinks

Dining area

- Serve & enable socialising (table layouts)
- Stations to divide up waiting staff

Factors to consider:
Temperature - Smells - Space - Comfortable Chairs - Menu which meets all needs - Toilets – clean and disabled access

Workflow

Seat customer
Menu given/explained
Take drink order
Serve drinks
Take food order
Serve food
Check customer is happy
Clear plates
Offer desserts
Take order
Serve desserts
Clear plates
Coffee & drinks order
Offer bill
Take payment
Customer leaves
Reset the table

Equipment & materials

Table top – Napkins, cloths, menu holder, condiment, holders/bottles/candles, coaster, bread basket, cutlery, glasses

Service – Dishes, sizzle platter

Waiting at table – Tray, serving spoon, fabric serviettes, bottle opener, ice bucket, notepad and pen, tablets

Seating – Chair, stool, high chair, outdoor seating

Organisation – Rope barrier, direction sign, menu holders, wine racks, shelving

Safety – First aid kit, signs, extinguisher, alarms, lighting

Bar – Measures, fridge, bottle openers, blenders, chalkboard and chalk

Safety & Security

Hazards - Electric leads – Unmarked steps – Low ceiling – No fire extinguisher – No fire exits – Candles – Low lighting

Security – Data protection - CCTV - Changing room & lockers for staff - Customer assault - Well lit access - Photo ID

Materials

Cleaning – detergents, glass cleaning, washing up, brushes, mops

Materials for food service – disposable napkins, individual sachets or environmentally friendly refillable pots, condiments, candles, table decorations, flowers

Waste disposal – bags and bins

Employee welfare – first aid, hand towels, toilet paper

Maintenance - replacement for broken stuff i.e. Glasses

Dress code

Consistent colour theme

Important as:

- Creates first impression
- Sets a standard
- Stops employees wearing inappropriate clothes
- Part of team
- Pride – better work ethic
- Customer can identify



Key Terms

Hot hold – when cooked or reheated food is held hot prior to and during service to consumers

Pest control - regulating pests from entering the food preparation area (i.e. Flies, rats, mice, cockroaches)

Work flow – the sequence of events in a kitchen for it to operate efficiently

Stock control – the process of ensuring that appropriate amounts of stock are maintained by a business at a minimum cost.

Stock ledger/inventory - show how much stock you have at any one time, and how you keep track of it

Logs - systematic recording of events, or measurements i.e. Training log, temperature log

FIFO – 'First in, first out' - first foods that are bought/produced are the first that are sold/used to ensure that you use what you have before it gets outdated

Perishable - foods likely to decay or go bad quickly – usually stored in a fridge (i.e. Milk, meat, cheese)

Staple - a food that is eaten routinely - a dominant portion of a standard diet i.e. Pasta potatoes, rice

Mechanical equipment – equipment that has a part which moves i.e. Mixer, tin opener

Contamination - making something unsuitable by contact with pathogenic bacteria or something unclean

PAT test - Portable appliance testing - a process in which electrical appliances are routinely checked for safety.

COSHH - Control of Substances Hazardous to Health Regulations. - require employers to control exposure to hazardous substances to prevent ill health

Covers - refers to a diner who eats or a meal that is served

Market research - the action or activity of gathering information about consumers' needs and preferences

Corporate - a large company/business or group

Local resident – people who live in the local community who might benefit from a business

Reputation - the beliefs or opinions that are generally held about a company



Y11 Hospitality & Catering 5

1.3.2

Food Safety Act 1990

Cover all food production & sale chain.
(production, processing, storage, distribution & sale)

- Safe to eat (nothing unsafe added)
- What people expect (e.g. not food which is meant for pets)
- Not misleading (e.g. not horse meat in a lasagne)



Food Hazards

A food hazard is something that makes food unfit or unsafe to eat that could cause harm or illness to the consumer. There are three main types of food safety hazards:

- **Chemical** – from substances or chemical contamination e.g. cleaning products.
- **Physical** – objects in food e.g. metal or plastic.
- **Microbiological** – harmful bacteria e.g. bacterial food poisoning such as Salmonella.



Food hygiene regulations & HACCP

Require food to be stored, handled, cooked & served safely & hygienically
Apply to all food businesses who must ensure:

- Food is produced safely
(*personal hygiene, pest control, staff training, cleaning & temperature records*)
- Records of suppliers are kept to trace where food came from

Food businesses should ensure they meet food safety & hygiene regs using HACCP systems to ensure they show due diligence (being able to prove reasonable actions were taken to avoid risk)

HACCP = hazard analysis critical control point (a system to identify hazards & minimise risks):

1. Create a table or flow chart of the process
2. Analyse each step to identify the hazard
3. Identify what can be done to control/prevent the hazard
4. Set guidelines for each control/prevention (critical control points/limits) e.g. fridge temperature
5. Keep reviewing the system



Key Terms



Legislation - a law or set of laws

Prosecute – take someone to court for committing a crime

Mandatory – required by law; compulsory

Due diligence - reasonable steps taken by a person to avoid committing an offence

Food Safety Act – law to ensure companies treat human food in a controlled and managed way

Food Hygiene Regulations – law to ensure companies make sure that their activities are carried out hygienically.

Food Standards Agency - responsible for food safety and food hygiene in England, Wales & Northern Ireland.

HACCP – (Hazard analysis critical control point) - a management system in which food safety is addressed through the analysis & control of hazards throughout the whole process.

Hazard analysis - deciding what might be a hazard, and what should be done if someone or something is exposed to this hazard.

Critical control point - a step in Food Handling where controls can be applied to prevent or reduce any food safety hazard.

Example of a HACCP

Stage	Potential hazard (hazard analysis)	Controls in place (Critical control point)
Purchasing ingredients	Suppliers may not be hygienic Food may be out of date Meat may not be fresh Delivery van temperature in danger zone	Suppliers visited to check measures Check dates on arrival Check temp of van Reject order if not met
Storage	Fridge may not be 0-5 Dry storage may be contaminated by pests Ready to eat food may be contaminated by meat	Regular checks & records logged Regularly checked and serviced Well ventilated, clean dry stores Use FIFO
Preparation	Meat may contaminate ready to eat food Meat may be in danger zone for too long Cross contamination by food handler	Store separately Meat only taken out of fridge when ready to prep Personal hygiene checks and training
Cooking	Meat may not be thoroughly cooked	Cook to 75C, use a Food probe and Timer
Serving	Cross contamination by food handler Food may enter danger zone Contamination by packaging	Use tongs / serving equipment – not hands Use hot hold – 63 Clean storage, protected from pests
Washing up	Food not washed off equipment properly Walls and surfaces get food trapped in from splashed etc	Dishwasher Daily cleans at end of day Weekly deep cleans
Waste disposal	Scraps attract pests	Secure bins, collected weekly, outside

Y11 Hospitality & Catering 6

1.4.1/ 1.4.2

Causes of food illness can be split into 3 categories:

1. **Microbes** – tiny microorganisms which can contaminate & spoil food
 - Bacteria - - Yeast - Mould
2. **Chemicals, metals & poisonous plants**
3. **Allergies & intolerances**



1. Microbes

Bacteria: Can be good, or pathogenic & cause food poisoning.

Yeast: used a lot in the food industry in bread & beer making. It is a fungi which reproduced by budding. It needs warm, acidic, sweet foods (it ferments sugars) so can spoil sweet foods such as orange juice.

Mould: used in cheese making. A fungi with thread like filaments which spread into a food (they stay even when the visible mould is cut off). It needs warm, moist conditions and can spoil foods.

Conditions needed for bacteria to multiply:

Moisture - dried food has a longer shelf life

Time - multiplies every 20 mins(binary fission)

Warmth - multiply in warm conditions

Food (high risk) – high in protein

i.e. eggs, meat, fish.

*Use weekdays to help remember(MTWF)

5-63°C - The danger zone. Bacteria multiplies rapidly as it has warmth.

High risk food should not be kept in the danger zone – you should only take food out of the fridge when ready to prepare it.

0-5°C - Fridge temperature. This slows bacteria from multiplying as they do not get the warmth but does not completely stop or kill it.

-18°C - Freezer temperature. This stops bacteria from multiplying as they do not get the warmth or moisture but does not completely kill it.

75°C+ - This kills bacteria. The core temperature of high-risk food such as meat should be cooked to at least 75°C, checked using a food probe

63°C+ - 'Hot hold' temperature. Cooked or reheated food must stay above 63°C (out of the danger zone) e.g. in buffets, deliveries. Checks should be carried out every 2 hours to ensure hot food maintains 63°C+



Cross contamination:

When bacteria is transferred from one place to another - avoid!

- e.g. handling raw meat then touching ready to eat food such as salad;
- handling raw meat then touching equipment/door handle;
- sneezing into food and not washing hands after;
- using equipment for raw meat then ready to eat food;
- by storing raw and ready to eat foods together in a fridge



Prevention during storage

- Chill cooked foods within 90 minutes
- Check and log temperatures regularly
- Wrap high-risk food & store on correct shelves of fridge
- Only take out the amount required for cooking
- FIFO rotation of foods (old stock to front, new to the back)
- Check dates of food regularly & date mark containers
- Dried food should be correctly stored & covered



Prevention during preparation & cooking

- Personal hygiene (hands washed before cooking, after touching raw food, after coughing/sneezing, clean apron, blue plasters on cuts, hair nets)
- Colour coded food equipment, boards/knives.
- Only take food out of fridge when ready to prepare/cook
- Separate ready to eat and raw foods
- Check hot hold/fridge temperature every 2 hours



2. Chemicals, metal & plants

- **Chemicals:** can be poisonous - cleaning products, bleach, fertilisers & pesticides in crops/farming, overuse of additives.

- **Metal:** aluminium & tin can leach out of pans & tins when reacting with acidic food such as tomato, producing a metallic taste. Leftover food in tins should be transferred into a different container - not stored in the tin (e.g. half a tin of beans)

- **Plants:** some plants can be poisoning e.g. some mushrooms, berries, rhubarb leaves



3) Allergies & intolerances

Businesses must act responsibly towards this by

- advising customers about ingredients in their food
- label food and menus correctly
- avoid contaminating food with allergens
- recognise & know what to do if a customer has a reaction

ALLERGENS	Wheat	Gluten	Eggs	Fish	Shellfish	Peanuts	Soy	Milk	Mustard	Sulphites
Wheat	✓	✓								
Gluten	✓	✓								
Eggs			✓							
Fish				✓						
Shellfish					✓					
Peanuts						✓				
Soy							✓			
Milk								✓		
Mustard									✓	
Sulphites										✓

Allergy: A serious & possible life-threatening reaction to a food or ingredient. The common allergens are:

1. eggs
2. fish
3. milk
4. peanuts
5. gluten
6. sesame
7. celery
8. mustard
9. soybeans
10. molluscs (mussels & oysters)
11. tree nuts (hazelnut, almond, walnut, cashew)
12. lupin (a gluten free flour)
13. crustaceans (prawn, crab, lobster)
14. sulphur dioxide/ sulphites (a preservative)



Intolerance: Digestive issues/feeling unwell after eating certain foods. They cause a slower/less instant reaction compared to an allergic reaction. Causes digestive issues & stomach pains/bloating/diarrhea (rather than immune system response)

Lactose intolerance:

Cannot digest lactose (a sugar in milk) properly so bacteria in the intestine have to break it down which then produce gas
Avoid: milk & dairy (yogurt, cheese, butter)
Alternatives: lactose free dairy/milk/yogurt
Dairy free milks such as almond, soya, rice



Celiac/gluten intolerance:

Reaction to gluten - in wheat, barley, oats, rye. Most flour is made from wheat so cannot eat food made from wheat (pasta, bread, pastry, cakes etc). As well as the symptoms they can also lack energy (lack of carbohydrates)
Alternatives: Gluten free flour or other products such as bread. Almond flour, gram flour, linseed.
Celiac: eating gluten can cause long term issues
Gluten intolerance: eating gluten = short term discomfort



Symptoms of an allergy

Visible: flushed skin, rash, swelling of skin & lips, difficulty breathing.

Non-visible: swelling of tongue & throat, stomach pain can become unconscious

- Can cause **anaphylaxis shock** (severe, possible fatal)

Needs immediate treatment: Stay calm, call ambulance, reassure, use EpiPen if they have one

Bacteria - microscopic organisms that multiply (pathogenic=harmful)

Yeast - a microscopic fungus that can ferment sugar (produce alcohol & CO2)

Mould - a furry growth of fungi that can grow and spoil food

Cross contamination - When bacteria is transferred from one place to another

Danger zone – bacteria multiplies most as it is warm (5-63°C)

FIFO – First in first out – new stock is put behind old stock, so old stock is used first

90-minute rule – cooked food should be cooled and refrigerated within 90 minutes

Hot hold - cooked or reheated food is held hot prior to and during service to consumers (at 63°C)

Binary fission - bacteria makes a copy/splits into two every 20 minutes in the correct conditions

Personal hygiene – the cleanliness of the food handler (i.e. hands washed, apron on, hair tied up)

Kitchen hygiene – the cleanliness of the kitchen & work area (i.e. clean benches)

Onset – the time between eating the contaminated food and symptoms appearing

Duration – the time the person has the symptoms

Symptoms – the side effects of something (i.e. a symptom of a cold is a runny nose)

Sources – where something comes from (i.e. a source of salmonella is eggs)

Allergy – a more severe immune response/reaction to something

Intolerance – an inability to eat something without adverse effects (i.e. gluten)

Anaphylaxis – a severe and potentially fatal reaction to something especially nuts

Coeliac disease - a condition where immune system attacks the tissues when gluten is consumed.

Gluten – a protein found in wheat flour, barley & rye (wheat flour - in bread, pastry, pasta, cakes)

Lactose – a sugar found in milk (milk is in dairy products such as yogurt, cheese, cream)



Key Terms

The main causes of food poisoning bacteria are:

- **Bacillus cereus:** found in reheated rice and other starchy foods.
- **Campylobacter:** found in raw and undercooked poultry and meat and unpasteurised milk.
- **Clostridium perfringens:** found in human and animal intestines and raw poultry and meat.
- **E-coli:** found in raw meat, especially mince.
- **Listeria:** found in polluted water and unwashed fruit and vegetables.
- **Salmonella:** found in raw meat, poultry and eggs.
- **Staphylococcus aureus:** found in human nose and mouth.

Y11 DIT 1



What is Component 3?

- Component 3 is the **externally-examined** part of the qualification.
- It's titled *Effective Digital Working Practices*.
- It forms a significant proportion of the overall qualification (for example, for the 2022 specification it's stated to be 40% of the qualification) according to some sources.

What does Component 3 Cover?

- **Learning Aim A: Modern technologies**
(What they are, how they're used in business/organisations)
- **Learning Aim B: Cyber security**
(Threats, vulnerabilities, how digital systems are protected)
- **Learning Aim C: Wider implications of digital systems**
(Ethical, legal, environmental, social implications)
- **Learning Aim D: Planning and communication**
(How digital projects are planned / the roles people have / how to communicate effectively in a digital context)

Study tips to prepare:

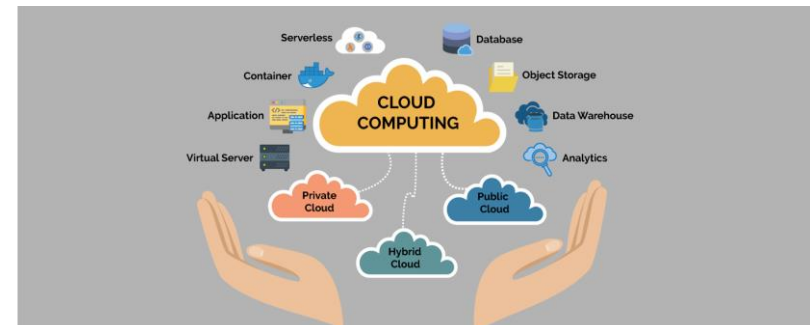
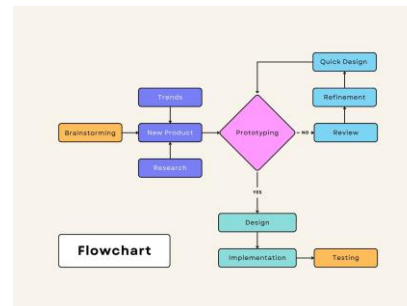
Here are some effective strategies:

- **Break your revision down by Learning Aim**
– For example, set aside time for Modern Technologies (A), then Cyber Security (B), then Wider Implications (C), then Planning & Communication (D).
- **Use case studies**
Many revision resources divide by scenario/case study so you can see how the theory applies in real-life.
- **Do lots of practice exam-style questions**
This will help with applying knowledge and identifying weaker areas. Use the practice books mentioned.
- **Pay attention to key terms**
Things like “vulnerability”, “encryption”, “metadata”, “stakeholders”, “sustainability”, etc are often used.

Useful Links



Key Terms
Vulnerability
Stakeholder
Meta-Data
Encryption





Y11 DIT 2

LEARNING AIM A TOPICS

- Cloud computing, Infrastructure as a Service (IaaS), Software as a Service (SaaS)
- Internet of Things (IoT), wearable technology
- Virtualisation, Mobile broadband, 5G
- Scalability, resilience, latency, bandwidth
- Digital transformation, remote working, collaboration tools
- Advantage, limitation, cost-effectiveness, efficiency, accessibility

LEARNING AIM C

- Legal issues: data protection (e.g., GDPR), intellectual property, copyright, computer misuse, digital rights
- Ethical issues: privacy, surveillance, digital divide, equality of access, cultural impacts
- Social implications: remote working, virtual teams, social media, behaviour online
- Environmental implications: e-waste, energy consumption, sustainability, lifecycle of devices
- Organisational responsibilities: accessibility, duty of care, professional codes

LEARNING AIM B Topics

- Threats to digital systems: malware, phishing, social engineering, insider threats, denial of service
- Vulnerabilities and risks: weak passwords, outdated software, lack of backups
- Prevention, mitigation and management: firewalls, encryption, access controls, user training, backups, disaster recovery
- Organisational policies & procedures: security policy, acceptable use policy, password policy, incident response plan
- Physical security, environmental controls, penetration testing

- Malware, ransomware, phishing, social engineering, Trojan horse, virus, worm
- Vulnerability, threat, risk assessment, exploit
- Firewall, encryption, access rights, authentication, biometric, multi-factor authentication (MFA)
- Backup, restore, disaster recovery plan, business continuity
- Acceptable use policy (AUP), incident response, penetration testing, vulnerability scanning





Y11 DIT 3

LEARNING AIM D TOPICS

- Communication methods in digital organisations: reports, emails, meetings, collaborative tools
- Stakeholders and their roles: users, project manager, developers, clients, support staff
- Planning digital tasks: Gantt charts, timelines, task lists, dependencies, milestones
- Forms of notation: flowcharts, data flow diagrams (DFD), system diagrams, pseudocode, entity-relationship diagrams (ERD)
- Iterative vs waterfall models, testing, review and evaluation

KEY TERMS

- Stakeholder, project lifecycle, milestone, task dependency, critical path
- Gantt Chart, PERT, timeline, deliverable
- Flowchart, process, decision node, loop, terminator symbol
- Data Flow Diagram (DFD), entity, data store, data flow, process
- Pseudocode, iteration, condition, sequence, selection
- Agile, waterfall, iterative development, feedback loop

REVISION TIPS

- Use **each topic above** to create your own revision sheet: definitions, examples, key advantages/disadvantages.
- For **key terms**, make flashcards (term on one side, definition/example on the other).
- Practice **sample questions** regularly: know the command words (state, explain, discuss, analyse) and how many marks:
 - 1–2 marks: short factual answer
 - 3–5 marks: explanation or application
 - 6+ marks: discussion/analysis with judgement
- Use **past paper style questions** from the sample packs (e.g., via PG Online) to test yourself under timed conditions.
- Link concepts across Learning Aims: e.g., when you learn about a modern technology (Aim A), consider its security risks (Aim B), legal/ethical implications (Aim C), and how its implementation could be planned (Aim D).



Y11 Geography I

Key Terms...

Continentality – Climatic conditions of large land masses heating up and cooling down quickly

Maritime Climate – Climatic conditions of land close to the sea – the sea moderates temperature of the land.

Tropical Rain Belt (ITCZ) – A zone between the Tropic of Cancer and Tropic of Capricorn that has a lot of rainfall

Low Pressure – Warm, moist air rises creating clouds and rain (known as a Depression)

High Pressure – Cold air sinks leading to dry, settled weather (creates anticyclones)

Drought – A long period of time with little precipitation

Jet Stream – Strong, high-altitude winds that circulates the Earth

Isobars – Lines of equal atmospheric pressure

What are the factors that affect climate?

Latitude: Locations that are further north of the equator receive less concentrated energy from the Sun and are cooler.

Altitude: Temperatures decrease with altitude. There is a 1° C drop in temperature for every increase of 100 m in height. This is because the air is less dense in higher altitudes.

Prevailing winds: Polar winds from north (Cold), Tropical winds from south (Warm), Maritime winds from sea (wet), Continental winds from land (dry).

Distance from the coast: The sea takes longer to heat up and cool down than land, so in the winter the sea keeps coastal areas warm and in summer, it cools them down.

What are the different types of rainfall?

Convictional Rainfall: The sun heats the ground and warm air rises. As the air rises it cools and condenses to form water droplets. Water droplets join together to form clouds. Heavy rainfall occurs.

Relief Rainfall: Air is forced to rise over mountains and cools. As the water vapour condenses, it forms clouds and rains.

Frontal Rainfall: An area of warm air meets and area of cold air. The warm air is forced over the cold air. Where the air meets the warm air is cooled and condenses. Clouds form and begins to rain.

How does a maritime climate affect UK?

UK has a temperate climate (mild) due to the maritime climate. Ocean currents circulate around the globe transferring heat from warm latitude to the tropics The Gulf Stream (North Atlantic Drift) carries warm water from the tropics towards Europe, which creates a warmer and wetter climate to the UK compared to countries on the same latitude.

What are features of a tropical climate?

The temperatures are hot throughout the year – temperatures range from 20°C to 30°C (near equator). Tropical climate is dominated by the Tropical Rain Belt (ITCZ) where the ground is heated strongly by the sun, warm air rises creating low pressure, water vapour in the air condenses to form clouds and heavy rainfall.

What are features of a hot semi-arid climate?

Areas of semi arid climate are the transition zone between hot deserts and tropical climates. Temperatures are relatively high – 18°C average temp. Rainfall is low (600mm per year) due to the sinking cooler air (high pressure). Rainfall in this area is unreliable – some years the usual rain storms during the wet season fail resulting in drought.

What is an extreme weather event in a low pressure system – Hurricane

Hurricanes form over warm ocean waters – over 26°C. Warm moist air rises creating a tropical storm. The coriolis effect causes the wind to start spinning in an anticlockwise direction. Cooler air is sucked into the centre creating the eye of the hurricane. Trade winds is the name given to winds either side of the Equator moving the hurricane east to west. Once the wind speed reaches 75mph it is classified as a hurricane.

What is an extreme weather event in a high pressure system – California Drought

The low rainfall was caused by the Jet Stream. This usually curves below California to bring rain-bearing low pressure. However, between 2012-2015 it was wrapped around an area of high pressure resulting in dry air and little rainfall. It was nicknamed the Reluctant Ridge of high pressure because of its reluctance to move.

Y11 Geography 2

Key Terms...

Greenhouse Effect – gases in the atmosphere trap heat making the Earth warmer.

Climate Change – a large-scale, long-term shift in the planet's weather patterns

Glacials – cold period in the Earth's history when glaciers have advanced and icesheets increased in size

Interglacials – warmer periods in the Earth's history when glaciers have retreated and ice sheets have decreased in size.

Carbon Sinks – Places where carbon is stored (e.g. fossil fuels)

Carbon Neutral – An activity where carbon dioxide emissions are equal to carbon being stored

Renewable Energy – energy from a source that is not depleted when used

Non-Renewable Energy - any natural resource that exists in limited supply and cannot be replaced if it is used up

How has climate changed during the Quaternary Period?

Throughout the 2.6million years of the Quaternary, the climate has changed constantly. There have been periods of glacials when the ice sheets moved further south and inter-glacials as polar ice retreated.



What is the Greenhouse Effect?

- Light (short wave) and heat (long wave) from the sun pass through Earth's atmosphere.
- The light (short wave) energy is largely reflected back into space and not absorbed in the atmosphere.
- The heat (long wave) coming from the Earth's surface is easily absorbed by naturally occurring gases in the atmosphere. These gases are know as Greenhouse Gases (carbon dioxide, methane, water vapour)



What are the natural and human causes of climate change?

Natural causes – orbits of the Earth around the sun, volcanic eruptions, cattle digestion releasing methane

Human causes – burning fossil fuels (coal, oil, gas) deforestation (i.e. carbon sinks)



What are the impacts on the wildlife in the Arctic?

There are 1200 polar bears living in the region of Hudson Bay, Canada. The Canadian Wildlife Service (CWS) show sea ice is now melting three weeks earlier and some polar bears do not have enough fat reserves to survive the summer months. This leads to:

- More pups will starve
- Females will be less fertile
- Hungry bears enter towns – conflict
- Food web – affects numbers of other species

How would climate change affect tourism in the Bahamas?

Climate change threatens to change the tourism industry in the Bahamas as it is one of 58 Small Island Developing States (SIDS)

- Loss of beaches due to erosion
- Damage to freshwater aquifers
- Stress on ecosystems – coral bleaching temperatures
- Damage to infrastructure from intense storms

How can climate change be managed?

- Local (e.g. Bristol City) – £105mill insulating homes, £35.9mill two solar farms, 10km of cycle paths, Metro-bus Scheme International – The Doha Amendment to the Kyoto Protocol (2012) aims to limit global temperature increases to below 2°C. Countries are committed to 2020. EU Agreement (2008) To reduce CO2 emissions by 20% of their 1990 levels by 2020 by investing in renewable energy using wind, solar and hydroelectricity. For each state to source at least 10% of its transport fuel from biofuel (made from natural plant oils). It is carbon neutral as the quick growing plants absorb as much carbon from the atmosphere as they give off when burnt.

Y11 Geography 3

Key Words...

Tropical Rainforest – Large forest ecosystems (or biomes) that exist in the hot wet climate found on either side of the equator.

Ecosystem – A community of plants and animals and the environment in which they live – include both living (e.g. plants/animals) and non-living parts (e.g. climate, soil, rocks and water)

Water Cycle (hydrological cycle) – The continuous flow of water between the Earth’s surface and the atmosphere

Nutrient (or Water) Stores – A part of an ecosystem in which (nutrients/water) is stored

Nutrient (or Water) Flows – The movement of (nutrients/water) from one store to another

Monoculture – A type of agriculture (farming) in which only one crop is grown over very large areas of land

What is the structure of the Tropical Rainforest?

- Emergent Layer – The tallest trees usually over 50 metres tall.
- Canopy – The sea of leaves blocking out the sun from the lower layers. The canopy contains over 50% of the rainforest wildlife.
- Under Canopy – Mainly contains bare tree trunks and lianas. Lianas are vines that climb the vegetation to reach sunlight.
- Forest Floor – Usually dark and damp. It contains a layer of rotting leaves and dead animals called litter.

What is the nutrient cycle in the tropical rainforest?

Plants need minerals containing nitrates and phosphates. These nutrients are passed through the nutrient cycle through ‘Nutrient Stores’ (circles) and ‘Nutrient Flows’ (arrows). The size of the circles and arrows are proportional to the amount of nutrients within each area.

How has Borneo been affected by Palm Oil Plantations?

Cleared areas of rainforest is replaced by Palm Oil Plantations

Global production of palm oil has doubled

Grown for biofuel for cars and foods

Plantations are a form of monoculture – lower biodiversity than replaced rainforest

How has this threat been managed?

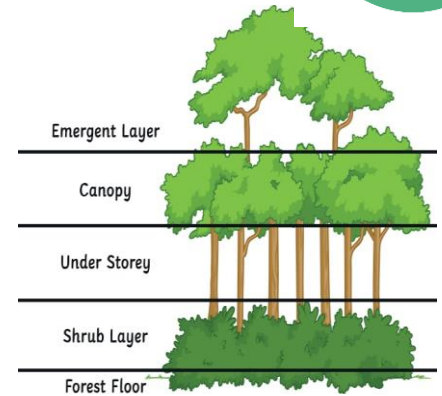
In 2007, Malaysia, Brunei and Indonesia declared to manage the forest resources that are undamaged – the ‘Heart of Borneo’. WWF and Greenpeace have tried to raise public awareness of deforestation in Borneo. Encouraged MNC’s to support the sustainable use of land for palm oil production

How can the rainforest be managed sustainably?

Ecotourism: Encourage small groups to limit impacts, buildings and walkways are built with natural resources, in 2000 \$1.25 billion generated for conservation, creates jobs for local people

Wildlife Corridors: Deforestation can isolate animals by restricting movement through the forest so cleared areas of forest are replanted to allow parts of the forests to re-grow and animals to access the forest and access food and a mate to reproduce

Debt-for-Nature Swap: Western governments encouraging this arrangement – Central American governments agree to spend money conserving the ecosystem / wildlife. In return western governments agree to reduce the amount of debt owed to them.



What are the ‘stores’ and ‘flows’ of the hydrological cycle?

Water Stores: Atmosphere, Interception storage, Soil, Water in plant tissue

Water Flows: Precipitation, Drip Flow, Stem Flow, Evaporation, Evapotranspiration.

Y11 Geography 4



Key Terms...

Desertification – Dry region receives less rainfall – soil is open to erosion and vegetation dies

Sahel – semiarid region of western and north-central Africa extending from Senegal eastward to Sudan.

Soil Erosion – Wearing away of the upper layer of soil (topsoil) by water, wind, and mass movement.

Overgrazing – a situation in which there are too many cows or other animals eating grass in an area, which damages the environment:

Climate Change – a change in global or regional climate patterns,

Infertile Soils – the result of a physical or chemical problem in the soil that inhibits or prevents the growth of plants.

What is Desertification?

Desertification is the process where fertile land becomes more like desert. Features of desertification include low rainfall levels as less moisture in the air, little vegetation cover as less moisture/nutrients in soils, dry and exposed soils as little vegetation cover. Areas at risk include the Sahel in Central Africa – long dry season of nine months and a short wet season of three months.

What are the causes of desertification?

Population growth-. An increased population is putting greater pressure on the environment for resources such as wood and water.

Removal of wood –As the population increases, there is a greater need for fuel wood to cook. When trees are cleared, roots no longer hold the soil so it is more vulnerable to soil erosion.

Overgrazing - An increasing population results in larger desert areas being farmed. Sheep, cattle and goats are overgrazing the vegetation. This leaves the soil exposed to erosion.

Climate change - The global climate is getting warmer. In desert regions conditions are not only getting warmer but drier too. On average there is less rain now in deserts than 50 years ago.

What are the impacts of desertification?

Environmental – As vegetation is removed the roots are no longer able to bind the soil together and the soil becomes vulnerable to wind erosion. The fertile topsoil is easily blown away. Land becomes infertile, turning to desert – expansion of the Sahara desert.

Social – People are forced to migrate, with many people - young men in particular, leaving to work in cities and towns. This puts pressure on already limited urban resources.

Economic – Land becomes unproductive, farm income falls, which leads to poverty and an increased reliance on overseas aid.

How can desertification be managed locally?

Afforestation: Replanting of trees to protect it from soil erosion

Rainwater Harvesting: Collect water in a tank for irrigation

Terraces: Build terraces on the land to reduce the water/nutrients being lost in soils.

Stone Bunds: Rocks placed along the contours (end of a slope) to allow rainwater to infiltrate the soil.

How can desertification be managed nationally?

The 'Great Green Wall' is one example of an initiative where countries are working in partnership with one another. Eleven countries signed an agreement in 2010 to begin planting this 'wall'.

The plan is to plant a 15km-wide strip of land with trees and shrubs across the width of Africa. It is hoped this wall of vegetation will help prevent further soil erosion from the Sahel and improve incomes.

Y11 Geography 5



Key Terms...

Water Footprint – The amount of water used to make an item of food or a product such as an item of clothing.

Water Security – When a society has enough water to ensure that everyone has clean water, sanitation and good health and the economy has enough water to grow food and make things.

Embedded Water – The amount of water or energy that is required to make a product.

Groundwater Store – Water in the ground below the water table.

Water Abstraction – When water is taken from a river, reservoir or underground source

Over-abstraction – When water is abstracted at a faster rate than it is recharged, leading to a store of water decreasing in size.

Water Stress – When there is a shortage of water which creates risk for the individuals, farmers and industry.

What is the water footprint?

Water Footprint – The amount of water used to make an item of food or a product such as an item of clothing (i.e. direct water – drinking, showering, embedded water – water used to make goods).

Demand for water is affected by two factors:

- Number of people in an area / country
- Amount of water needed for direct use and embedded water (goods)

Consumerism - The need to buy goods in ever increasing amounts. Due to consumerism the demand for water may be higher in HIC's as there is a higher demand for goods compared to LIC's.

What is 'Water Security'?

Water Security – When a society has enough water to ensure everyone has clean water, sanitation and good health and the economy has enough water to grow food and make things. Water Security relies on good governance, transboundary cooperation, peace and political stability and finance.

What is water 'abstraction' and 'over abstraction'?

Water Abstraction – When water is taken from a river, reservoir or underground source

Over Abstraction – When water is abstracted at a faster rate than it is recharged, leading to a store of water decreasing in size.

What are the impacts of over abstraction?

Groundwater Supplies:

Water table can not be raised for an areas needs (e.g. to grow crops)
Water table lowers in coastal areas causing salty sea water to contaminate fresh water.

Surface Supplies

Surface water (e.g. lakes) disappear affecting the economy (e.g. fishing)
People forced to move elsewhere for jobs creating competition elsewhere.

How can the imbalance of water be addressed?

The East coast of South Africa (Lesotho) receives far more rainfall due to warm moist air coming from the Indian Ocean creating relief rainfall due to the mountainous area but has a low population. Gauteng has low rainfall but a high population.

- The Lesotho Highlands Water Project (LHWP) includes building 6 major dams in Lesotho
- 200km of tunnel systems were used to transfer water to areas with low water supply
- The tunnels will divert 40% of water from the Senqu River (Lesotho) to the Vaal River
- The River Vaal then carries water to the Gauteng province; a highly populated, industrial area

Year 11 History I

Militarism – the idea of building up your country’s military (armed forces); army, navy, air force, **Alliances** – when different countries form friendships with other countries, **Imperialism** – the idea of building up your country’s empire, **Nationalism** – the idea that your country is better than other countries



Alliances	<ul style="list-style-type: none"> • <u>Triple Entente</u> – Britain, France, and Russia • <u>Triple Alliance</u> – Germany, Austria-Hungary, and Italy
Morocco 1905	<ul style="list-style-type: none"> • By 1905. Morocco was the only independent African country • France wanted to take over Morocco, but Germany was wary of France becoming more powerful • The Kaiser went over to Morocco, and declared that he supported Moroccan independence - an insult to France • As a result, a conference was called, and Germany was made to feel humiliated by Britain, France, and Russia, who ganged up against them, and formed the <u>Triple Entente</u> soon after
Morocco 1911	<ul style="list-style-type: none"> • In 1911 a rebellion broke out against the Sultan of Morocco • The Sultan asked the French for help, and the French sent 20,000 soldiers • The Kaiser accused the French of invading Morocco, and sent a warship (Panther) to Morocco as a show of strength • Again, meetings were held, and again, Britain and France stood firm against Germany • The Kaiser was again humiliated, and Britain and France grew even closer
Balkans Crisis	<ul style="list-style-type: none"> • The Balkans was a highly unstable area – there were over 15 different languages spoken and several different cultures • However, the major powers in Europe were still hungry for more power, and in 1908. Austria-Hungary took control of Bosnia, which also angered neighbouring Serbia • Serbia asked Russia to take action, and Russia asked for an international conference • Germany supported Austria-Hungary, and Russia were forced to back down, Russia were humiliated.
Assassination of Franz Ferdinand	<ul style="list-style-type: none"> • Franz Ferdinand visited Bosnia in an attempt to improve relations with the population • The Black Hand Gang (Bosnian Serbs) plotted to kill Franz Ferdinand • Franz and his wife Sophie rode through Sarajevo in an open-top car (their route had even been printed in the paper!) • They survived a bomb attempt by another member of the gang, but one of their company was injured • They went to visit him in the hospital, but due to a miscommunication with the driver, Gavrilo Princip was able to fire two shots...

Key Words for this Half Term

- Militarism
- Imperialism
- Nationalism
- Alliances
- Empire



July Crisis:

- Not long after, Austria-Hungary gave Serbia a ten-point ultimatum – Serbia agreed to all but one, leading to war being declared.
- Russia came to Serbia’s aid, and Germany came to Austria-Hungary’s
- Germany then invoked the Schlieffen Plan to avoid a war on two fronts by invading France through Belgium, defeat the French in six weeks and then move the main bulk of the German army to the east to meet the slow mobilising Russian army.

Y11 History 2

Why were trenches built?	<ul style="list-style-type: none"> Neither side had managed to outflank each other in the 'race to the sea', so both sides just dug down instead, creating opposite sets of trenches Both sides would occasionally attack each other for nearly four years, but the amount of territory controlled and gained hardly changed! Although many lives were lost, most battles ended in 'stalemate' (where no side can make progress or win)
The trench system	<ul style="list-style-type: none"> The artillery cannons would be the furthest back in the trench system – they could fire for miles, over their own troops, into the enemy trenches The reserve trench was the next forward, then the support trench, then the frontline (these were all linked by communication trenches) No Man's Land was in between the two sets of trenches, and normally measured from 50m to 200m Sandbags and barbed wire were used for defence
Over the top	<ul style="list-style-type: none"> The way a battle would take place was normally as follows: the artillery would attack the enemy for a prolonged period of time (to destroy the enemy trenches) – then, soldiers would go 'over the top' into No Man's Land to reach the enemy trench – if they were successful, then they would attempt to capture the trench using hand-to-hand combat Artillery shells rarely worked as effectively as planned! Attacking soldiers were often shot down very easily by machine guns The war was seen as a 'war of attrition' – simply, the first side to give up loses!

Battle of Verdun:
 -The French were defending against a major German attack at Verdun
 -The battle lasted from February 1916 to December 1916 (the longest battle of WWI)
 -There were no real military gains (stalemate!), but both sides lost over 300,000 soldiers
 Many German soldiers were intentionally diverted to the Battle of the Somme to relieve the French.

Conditions.
 -Shellshock – a mental illness due to all the trauma of battle, soldiers would be unable to function – in modern times, this is referred to as Post-Traumatic Stress Disorder!
 -Hygiene – cramped conditions and poor sanitation made for poor hygiene
 -Food – there was plenty of food, but very basic (bread, stew, corned beef, etc.)
 -Health – due to the cramped conditions, disease spread very easily in the trenches (also spread by rats)
 -Gas and tanks were also new weapons used very effectively for WWI

Key Words for this Half Term

- Trench
- Offensive
- Artillery
- Tactics
- Blockade

The Battle of the Somme:
 -The British advance on the Somme was a successful attempt to help the French by drawing some Germans away from Verdun
 -This battle was the bloodiest, and largest battle of WWI
 -The British executed a week-long artillery bombardment on the German trenches (this failed, mainly because the artillery shells were faulty)
 -There were 60,000 British casualties (deaths, injured, missing) on the VERY FIRST DAY, 20,000 of which were deaths!
 -Sir Douglas Haig (British commander) was much criticised after the battle for his refusal to change tactics, and was labelled by many as 'The Butcher of the Somme'
 The battle ended in stalemate, with over 500,000 lives lost on each side.

The Battle of Passchendaele: The Muddiest battle of WWI (the thick mud caused major issues for the soldiers – some even drowned in it!). The ten-day long British artillery bombardment created a huge amount of mud around the battle area – this caused huge problems and made the fighting extremely difficult.

Y11 History 3



<p><u>Changes to the Allies</u></p>	<ul style="list-style-type: none"> • Russia dropped out of the war in 1917, due to a communist revolution in their own country – a blow to the Allies! • However, the USA finally joined on the side of the Allies in the same year – with over 2 million fresh soldiers and supplies coming in from the USA, this was a huge blow to the Germans.
<p><u>The Ludendorff Offensive</u></p>	<ul style="list-style-type: none"> • Also known as the Spring Offensive – do not get confused! • Germany’s last push (in 1918) to defeat the Allies before the bulk of the USA’s troops joined the war. • Germany poured all their efforts into this offensive, and had some early success (managing to get into artillery range of Paris). • However, the Allies unified under the new leadership of Supreme Commander Foch, and gained the upper hand. • When it became clear that Germany simply did not have the troops to continue, they were forced to into mass retreat (The Hundred Days) and eventually surrender.
<p><u>British blockade of Germany</u></p>	<ul style="list-style-type: none"> • From the early stages of the war, the British Navy had been blocking supplies from coming into Germany – this hit them hard. • Both the war effort and the lives of normal Germans were damaged massively. • As more and more Germans starved, there was increasing pressure to surrender to the Allies – there were riots in many parts in Germany over the lack of food! • By 1918, nearly 500,000 Germans had starved to death.
<p><u>Armistice</u></p>	<ul style="list-style-type: none"> • Primarily as a result of the above factors, Germany was in no state to continue fighting by November 1918. • The Kaiser abdicated on 9 November. • On 11 November, German representatives were told to sign a piece of paper that would officially end the war at 11am that day – the war was over.

- Key Words for this Half Term
1. Artillery
 2. Capitalism
 3. Communism
 4. Armistice
 5. Blockade

Y11 History 4 – Germany Weaknesses of Weimar



<p><u>Kaiser Wilhelm and the difficulties of ruling Germany 1890 - 1914</u></p>	<ul style="list-style-type: none"> The Kaiser appointed the Chancellor (head of government) and other officials. No decision could be made without his agreement. Kaiser Wilhelm II did not govern consistently because he was moody and unstable in character and prone to violent rages. There were several major political parties; none had a majority in the Reichstag so governments were coalition. Right wing parties were strong and keen to expand the empire. Left wing parties were gaining support for the increasing numbers of industrial workers. Germany was becoming more industrialised and richer. By 1914 Germany led the way in chemical and steel industries. Tensions in society led to demands for social reforms. Many people were very conservative in their political views. At the same time the socialist movement was growing, supported by industrial workers who wanted reform. The army and navy had high status. There was much support for German expansion. The army swore obedience to the Kaiser. Wilhelm II wanted to expand the Germany navy to match Britain's. The Naval Laws allowed the building of more battleships.
<p><u>The impact of the First World War on Germany</u></p>	<ul style="list-style-type: none"> By 1918 the German people were suffering war-weariness due to the Naval blockade of German ports by the British navy during the First World War. Living standards were low, especially in many cities. There were food and fuel shortages and a major flu epidemic swept the country. There were 600,000 widows and 2 million children without fathers. The country was virtually bankrupt, divisions in society had deepened, with huge differences between the living standards of rich and poor. On 9th November the Kaiser fled to the Netherlands and abdicated. On 11th November, representatives of the Social Democratic Party signed the Armistice.
<p><u>The weaknesses of the Weimar Constitution</u></p>	<ul style="list-style-type: none"> Ebert became the new leader of the new German Republic. A new constitution was drawn up quickly which made Germany much more democratic than under the Kaiser. The President was the head of state elected by the people every 7 years, the Chancellor (Prime-Minister) was appointed by the president but must have and keep the support of the Reichstag, the Reichstag (parliament) was elected by the people every 4 years using Proportional Representation (each party gets the same proportion of seats as they get votes e.g. if a party gets 35% of the votes, they get 35% of the seats in the Reichstag. All Germans over 20 could vote. One exception to these principles was Article 48. That said that, in a crisis, the President could rule the country directly using emergency powers. This proved very important in later years.
<p><u>Economic Problems</u></p>	<ul style="list-style-type: none"> The new government met in Weimar because Berlin was so unstable. A further crisis came when Ebert's government had to sign the Treaty of Versailles. This blamed Germany for the war and the German people resented that. To make matters worse Germany were forced to pay reparations of £6.6 billion to the victorious countries. The first instalment was paid in 1921, but nothing was paid in 1922 and so in January 1923 French and Belgian troops entered the Ruhr (an industrial area of Germany) to seize raw materials and goods as an alternative to the unpaid reparations. German workers went on strike in protest. Factory production collapsed. The government was running out of money so it printed more. Hyperinflation followed. Prices rose so quickly that bank notes and savings became worthless. Those on fixed incomes suffered badly, such as pensioners. Hyperinflation damaged the reputation of the Weimar Republic – particularly among the middle classes whose wealth was wiped out.
<p><u>Political Unrest</u></p>	<ul style="list-style-type: none"> In the early 1920s the Weimar government faced political unrest and rebellions. The three most important rebellions were; The Spartacists rebellion took place in January 1919. The Spartacists were Communists who wanted to copy what Communists had achieved in Russia in 1917. They tried to seize control, helped by some soldiers, sailors and factory workers. The rebellion was put down by the Freikorps (ex-soldiers) returning to Germany after the war. These soldiers hated democracy and the Weimar Republic, but they hated Communism more. The leaders of the rebellion Karl Liebknecht and Rosa Luxemburg were killed. The Kapp Putsch happened in March 1920. This was an attack from the right wing. Dr Wolfgang Kapp led a march in Berlin of 5000 Freikorps, who supported a right-wing dictator. They wanted to make Germany powerful again with something like the old dictatorial style of government. The putsch (an attempt to seize power) was defeated by the workers who declared a general strike. The Munich Putsch took place in November 1923. Hitler, leader of the small Nazi Party, had some support in Bavaria. At a meeting in a beer hall, Hitler announced that he and his supporters were going to seize power and marched towards the government building. The putsch was quickly defeated. Hitler was arrested, put on trial and sentenced to five years in prison. While in prison he decided that in the future the Nazis should seek power by election and not by putsch. The government survived these rebellions. However, the rebellions showed now dissatisfied some people were with Weimar democracy.

Y11 History 5 – Causes of WWI



MAIN causes	<ul style="list-style-type: none"> • <u>Militarism</u> – the idea of building up your country’s military (armed forces); army, navy, air force • <u>Alliances</u> – when different countries form friendships with other countries for protection in case of war (see Triple Entente vs Triple Alliance) • <u>Imperialism</u> – the idea of building up your country’s empire • <u>Nationalism</u> – the idea that your country is better than other countries
Triple Entente vs Triple Alliance	<ul style="list-style-type: none"> • <u>Triple Entente</u> – Britain, France, and Russia • <u>Triple Alliance</u> – Germany, Austria-Hungary, and Italy • Both sides formed these alliances in the hope that the threat of other countries retaliating would stop any countries from attacking each other • However, these alliances simply increased the tension in Europe, with both sides becoming suspicious of the other
Morocco 1905	<ul style="list-style-type: none"> • By 1905. Morocco was the only independent African country • France wanted to take over Morocco, but Germany was wary of France becoming more powerful • The Kaiser went over to Morocco, and declared that he supported Moroccan independence - an insult to France • This massively increased tension between France and Germany • As a result, a conference was called, and Germany was made to feel humiliated by Britain, France, and Russia, who ganged up against them, and formed the <u>Triple Entente</u> soon after
Anglo-German rivalry	<ul style="list-style-type: none"> • Germany and the Kaiser were jealous of two major things that Britain had: the <u>empire</u>, and the <u>navy</u> • However, the Kaiser still very much respected Britain, as he shared a grandmother (Queen Victoria!) with Britain’s King George
Morocco 1911	<ul style="list-style-type: none"> • In 1911 a rebellion broke out against the Sultan of Morocco • The Sultan asked the French for help, and the French sent 20,000 soldiers • The Kaiser accused the French of invading Morocco, and sent a warship (Panther) to Morocco as a show of strength • Again, meetings were held, and again, Britain and France stood firm against Germany • <u>The Kaiser was again humiliated, and Britain and France grew even closer</u>
Balkans Crisis	<ul style="list-style-type: none"> • The Balkans was a highly unstable area – there were over 15 different languages spoken and several different cultures • However, the major powers in Europe were still hungry for more power, and in 1908. Austria-Hungary took control of Bosnia, which also angered neighbouring Serbia • Serbia asked Russia to take action, and Russia asked for an international conference • Germany supported Austria-Hungary, and Russia were forced to back down, Russia were humiliated and now began to make preparations to improve the size and power of their army.
Assassination of Franz Ferdinand	<ul style="list-style-type: none"> • Franz Ferdinand visited Bosnia in an attempt to improve relations with the population • The Black Hand Gang (Bosnian Serbs) plotted to kill Franz Ferdinand • Franz and his wife Sophie rode through Sarajevo in an open-top car (their route had even been printed in the paper!) • They survived a bomb attempt by another member of the gang, but one of their company was injured • They went visit him in the hospital, but due to a miscommunication with the driver, Gavrilo Princip was able to fire two shots, killing both Franz and Sophie
July Crisis	<ul style="list-style-type: none"> • Not long after, Austria-Hungary gave Serbia a ten-point ultimatum – Serbia agreed to all but one! • Consequently, Austria-Hungary declared war on Serbia • Russia came to Serbia’s aid, and Germany came to Austria-Hungary’s • Germany then invoked the Schlieffen Plan to avoid a war on two fronts by invading France through Belgium, defeat the French in six weeks and then move the main bulk of the German army to the east to meet the slow mobilising Russian army. • This brought Britain into the war as Britain promised to uphold the Treaty of London and defend Belgian neutrality. Britain sent 150,000 soldiers who were part of the British Expeditionary Force (BEF). • The allies of the countries involved all then joined in – war!

Key Terms

1. Militarism
2. Alliances
3. Imperialism
4. Nationalism
5. Rivalry

Y11 History 6

From 1933, Hitler was able to turn Germany into a dictatorship under his complete control. Firstly, he was able to take control between 1933-34 using the Emergency Decree, Enabling Act and the Night of the Long Knives. Once he was in firm control, the Nazis used a variety of methods to keep control over the German population. The success of Nazi control is highlighted in the lack of opposition throughout the Nazi years.



Fear and Terror

Everyone in Germany lived under constant fear of the Nazi state, it was the prime method of control.

The **Gestapo** (Nazi secret police) could tap phones, raid houses, and imprison you without trial, Over 160000 were arrested for 'political crimes', whilst thousands were killed.

The Gestapo used **informants** to watch local communities - you could be arrested for anti-Hitler jokes, or for not doing the Heil Hitler salute.

The SS were fanatically loyal Aryans under Himmler, and had unlimited power. They ran the concentration camps, and had wiped out the SA in the Night of the Long Knives.

Concentration Camps like Dachau had over 100,000 inmates. Camps were used for Nazi enemies. Hard labour, beatings and murder were common.

Propaganda

Josef Goebbels, Minister of Propaganda, used propaganda to brainwash Germany.

Propaganda focused on; the greatness of Germany, the Fuhrer cult, the Aryan Race, and attacking Germany's enemies (Communism and Jews).

Goebbels controlled all newspapers.

Anti-Nazi papers were shut down whilst any 'negative' news was censored.

The Nazis produced over 1000 films and some (*The Eternal Jew*) encouraged anti-Jewish feelings.

Goebbels controlled all stations and cheap radios were made so that 70% of homes ended up having one. Hitler's speeches were common. Loudspeakers were put up in streets so all could listen.

The Nazis controlled all music, books and plays. They all had to be pro-Nazi!

The Young

Germany's children had their whole lives controlled, through **education** and **youth groups**. They could not escape Nazi brainwashing.

Education in schools was used to indoctrinate boys and girls. There was anti-Jewish propaganda and Nazi ideology in every lesson.

The Nazis banned all other youth groups and used their own (Hitler Youth and League of German Maidens) to create loyal Nazis for the future.

Key Terms

1. Propaganda
2. Censorship
3. Indoctrination
4. Gestapo
5. Informants



1. Research and Investigative Skills

You need to gather and analyse information effectively.

- **Research skills** – using credible sources (websites, reports, journals, case studies)
- **Observation and data collection** – identifying health and wellbeing needs
- **Analysis** – interpreting data and identifying patterns or causes
- **Comparison** – comparing different factors affecting individuals or groups
- **Critical thinking** – evaluating the reliability and relevance of information

2. Knowledge Application Skills

You must apply theory to real-life situations.

- **Understanding health and wellbeing** – physical, mental, and social aspects
- **Identifying influences** – lifestyle, environment, social, economic, and emotional factors
- **Recognising barriers** – social, cultural, financial, or personal barriers to health and wellbeing
- **Relating theory to practice** – using examples like case studies or scenarios

3. Communication Skills

Clear communication is essential in health and social care contexts.

- **Written communication** – producing clear reports, assignments, or plans
- **Verbal communication** – explaining findings or advice (if presenting)
- **Using appropriate terminology** – health, social care, and wellbeing language
- **Tailoring communication** – adjusting explanations for different audiences (e.g., peers, clients, professionals)

Skill Area	What It Involves	Example in Component 2
Research & Investigation	Finding and analysing information	Using case studies to explore health needs
Knowledge Application	Applying theory to scenarios	Explaining how lifestyle affects wellbeing
Communication	Clear written/verbal explanation	Writing a report on health improvement strategies
Planning & Problem-Solving	Creating strategies, evaluating outcomes	Developing a plan to improve diet or mental health
Personal/Professional	Organisation, ethics, reflection	Reflecting on effectiveness of proposed strategies

4. Planning and Problem-Solving Skills

You'll need to demonstrate practical thinking and solutions.

- **Goal setting** – creating realistic strategies to improve health and wellbeing
- **Prioritisation** – identifying the most important factors or interventions
- **Decision-making** – selecting suitable solutions based on evidence
- **Monitoring and review** – checking if strategies are effective and suggesting improvements



1. Overview of Component 3

- **Assessment type:** Written exam (usually a combination of short-answer, scenario-based, and extended-response questions).
- **Focus:** Health and social care services, roles, responsibilities, and how they meet the needs of individuals.
- **Skills assessed:** Application of knowledge, analysis, evaluation, and problem-solving in context.

2. Key Topics in Component 3

A. Roles and Responsibilities in Health and Social Care

- **Health care roles** – doctors, nurses, paramedics, midwives, etc.
- **Social care roles** – care workers, social workers, youth workers, support workers, etc.
- **Responsibilities** – duties, ethical and legal responsibilities, safeguarding, confidentiality.
- **Skills and qualities required** – empathy, communication, teamwork, patience, professionalism.

B. Care Values and Principles

- **Key values:** dignity, respect, confidentiality, equality, anti-discrimination, empowerment.
- **Application:** How care workers use these values in practice to support individuals.

C. Health and Social Care Services

- **Types of services:** NHS, social services, voluntary organisations, community services.
- **Purpose and provision:** How services meet physical, mental, and social needs of service users.
- **Barriers:** Financial, cultural, social, or geographic factors that may prevent access to services.

D. Safeguarding and Legislation

- **Safeguarding:** Protecting individuals from abuse, harm, or neglect.
- **Legislation:** Laws and guidelines that govern health and social care practice, e.g.,
 - Health and Safety at Work Act
 - Care Act
 - Children Act
 - Equality Act
 - Data Protection Act

E. Working in Health and Social Care

- **Teamwork:** Working with colleagues, multidisciplinary teams, and external agencies.
- **Communication:** Verbal, non-verbal, written, and digital communication with clients and colleagues.
- **Handling challenging situations:** Conflict resolution, managing complaints, and providing person-centred care.

F. Applying Knowledge to Scenarios

- **Scenario-based questions:** Students are given case studies or practical situations.
- **Assessment focus:**
 - Identifying needs of individuals
 - Suggesting appropriate services or interventions
 - Applying legislation and care values
 - Analysing barriers and proposing solutions
 - Evaluating effectiveness of care or interventions

Y11 RWP 1

SECTION A: KEY WORDS

Muslim	One who has submitted to the will of God and has accepted Islam.
Islam	The name of the religion followed by Muslims; to surrender to the will of God; peace.
Allah	The Arabic name for God.
Tawhid	The Oneness and unity of God.
Monotheistic	A religion that believes there is only one God.
Supremacy	Supreme power or authority; a quality of God.
Sunni	Muslims who believe in the successorship of Abu Bakr, Umar, Uthman and Ali
Shi'a	Muslims who believe in the Imamate, the successorship of Ali
Qur'an	The holy book revealed to Muhammad by the angel Jibril; God's final revelation to mankind
Immanent	God is present in and involved with life on earth and in the universe; a quality of God
Transcendent	God is beyond and outside of life on earth and the universe. He is beyond human understanding.
Omnipotent	God is all powerful
Benevolent	Benevolent, all-loving, all-good
Merciful	God shows compassion or forgiveness to humans
Fairness	God treats people fairly and impartially without favour or discrimination
Justice	(Adalat in Shi'a Islam). God is just and judges human actions, rewarding the good and punishing the bad.
Malaikah	Angels – spiritual beings and messengers of God.
Day of Judgement	When the world will end and every soul will be judged by God. They will either be punished or rewarded by God.
Jibril	The Arabic named for Gabriel. Archangel who brought God's message to the prophets.
Mika'il	Archangel of mercy who rewards good deeds and provides nourishment to people
Predestination	God knows or determines everything that will happen.
Akhirah	Everlasting life after death.
Resurrection	Rising from the dead or returning to life.
Heaven	The state of eternal happiness in the presence of God (Jannah).
Hell	The state of separation from God (Jahannam).
Prophet	Messenger of God.

Risalah	The belief that prophets are an important channel of communication.
Iblis	(Satan). A spiritual being, created from fire, who was thrown out of paradise for refusing to bow to Adam.
Ka'aba	The black, cube-shaped building in the centre of the Grand Mosque in Mecca.
Id-ul-Adha	A Muslim festival that celebrates the prophet Ibrahim's willingness to sacrifice his son for God.
Hajj	Annual pilgrimage to Mecca that every Muslim should try to make at least once in their lifetime.
Caliph	A person considered to be a political and religious successor to the prophet Muhammad, and leader of the Sunni Muslim community.
Imam	imam = A person who leads communal prayer, Imam= The title given to Ali and his successors in Shi'a Islam.
Imamate	The divine appointment of the Imams.
Torah	(Tawrat) the five books revealed to Moses by God.
Psalms	(Zabur) holy book revealed to David.
Gospel	(Injil) holy book revealed to Jesus.
Scrolls of Abraham	A holy book revealed by God to Abraham.



SECTION B: SUMMARY OF WHAT WE NEED TO KNOW

Key beliefs

- The six articles of faith in Sunni Islam
- The five roots of 'Usul ad-Din in Shi'a Islam
- Oneness of God (Tawhid)
- The supremacy of God's will
- The nature of God
- The qualities of God, including immanent, transcendent, omnipotent, benevolent, merciful
- Gods fairness and justice
- Angels including Jibril and Mika'il
- Predestination (Al-Qadr), free will, and their relationship to the Day of Judgement
- Akhirah (life after death)
- Free will and human responsibility

Authority

- Muslim beliefs about prophethood (Risalah)
- Role and importance of Adam, Ibrahim and Muhammad
- Kutub – holy books in Islam and their authority
- The significance of the Qur'an and its revelation
- The authority of other holy books e.g. the Torah, Gospel, Psalms and scrolls of Abraham
- The meaning and significance of the Imamate in Shia' Islam.

Y11 RWP 2

SECTION A: KEY WORDS

Five Pillars	The five most important duties for all Muslims: to believe, to pray, to give to charity, to fast and to go on pilgrimage
Ten Obligatory Acts	Ten important duties for Shi'a Muslims, which include the five pillars
Shahadah	The declaration of faith – "There is no God but Allah and Muhammad is the Prophet of Allah"
Salah	Prayer with and in worship of God, performed under conditions set by the Prophet Muhammad (pbuh)
Sawm	Fasting during the month of Ramadan
Ramadan	The month of fasting for Muslims
Zakah (almsgiving)	Giving alms (compulsory money to the poor). Muslims who have enough savings should donate 2.5% every year.
Sadaqah	Good actions or voluntary payments that are undertaken for charitable reasons
Khums	A 20% tax paid by Shi'a Muslims on their excess income this can go to the mosques to support in educating Muslims
Pilgrimage	A journey by a believer to a holy site for religious reasons; an act of worship and devotion
Hajj	The annual pilgrimage to Makkah that every Muslim should try and make at least once in their lifetime
Kaa'ba	The black, cube-shaped building in the centre of the Grand Mosque in Makkah (Saudi Arabia)
The Night of Power	The first day of the start of the revelation of the Qur'an to the Prophet Muhammad (pbuh)
Tawaf	Circling the Kaa'ba seven times anti-clockwise
Mount Arafat	The Mount where Prophet Muhammad (pbuh) preached his last sermon
Mina	Throwing 49 pebbles to reject the Devil and temptation
Jihad	A struggle against evil, this may be a personal struggle or a collective struggle
Lesser jihad	The outward struggle to defend one's faith, family, or country
Greater jihad	The inward struggle of striving to be a good Muslim every day
Eid-UI-Fitr	A celebration at the end of Ramadan
Eid-UI-Adha	A celebration in remembrance of Ibrahim's willingness to sacrifice his son
Ashura	A day of fasting and mourning to remember Nuh (Noah), Musa (Moses) and the Israelites saved from the Egyptians. Shi'a also remember the martyrdom of Karbala in 680CE of Hussain, who was the Prophet Muhammad's (pbuh) grandson.



SECTION B: SUMMARY OF WHAT WE NEED TO KNOW

Journey of Hajj

- Pilgrims enter a sacred state called Ihram. This involves performing ritual washing, praying, and putting on Ihram clothing (white robes).
- Pilgrims circle the Kaa'ba seven times anti-clockwise. If possible, they touch the stone building.
- Pilgrims then travel 13 miles to Mount Arafat, the crowd walks along a covered walkway linking the hills of Safa and Marwa which feature in the story of Ibrahim, Hajira and Ishmael.
- The heat of the sun on Mount Arafat is a reminder of the Day of Judgement will be like
- At the end of the day, walking back pilgrims collect 49 pebbles to be used the next day at Mina. At Mina there are three stone walls, pilgrims throw the pebbles at the walls as a symbol of rejecting the Devil
- Many pilgrims then celebrate Eid-UI-Adha, the leftover food/ meat from the celebration is frozen or canned and given to the poor
- The next day, the pilgrims return to Makkah to circle the Kaa'ba seven more times

Authority

- The Shahadah is the declaration of faith in Islam. It is recited many times during a lifetime, it is whispered in the ears of new-born baby's, so it is the first thing they hear
- It is very important while praying that Muslims face the holy city of Makkah. This means that all Muslims are physically and mentally focussing on one place associated with God
- Jummah Prayer: The midday prayer everyday is considered to be special. All male Muslims are expected to attend Mosque for this prayer and women may if they wish.
- Ramadan is known as the month of fasting because Muslims fast during daylight hours for the whole month, going without food or drink
- Eid-UI-Fitr: means the festival of 'breaking of the fast'. The festival marks the end of the month of Ramadan, Muslims are not celebrating the end but thanking God for the strength and help them to fast for a month
- Eid-UI-Adha: is the festival of sacrifice. It is celebrated on the 10th day of the month of Dhul-Hijjah. This festival honours the Prophet Ibrahim who was willing to sacrifice his son Ishmael on God's command.



SECTION A: KEY WORDS

War	A state of armed conflict between different countries or different groups within a country
Justice	This means fairness, making right and fair a situation which has been unjust.
Peace	The aim and goal of all religious people, as it means to live in harmony and without fear.
Reconciliation	Bringing both sides to an agreement and living in peace thereafter.
Forgiveness	The belief that we should move past relationships that may have wronged us and accepting an apology is the act of forgiveness.
Conflict	Before the actual fighting begins, there is a conflict. A conflict is a disagreement, armed conflict is the fighting.
Cause	A principle, aim, or movement to which one is committed, and which one is prepared to defend
Greed	There is something to gain from another country, for example, land, money, power, or resources (weapons)
Retaliation	The action of returning a military attack; counterattack.
Self-defence	To defend yourself or your country when someone/ a country has attacked first
Terrorism	An act of violence that causes terror and fear to the people around, to create change in society.
Nuclear weapons	Weapons that work by a nuclear reaction; they devastate huge areas and kill large numbers of people
Weapons of Mass Destruction	Weapons that can kill large numbers of people/ cause great damage
Chemical weapons	Weapons that use chemicals to poison, burn or paralyse humans and destroy the natural environment
Biological weapons	Weapons that have living organisms or infective material that can lead to death or disease
Just War Theory	A theory created by St Thomas Aquinas where conditions for judging if it is just to go to war, and conditions for how the war should be fought.
Holy War	Fighting for a religious cause or God, probably controlled by a religious leader
Falklands War	The Falklands War was a 10-week undeclared war between Argentina and the United Kingdom in 1982
Pacifism	The belief that war and violence are unjustifiable and that all conflicts should be settled by peaceful means.
Pacifist	A person who believes that war and violence are unjustifiable and will not commit a violent act

SECTION A: KEY WORDS

Peacemaker	A person who works to establish peace in the world or in a certain part of it
Peace-making	The action of trying to establish peace
Lesser jihad	The outward struggle to defend one's faith, family and country from threat
Protest	An expression of disapproval, often in a public group

SECTION B: SUMMARY OF WHAT WE NEED TO KNOW

Key beliefs

- All religions believe in the 'Golden Rule' which is 'Treat others as you wish to be treated'. It is 'Golden' because everyone follows it.
- No religion justifies the use of Weapons of Mass Destruction unless they believe it is for the greater good to stop further death.
- A holy war can be authorised by a religious leader with great authority. The purpose of it should be to defend the Christian faith from attack.
- Islam: Holy war must only be declared by a fair religious leader. If this happens, Muslims feel they have a duty (lesser jihad) to respond, unless their families could not survive without them.

Authority

- Prophet Muhammad (pbuh) fought in three battles in the name of Islam
- Lesser jihad is the belief that you should fight against any injustices against Islam – "Those have been attacked are permitted to take up arms..."
- "Blessed are the peacemakers for they are the children of God" Bible
- "Fight in the name of Allah"
- "Do not take life, which God has made sacred" Qur'an 17:33
- "He will judge between the nations and will settle disputes for many peoples" Isaiah 2:4
- "If there is a serious injury, you are to take life for life, eye for eye, tooth for tooth..."
- "Those who live by the sword, die by the sword" Matthew 26:52



SECTION A: KEY WORDS

Crime	An offence which is punishable by law, for example stealing, murder.
Punishment	Something legally done to somebody because of being found guilty of breaking the law.
Evil	The opposite of good; a force or the personification of the negative power that is seen in many traditions as destructive and against God
Retribution	To get revenge, 'an eye for an eye, tooth for a tooth'.
Deterrence	To put people off committing crimes.
Reformation	To help change someone's behaviour for the better.
Prison	A secure building where offenders are kept for a period set by a judge.
Community Service	A way of punishing offenders by making them do unpaid work in the community.
Corporal punishment	Punishment of an offender by causing them physical pain – this is now illegal in the UK.
Capital punishment	A form of punishment that kills the offender. The death penalty.
Murder	The deliberate killing of someone.
Theft	To permanently deprive someone of something they own.
Hate Crime	Any crime that is motivated by prejudice in a negative way. This could be because of race, gender, religion, sexual orientation, or disability.
Recidivism	The likelihood of a criminal reoffending.
Forgiveness	The action or process of forgiving someone or being forgiven.
Reconciliation	Repairing a broken relationship and moving on.
Free will	The ability of people to make decisions for themselves without constraint.
Restorative Justice	A UK Government process where the offender (criminal) rehabilitates through seeking forgiveness from a victim.
Unjust Law	A law that treats people, or a particular group of people, in a discriminatory way.
Sanctity of life	All life is sacred and a gift from God.

SECTION B: CONTRASTING ATTITUDES – YOU CAN BE ASKED TO GIVE CONTRASTING ATTITUDES TOWARDS THE FOLLOWING:

***Remember, contrasting can mean exploring two different points of view, or exploring the approach of two different religions.**

Corporal Punishment

Some Muslims would support the use of corporal punishment as there are direct references made towards the use of it in scripture. "The (unmarried) woman or (unmarried) man found guilty of sexual intercourse – lash each one of them with a hundred lashes..." (Surah 24:2)

Christianity teaches that all life is sacred. The use of corporal punishment contradicts this belief.

Christians believe it is important to help criminals understand what they have done is wrong. In the Old Testament it says: "An eye for an eye". Most Christians do not literally believe in this teaching and believe understanding of wrongdoings can be gained in other ways.

Islam is a religion of peace, so many Muslims would not support the harming of criminals, even though they had done wrong.

Capital punishment (death penalty)

Some Christians agree with the use of the death penalty for the most serious crimes, such as murder, as this is promoted in the Old Testament.

The Qur'an states that capital punishment is one option, but it is not the only option that can be used to punish an offender.

There are teachings in the Qur'an and Hadith that support the use of the death penalty for Muslims who commit serious crimes, and for those who refuse to do their Islamic duty.

Jesus taught that revenge was wrong. Christianity encourages people to be able to repent and be forgiven.

Forgiveness

Forgiveness is important for Christians. They believe Jesus died on the cross to bring forgiveness and reconciliation between God and humanity.

Muslims believe Allah is merciful and forgives people. They believe they should try to apply this to their lives too.



SECTION A: KEY WORDS

Christian	A person who is a believer of Christianity
Christianity	The religion based on the person and teachings of Jesus Christ, or its beliefs and practices.
God	The creator of the universe in Abrahamic religions
Worship	The action/ expression of love for God.
Prayer	A way a believer can build a personal relationship with God and ask for forgiveness
Liturgical	A formal way to worship, for example, going to church and having a set service
Non-liturgical	An informal way to worship, for example, praying at home
Glossolalia	Speaking in an unknown language, believing the spirit in God is flowing through them
Sacraments	A religious ceremony or ritual to impart God's grace on a believer
Infant baptism	A ceremony where a child is blessed with holy water and accepted into the Christian church. Christians this washes away the Original Sin
Believer's baptism	A ceremony where an adult is accepted into the Christian church, usually fully submerged into holy water
Eucharist	The Christian ceremony that remembers the Last Supper, Christians are blessed and eat bread and drink wine.
Confirmation	A commitment confirming your faith usually made as a teenager, you become a full member of the church by going to classes.
Anointing the sick	A person who is seriously ill or dying is cleansed by a priest with blessed/ sacred oil
Holy orders	Becoming a member of the clergy, for example, a priest or a vicar
Marriage	The legal union of two people
Easter	The celebration of the resurrection of Jesus
Holy Week	The week building up to Jesus' crucifixion
Christmas	The celebration of Jesus' birth
Advent	The four Sundays before Christmas
Pilgrimage	A sacred journey made to a religious place to show an act of devotion
Iona	An island off Scotland where pilgrims go to visit. It is an ecumenical pilgrimage site which means, all denominations are welcome.
Lourdes	A town in France, where a shrine is located. It is believed miracles healings occur in the water.

Agape	The highest form of unconditional love
The Trussell Trust	Is a charity that works to end the need for food banks in the UK. There are over 1,200 food banks across the UK.
Street Pastors	Street Pastors are a network of Christians who volunteer to patrol the streets of towns and cities at night, helping and caring for people in practical ways. For example, giving out food to the homeless
Evangelism	The spreading of the Christian gospel by publicly preaching
Persecution	Being treated or blamed because of race, religion or political views
Reconciliation	Restoring a broken-down relationship
Mission	The vocation or calling of a religious organisation to go out into the world and spread their faith.
Missionary	A person sent on a religious mission, especially to promote Christianity in a foreign country through preaching of charitable work.
Evangelism	Spreading the Christian gospel by public preaching or personal witness.

SECTION B: SUMMARY OF WHAT WE NEED TO KNOW

Key beliefs	Authority
<ul style="list-style-type: none"> All Christians should aspire to achieve all seven sacraments Christians are not required to go on pilgrimage; however, they do believe to visit a sacred place creates a closer relationship to God Most Christians are baptised as a child; however, adult or Believer's baptism shows your dedication to Christianity by making your own choice to become a part of the faith. All Christians should help one another as a community. Whether this is in the local community or worldwide. 	<ul style="list-style-type: none"> "Therefore, go and make disciples of all nations, baptising them in the name of Father and of the Son and of the Holy Spirit". "Take and eat; this is my body." Then he took the cup, gave thanks and offered it to them "Blessed are you when people revile you and persecute you... for your reward is heaven." Parables: <ul style="list-style-type: none"> The Good Samaritan Lazarus and the Rich Man The Unmerciful Servant

Y11 RWP 6

Christian attitudes to crime



Good and Evil Intentions

The Bible warns Christians against having evil thoughts which lead to evil actions. Avoiding sin and temptation steers Christians away from crime.

Christians would be more willing to treat an offender who had good intentions with more mercy than one who acted out of evil intentions.

Attitudes to Lawbreakers

Christians do not believe that people are evil but that people can be tempted to do wrong and break the law.

Christians are taught to “love the sinner, hate the sin” which means they should forgive and show mercy to people who have done wrong but admitted their mistakes and sought atonement.

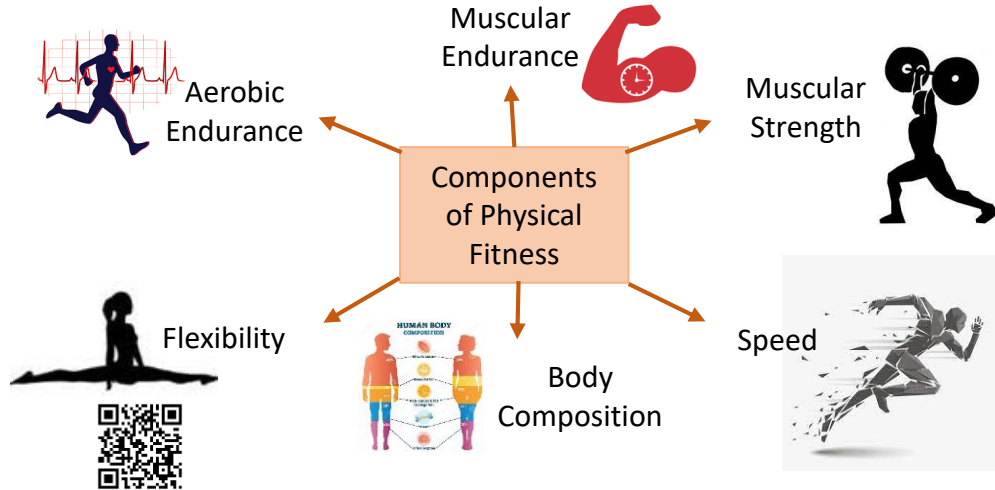
Key Terms

1. Corporal punishment
2. Capital punishment
3. Retribution
4. Deterrence
5. Reformation

Reasons for Crime	People are tempted to commit crime for a wide range of reasons including poverty (not having enough money or food), upbringing (where people are not taught right from wrong), addiction (some people commit crimes to feed an addiction), greed (committing crimes out of a desire for things they cannot afford), hatred or out of opposition to unjust law (breaking the law to oppose hateful or unjust laws)		
Aims of Punishment	<p><u>Deterrence</u> This aim of punishment seeks to use punishment as a message to others considering committing crime. By giving one criminal a harsh punishment others may be put off committing a similar crime.</p>	<p><u>Reformation</u> This aim of punishment seeks to help criminals change their behaviour for the better. It may involve therapy, education or training. Many Christians support this as a form of ‘love your neighbour’ mercy.</p>	<p><u>Retribution</u> This aim of punishment is society getting its own back on the offender. The Old Testament says ‘an eye for an eye’ so some Christians would argue that this form of punishment is just according to the Bible.</p>
Forgiveness	<p>Forgiveness is at the heart of Jesus’ teaching. It means to show mercy and pardon someone for what they have done wrong but showing someone forgiveness does not mean they should be justly punished for their crimes. When Jesus was crucified, he forgave those who sentenced him to death and crucified him saying: ‘Father forgive them, for they know not what they do’.</p> <p>Forgiveness leads Christians to support reformation as an aim of punishment as it allows the criminal to be forgiven and to ask for forgiveness. They also use forgiveness as an argument against the death penalty.</p>		
Christian Attitudes to Punishment	<p><u>Prisons</u> Many Christians believe prisoners should be treated well when in prison as even though they have done wrong they do not believe in evil people as much as evil actions. Some Christians campaign for better prison conditions out of mercy.</p>	<p><u>Corporal Punishment</u> Most Christians do not support using physical pain as a form of punishment as it is harmful and negative. It is currently illegal in the UK and many Christians would rather seek to reform a criminal than punish them in this way.</p>	<p><u>Community Service</u> Many Christians argue in favour of community service where criminals work to repay their community as a punishment. It allows criminals to make up for what they have done and does not harm the offender in the process.</p>
The death penalty	<p>The death penalty means the state killing criminals who have committed the worst crimes. It has not been used in the UK since 1969 but is still a common punishment elsewhere in the world.</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Some Christians argue that the death penalty is a just punishment for murder as the Bible says both ‘you shall not kill’ and ‘an eye for an eye’. <input checked="" type="checkbox"/> They may also argue that it deters criminals from committing the worst crimes and keeps people safe. <input checked="" type="checkbox"/> Other Christians argue that the death penalty goes against sanctity of life. Life is sacred and holy and only God can give and take life. <input checked="" type="checkbox"/> They might also argue that the death penalty goes against the aim of reformation as a dead criminal cannot be reformed, forgiven or shown mercy to. 		

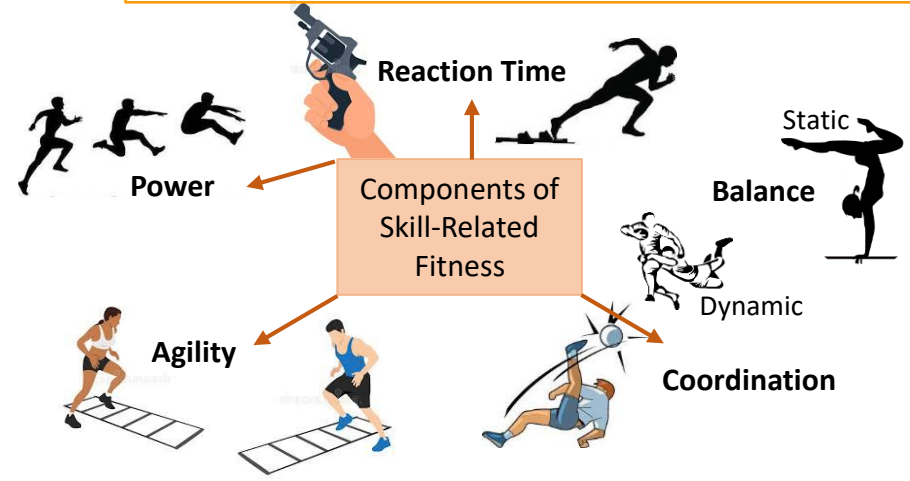
Y11 TECH AWARD 1/2 in Sport

Learning Aim A: Understand how different components of fitness are used in different physical activities



Component 2

Taking part and Improving Other Participants Sporting Performance



Learning Aim B: Be able to participate in sport and understand the roles and responsibilities of officials.



Do you know the rules and regulations for different sports?

Techniques, Strategies and Fitness:

- Skills** – e.g. passing, scoring
- Strategies** – e.g. tactics & decision making
- Isolated practice** – Focus on skills
- Competitive Situation** – number of players, area of play and officials present.

Referee /Umpire	Assistant referee / line umpire	Scorers / judges	Video officials

Officials in Sport:



Learning Aim C: Demonstrate ways to improve participants sporting techniques

Planning

Providing Teaching points



Providing instructions & feedback

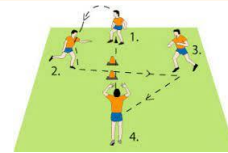


Demonstrations

Groupings

Organisation

Equipment



Selecting appropriate drills and conditioned practices



Develop & Improve

Y11 TECH AWARD 1/2 in Sport



Learning Aim A: Explore the importance of fitness for sports performance.

Fitness Training Principles

What are the **BASIC** principles of training?

F.I.T.T

- F - Frequency
- I - Intensity
- T - Time
- T - Type

What are the **ADDITIONAL** principles of training?

S.P.O.R.V.I.R.A

- Specificity
- Progressive Overload
- Rest & Recovery
- Variation
- Individual Differences
- Reversibility
- Adaptation

What are the components of **Physical fitness?**

(Big Fat Men Munch Apple Strudel)

What are the components of **Skill-related fitness?**

(P.C.B.R.A)

Technology



used to measure exercise intensity

Component 3

Developing Fitness to Improve Other Participants Performance in Sport and Physical Activity

Exercise Intensity

Maximum heart rate (HR):
220 – YOUR age = Max HR

What do we multiply the **BORG RPE** scale number with to predict your current/perceived heart rate?

Answer : **10**

How many Beats Per Minute (BPM) would your heart beat at in the LOWER & HIGHER Aerobic training zone?

For a 15 year old: **MHR = 220 - 15 = 205 BPM**

LOWER = 123.0 (0.60 x 205) bpm

HIGHER = 174.25 (0.85 x 205) bpm

Learning Aim B: Investigate fitness testing to determine fitness levels.

Why do we do fitness testing?
- Data
- Goal setting

Before Testing

- Informed consent
- Calibrate equipment

Complete PAR Q

Pre fitness test check

Which **components of fitness** are the following **tests** used for?

- ❖ Multi-stage fitness test?
- ❖ One-minute press up & sit up test?
 - ❖ Sit & reach test?
 - ❖ 30 metre sprint test?
 - ❖ Grip dynamometer?
- ❖ Body Mass Index test (BMI)?
- ❖ Illinois Agility Run test?
 - ❖ Stork stand test?
- ❖ Alternate-Hand Wall-Toss test?
 - ❖ Vertical jump test?
 - ❖ Ruler drop test?

Can you name any others?

Learning Aim C: Investigate different fitness training methods.

Which **components of fitness** are the following **training methods** used for?

- ❖ Continuous training?
- ❖ Circuit training?
- ❖ Static Active stretching
- ❖ PNF technique?
- ❖ Weight training?
- ❖ Acceleration sprints?
- ❖ SAQ training?
- ❖ Plyometric training?

Can you name any others?

Practicality

Reliability

Validity

Provision

Public

Private

Voluntary

Aerobic Endurance training:
-cardiac hypertrophy
-decrease resting HR

Effects of long-term fitness on body systems

Flexibility training:
-increase range of movements at a joint

Muscular strength training:

-muscle hypertrophy
-increase tendon & ligament strength

Learning Aim D: Investigate fitness programming to improve fitness and sports performance.



Personal Information



Component 2: Music Skills Development



How can you develop your personal and professional skills?	
<ul style="list-style-type: none"> Time management Self-discipline Working with others Using equipment correctly and safely 	<ul style="list-style-type: none"> Identifying resources required How to audit your skills and plan for development How to respond appropriately to, and act on, feedback given.

Music Performance	
Tuning	Being able to hear when an instrument is out of tune and then retune it. Being able to hear when incorrect notes are being played and correct this.
Learning repertoire	Being able to learn music whether through notation, lead sheets, tablature or chord sheets.
Physical preparation and exercises	Being able to prepare physically to perform, either through vocal warm ups or exercises to help build strength or stamina.
Instrumental or vocal technique	Being able to use specific instrumental or vocal techniques such as vibrato, drum fills, slurring and tonguing, pizzicato or tremolo.
Practise routines such as scales etc	Being able to practise technical exercises such as practising scales, arpeggios, paradiddles etc
Following accompaniment	Being able to perform with others and understand how the parts fit together and when they start and finish.
Stage presence	Being able to perform in a way that expresses the intention of the song through the body language of the performer. Showing confidence in your performance and conveying the confidence.

Time management	Being able to plan your time effectively so that you attend rehearsals on time, set aside appropriate time for instrumental practise and being able to use time as effectively and efficiently as possible so that it is not wasted.
Self-discipline	Being able to discipline yourself so that you commit to what you need to do rather than becoming distracted or to procrastinate. It is also important to force yourself to develop things that are difficult rather than settle for easier options.
Working with others	Being able to work with others to achieve a common purpose through effective communication, consideration and compromise. It is also important to understand how your skills can complement each other and how your strengths can help others overcome their weaknesses.
Using equipment correctly and safely	Being able to use equipment correctly and safely when transporting, setting it up or performing. This could be through risk assessing before use and following specific guidance when using the equipment.
Identifying resources required	Being able to plan for what you are undertaking by thinking about resources you will need, how you will acquire them and for what purpose you will need for them.
Auditing your skills and planning for development	Being able to reflect upon your own skills and selecting areas that you will need to develop. It is also important to think about how you will need to develop these areas and how you will measure your progress.
Responding to, and acting on, feedback	Being able to listen to feedback from others and act upon this in a positive and constructive way. This could also include collaboration and conversation to determine the importance of the feedback and how it will address issues within the work.

Key Questions to consider:

- What instrument could you perform on?
- What are your strengths and weaknesses during practise sessions?
- How can you improve your musical technique?



Component 2: Music Skills Development

Music skills and techniques	
General	<ul style="list-style-type: none"> • Timing and phrasing • Using rhythm and pitch • Using equipment, instrumentation and software appropriately • Expression • Combining instruments and sounds • Health and safety in the use of equipment and/or instruments.
Music Performance	<ul style="list-style-type: none"> • Tuning • Learning repertoire • Physical preparation and exercises • Instrumental or vocal technique • Practise routines such as scales etc • Following accompaniment • Stage presence
Music Creation	<ul style="list-style-type: none"> • Exploring and extending ideas • Using structure effectively • Using rhythmic and melodic patterns • Development of harmony

General	
Timing and Phrasing	Being able to play in time with others and make sure that what is played is correct to how it should be played.
Using rhythm and pitch	Being able to play rhythms correctly and consistently in time with the pulse of the music. Being able to play the correct pitch and being able to go from pitch to pitch fluently.
Using equipment, instrumentation and software appropriately	Being able to use equipment, instrumentation and software correctly and with purpose to the music being performed or created.
Expression	Being able to think about what the music is trying to communicate and then using musical elements to express this.
Combining instruments and sounds	Being able to choose and decide what instruments and sounds to use to achieve the overall sonic purpose.
Health and safety in the use of equipment and/or instruments	Being able to use equipment and instruments safely whether moving, setting up or performing.

Music Creation	
Exploring and extending idea	Being able to come up with a musical idea and develop this into something that could form a piece of music.
Using structure effectively	Being able to think about the music you are creating as a whole and thinking about what sections will make up the music and how they relate to one another.
Using rhythmic and melodic patterns	Being able to use patterns to shape the music whether this was through rhythm or through melody with the use of scales, sequences, motif, riff, ostinato or pedals.
Development of harmony	Being able to develop the harmony of the music through the choice of chords and how the chords are used whether through extensions, suspensions, chromaticism or modulation



Component 2: Music Skills Development

Performance Skills

Music performance

- Tuning (if appropriate)
 - Learning repertoire
- Physical preparation and exercises
- Instrumental or vocal technique
- Practise routines such as scales, etc.
 - Following accompaniment
 - Stage presence.

How can I improve my performance?

Expectations and professional skills required to succeed in the industry:

- Time management
 - Self-discipline
 - Working with others
- Correct and safe use of equipment
- Identifying resources required
 - Auditing existing skills and maintaining a development plan.

How is my ensemble playing?

Composition Skills

Creating original music:

- Exploring and extending ideas
- Using structure effectively
- Using rhythmic and melodic patterns
- Development of harmony

Ways to track progress:

- SMART targets
- SWOT targets
- Rehearsal logs
- Video evidence

How have your skills developed over time?



Music Performance techniques !!

Specific
Measurable
Achievable
Realistic
Timely



Component 3 - Responding to a Musical Brief

What is a brief?

A brief is a written document that provides a scenario and instructions to find or create a product for a target audience. It gives a brief overview of the background and objectives.

Target audience

This is a group of people identified as likely customers. People in the target audience share similarities such as age or location. This makes it easier to target your product.

Activity 1 - Responding to a brief

- Investigate the musical styles in the brief
- Carry out **research** of relevant material eg listen to **cover versions**, find **sheet music**
- What **resources** are required?
- What **changes** will you make?
- Timeline** of development

Instruments, iPad/Garageband, sheet music, amp, microphone, practice room

Working out individual parts, establishing a practice routine, learning/memorising new material

Activity 1 - Responding to a brief

What are the creative constraints?

*What resources are available?
Will your own ideas be effective within the timeframe?
How can you make your music stand out from other work?
How can you develop your own skills?
How can you build on your strengths?*

Activity 2 - Applying musical skills

Organisation Skills

- Identify priorities - what will you do and when?
- Set targets - what do you need to do each lesson? How will you monitor this?
- Use of technology - do you need to use Garageband?

Preparing for the project

- Health and Safety - correct and safe use of equipment, manual handling
- Checking resources and facilities - what instruments are available? Do you need sheet music and/or lyrics?
- Plan for alternatives - have a back up plan in case things go wrong

Consider the constraints

- Ensure you are working within the aims of the brief - keep in mind your target audience, the finished product and the deadline
- Use suitable materials and techniques
- Address any quality issues



Component 3 - Responding to a Musical Brief

A1 Features of a music brief

- Creative intentions and purpose of product:
 - target audience
 - commercial
 - collaborative
 - experimental.
- Aim, purpose and requirements of the brief.
- Nature of the specific area of the industry.
- Understand the target audience.
- Understanding and linking to the company's vision.

A3 Considering constraints and intentions

- Creative constraints:
 - technical requirements of the final response – format, material and purpose
 - available resources
 - feasibility of own ideas
 - standing out from similar work.
- Personal intentions:
 - personal skills development
 - building on own strengths.

A2 - Planning to meet the demands of a musical brief

How investigation and exploration can inform response.

- Understanding the rationale behind the selection of musical material.
- Investigating musical styles.
- Researching relevant material to support meeting the brief.
- The human and physical resources required.
- Proposing structure, version and arrangement.
- Timeline for development, including:
 - working out individual parts
 - establishing a personal practice routine
 - learning and memorising material if appropriate.
- Format and scope of the final response.

B1 Develop and produce a response to a brief

- Development processes:
 - individual development routines
 - identifies technical exercises for development
 - includes setting goals
 - includes monitoring and tracking of progress.

B2 Refining musical skills for a musical product

- Create original music:
 - applying melodic and rhythmic ideas
 - use of chords and chord progressions
 - use of textures/sound palettes
 - musical devices, canon, riffs, imitation, sequences
 - musical structures, verse, chorus, middle-eight, AABA, riff-based, use of composition software if appropriate.
- Perform (if appropriate):
 - selecting material, working out individual parts
 - exploring feels and grooves, stylistic investigation
 - defining structure, version and arrangement
 - establishing a personal practice routine
 - establishing a group practice routine (where applicable), learning and memorising material if appropriate.
- DAW skills (if appropriate): selecting material
 - capturing audio, importing audio, sequencing
 - manipulating sounds and using effects, use of pre-sets and plug-ins.



Ensure you can use examples of all the grammar points in these boxes for the writing and speaking.

Learn more vocabulary by using the QR code below to access Memrise.

<p>Use a time phrase at the start of your sentence</p> <p>Normalement je.... = <i>Normally I</i> Hier j'ai = <i>Yesterday I...</i> La semaine prochaine je vais...= <i>next week</i></p>	<p>For the photo!! Never say "He is playing" etc...</p> <p>Il est jouer au foot Ils sont aller en ville</p> <p>Il joue au foot Ils vont en ville</p>	<p>Correct verb endings!!</p> <p>J'étudier = J'étudie Je parler = je parle Je apprendre = j'apprends Elle écouter = elle écoute Ils manger = ils mangent</p>	<p>Use all PANDA</p> <p>Je préfère J'aime... Je n'aime pas... Je déteste... J'adore...</p>	<p>Use all PECPC</p> <p>Parce que Étant donné que Comme Puisque Car</p>
<p>Correct <u>negative</u> structures</p> <p>Je n'y vais pas. = I don't go there. Je ne le fais plus. = I don't do it anymore. Je ne suis jamais paresseux. = I am never lazy Je ne joue qu' au rugby = I only play rugby</p>	<p>Talk about other people, with correct endings...</p> <p>nous allons = we go nous jouons = we play nous regardons = we watch ils portent = they wear ils chantent = they sing</p>	<p>Plenty of time phrases, quantifiers and connectives!</p> <p>aussi (also), mais (but), donc (therefore) toujours (always), souvent (often), quelquefois (sometimes) assez (quite), vraiment (really), tellement (really)</p>	<p>An infinitive structure A simple verb followed by an infinitive</p> <p>Je voudrais être = I would like to be J'aime lire = I like reading J'adore essayer = I love trying</p>	
<p>3 tenses: present, past and future</p> <p>1.Present – je fais (I do) je suis = I am J'ai = I have Je vais = I go 2.Past – je suis allé (I went) j'ai vu (I saw) J'ai eu = I had J'ai fait = I did 3.Future– Je vais écouter (I am going to listen) je vais être = I am going to be Je vais aller = I am going to go</p>	<p>Impressive use of adjectives (one before one after the noun)</p> <p>Un bel avenir prometteur = a beautiful promising future</p> <p>Une belle cérémonie romantique = a beautiful romantic ceremony</p> <p>Un nouveau sac bleu = a new blue bag</p>	<p>Avant de + infinitive</p> <p>Avant d'arriver = before arriving</p> <p>Avant de manger = before eating</p> <p>Après avoir + past participle</p>	<p>Comparatives</p> <p>Plus beau que = more handsome than Moins sain que = not as healthy as Aussi vieux que = as old as Moins jolie que = not as cute as</p>	
<p>Après avoir mangé, je... = after eating , I... Après avoir fini la revision, je... =after revising , I</p>				

Practise your exam technique for the speaking exam by having a go at the tasks below. You can come back to these as many times as you like to keep adding more detail from memory.



Role Play (10 marks)

- Say what your best friend looks like. (**2 details**)
- Say what makes a good friend.
- Say what you and your friends talk about. (**2 details**)
- Describe a day you spent with friends recently. (**2 details**)
- ? Ask your friend a question about hobbies.

Exam Tip 1!

There are 5 bullet points in every role play. One bullet point will always ask for **two** details. When you see ? You will have to ask a question. This can be quite a simple question related to the word e.g. *Aimes-tu le sport ? Quel est ton sport préféré ?*

Read Aloud & Conversation (15 marks)

Read the following text aloud in French:

1. Mon amie habite près de chez moi.
2. Elle a presque quinze ans.
3. Je pense qu'elle est très belle.
4. Sa famille a un petit chien blanc.
5. On aime faire des promenades ensemble au parc ou dans la forêt.

You will then be asked 4 questions in French relating to a specific topic from the course.

e.g.

Où habites-tu ?

Décris ta personnalité.

Quelle est ton opinion des animaux ?

Quand est-ce que tu aimes sortir avec tes amis ?

Exam Practice: Speaking

Practise your exam technique for the speaking exam by having a go at the tasks below. You can come back to these as many times as you like to keep adding more detail from memory.



Photo card & Unprepared Conversation (25 marks)

Photo 1



Photo 2



Look at the two photos – write at least one thing you can say about each photo on the topic of People and Lifestyle.

Your teacher will start this part of the exam with:

Parle-moi des photos

Your teacher will then ask you questions relating to the whole theme, including all sub-theme topics studied e.g. Free time activities, customs, festivals and celebrations and celebrity cultures.

Examples of questions:

Quel est ton film préféré ?

Quelle sorte de musique aimes-tu ?

Parle-moi d'une célébrité.

Qui suis-tu les réseaux sociaux ?

Décris le Festival de Cannes.

Quel passe-temps vas-tu faire ce weekend ?

Practise your exam technique for the writing exam by having a go at the tasks below. You can come back to these as many times as you like to keep adding more detail from memory.

You and your French friends are sharing photos on Snapchat.



What is in this photo?

Write **five** sentences in **French**.

10
marks

1. _____
2. _____
3. _____
4. _____
5. _____



Some French students are coming to visit your school. Write a short description about what you like doing in your free time. Write approximately 50 words in French. You must write something about each bullet point.

Mention:

- what your hobbies are
- what you watch on TV
- your favourite celebrity
- who you follow on social media
- your favourite celebration

10
marks

Using your knowledge of grammar, complete the following sentence in French. Choose the correct French word from the three options in the grid. Write the correct word in the space, as shown in the example below.

Example: Le concert**finit**..... à dix heures.

5 marks

- | | | | |
|--------------|--------------|------------------|--------------|
| finit | finis | finissent | finit |
|--------------|--------------|------------------|--------------|

Practise your exam technique for the writing exam by having a go at the tasks below. You can come back to these as many times as you like to keep adding more detail from memory.



Translate the following sentences into French. [10 marks]

I have a brother.

There is a lot of snow in January.

My mobile phone is small and red.

In my opinion, the work at school is very hard.

Yesterday I went to town by car.

You are emailing your Belgian friend about your free time. Write approximately 90 words in French. You must write something about each bullet point.

Describe:

- what sort of programmes you watch on TV or online
- a recent celebration
- what you will do during the summer.

15 marks

Home learning & Effective revision

Some other useful techniques include:

- Read, cover, write, check
- Comprehension / Exam practice questions
- Verbal questioning
- Making notes (simplify then expand)
- Flashcards. Flashcards allow you to practise summarising information and can help you identify any gaps in your learning
- Rhymes, stories or mnemonics
- Sticky notes
- Study groups

How to guide:

Layered Mind Map

Layered mind maps are useful for content-based subjects like History, RE and Geography.

You will need 3 different coloured pens and paper.

Start by reading a section of content - making sure it is not too broad (take a specific topic or section). You will then read for 10 mins approx.

Once you have read the content you will write down everything you can remember in a mind map format.

You then check with the content for the following: 1. errors 2. content that was missed. You will then add that in with the different colours.

This will not only mean that you are repeating the process multiple times but you will also create a key as to what knowledge you know, don't know and think you know but don't (misconception)