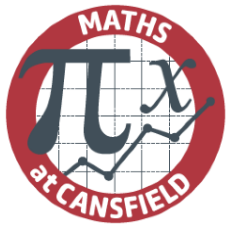
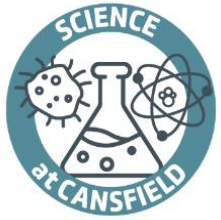
CANSFIELD

ACHIEVING EXCELLENCE TOGETHER

Year 10 Knowledge Organiser





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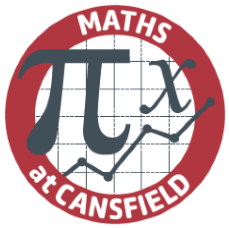


Y10 Higher Maths 1

Cumulative Frequency

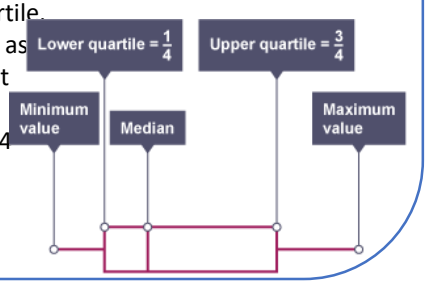
A cumulative frequency table shows a running total of the frequencies. A cumulative frequency diagram reproduces this table as a graph.
The table below shows the lengths of 40 babies at birth. To calculate the cumulative frequencies, add the frequencies together.

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

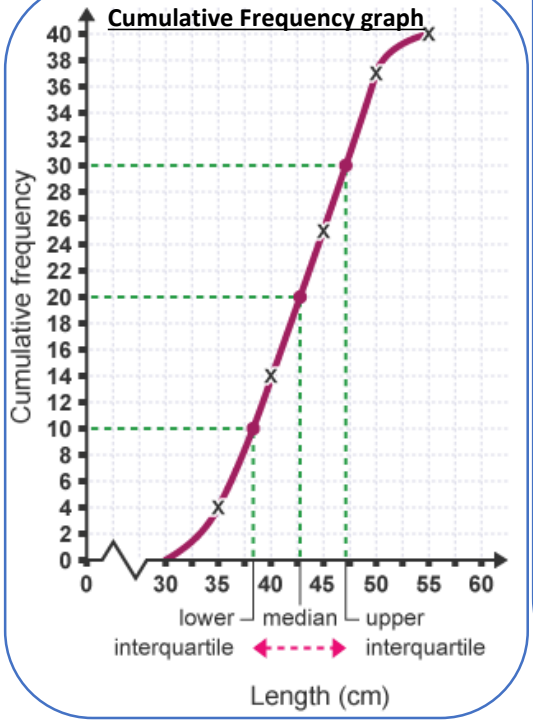
1. **Medians**, this tells you on average which is greater etc.
2. **Inter-quartile range**, this tells you which data set is more consistent.

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)

Cumulative Frequency graph

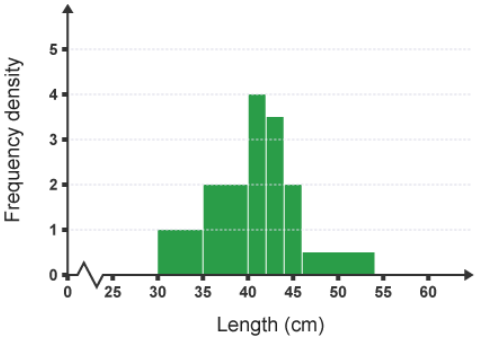


Histograms

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.

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

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



Using a histogram

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

Frequency = density × width

(1 x 2) + (2 x 5) + (4 x 1) = 2 + 10 + 4 = 16

Key Terms

1. Frequency density
2. Cumulative
3. Box plot
4. Quartiles
5. Proportional

Y10 Higher Maths 2

Stem and Leaf Diagrams

Key Male Female

8|1 Represents £18000 1|9 represents £19000

Male					Female			
			8	**1**	9	9		
9	5	2	0	**2**	1	2	6	7
8	7	3	0	**3**	0	4	4	
				4	5	6		
				5	4	8		

a) What is the highest male salary? £38,000
b) What is the lowest female salary? £19,000

Time Series Graphs

A time series graph is a line graph with time plotted on the horizontal axis.

2012				2013				2014			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
250	279	101	157	348	371	230	264	451	477	322	347

Describe the variation in prices during this period and comment on the overall trend.
The price of wheat fluctuates up and down during the course of the year. However, the overall trend shows a general increase

Prices are recorded every 3 months so the first quarter covers January, February and March.

Averages from a grouped frequency table

The table shows the times, T, taken for 100 people to queue for a roller coaster at a theme park.

a. Estimate the mean waiting time.
b. Explain why the mean is only an estimate.
c. Find the modal class
d. Find the class where the median lies

Time, T (mins)	Frequency, f	Class midpoint, x	xf
$0 \leqslant T < 20$	14	10	$10 \times 14 = 140$
$20 \leqslant T < 40$	55	30	$30 \times 55 = 1650$
$40 \leqslant T < 60$	31	50	$50 \times 31 = 1550$
Total	100		3340

a. Mean = $\frac{sum\ of\ waiting\ times}{total\ number\ of\ people} = \frac{3340}{100} = 33.4\ minutes$

b. The mean is an estimate because we don't know the exact times taken.

c. The modal class is the one with the highest frequency. $20 \leq T < 40$ is the class with the highest frequency.

d. If the total frequency in a grouped frequency table is n, then the median lies in the class with the $\frac{n+1}{2}$th item of data. $\frac{100+1}{2} = 50.5th$ piece of data. This lies in the time interval $20 \leq T < 40$

Two-way Tables

A group of 20 children are asked if they have a pet. The information is shown in the two-way table.

	Yes	No	Total
Boys	2	4	6
Girls	3	11	14
Total	5	15	20

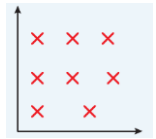
(a) Work out the number of boys who have a pet.
(b) Work out the total number of boys

(a) 5 – 3 = 2
(b) 6 from table

Scatter Graphs

A scatter graph shows a relationship or correlation between two variables

No (or zero) correlation



No linear relationship between x and y.

Negative correlation

Points lie close to a downward-sloping straight line. As x increases, y decreases.

Positive Correlation

Points lie close to an upward-sloping straight line. As x increases, y increases.

For further revision use Corbett Maths.

Key Terms

1. Percentage
2. Trend
3. Correlation
4. Stem and leaf
5. Multiplier

Frequency polygons

From the frequency table, plot the midpoint and the frequency

Time (t mins)	Frequency
$20 \leqslant t < 40$	4
$40 \leqslant t < 60$	5
$60 \leqslant t < 80$	12
$80 \leqslant t < 100$	9
$100 \leqslant t < 120$	7
$120 \leqslant t < 140$	3

Plot 10 and 4, 50 and 5, 70 and 12 etc.

Y10 Higher Maths 3

Probability

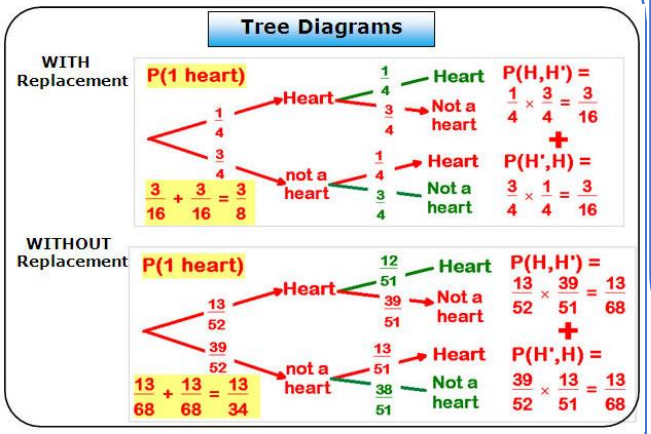
Independent events

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

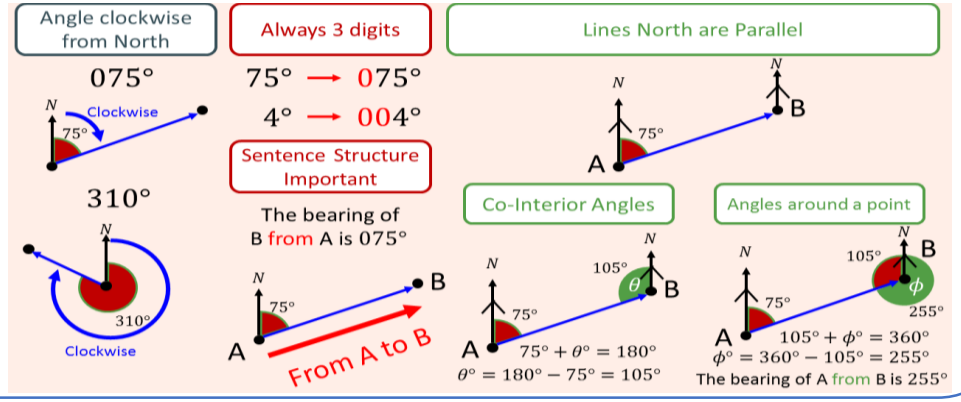


Experimental probability

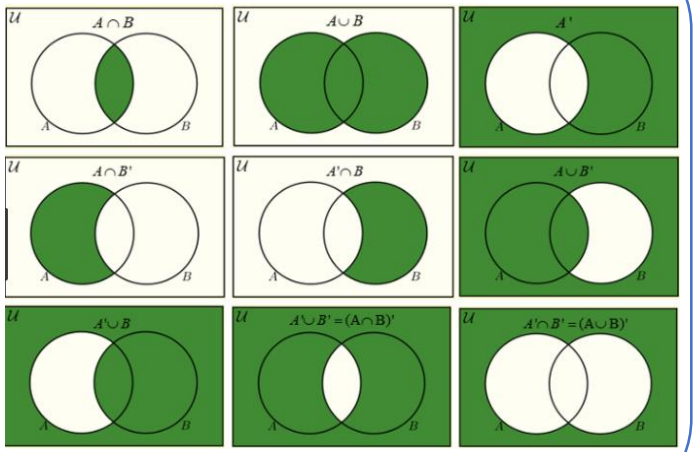
This is found by repeating an experiment and observing the outcomes.

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

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 draw for each criterion. The region is anything that satisfies the instructions in the question.

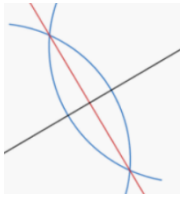
Equidistant from a point = a circle

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

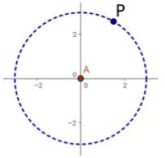
Equidistant from 2 points = perpendicular bisector

Equidistant from 2 lines = angle bisector

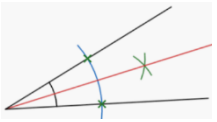
Equidistant from 2 parallel lines = line through the centre



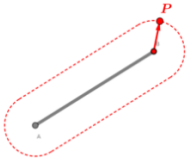
Perpendicular Bisector



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

Y10 Higher Maths 4

Calculating percentages using multipliers

Using Percentage Multipliers

Multiplier for an increase of 4% (100% + 4% = 104%)
Which as a decimal is 1.04
Multiplier for a decrease of 15%(100% - 15% = 85%)
Which as a decimal is 0.85

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?

£28 = 85%
£0.3=1%
£30= 100%

Simple Interest

This is when you get the same interest each year. ***£300 with simple interest of 5% each year for 3 years.*** *You would get £15 each year so £45 in total*

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 x (interest as multiplier) number of years

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

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?

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

In money (2dps) = £5880.74

Key Terms

1. Frequency
2. Interval
3. Reciprocal
4. Ratio
5. Inverse

Mixed Numbers

Always change a mixed number into a improper fraction before any calculations

$$2\frac{1}{4} = \frac{2\times4+1}{4} = \frac{9}{4}$$

Fractions of amounts

Divide by the denominator and multiply by the numerator

$\frac{2}{3}$ of 15. $\frac{1}{3}$ of 15 = 5 so $\frac{2}{3}$ of 15 = 10

Reciprocal

The inverse of a number

Reciprocal of 3 is $\frac{1}{3}$

Reciprocal of $\frac{1}{4}$ *is* 4

Reciprocal of $\frac{2}{3} = \frac{3}{2}$

Reciprocal of $\frac{1}{0.2} = 5$

For further revision use Corbett Maths.

Percentage Increase/Decrease

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

Percentage Change

$$\textit{Percentage change} = \frac{change}{original} \times 100$$

Fractions

Multiplying fractions

Multiply numerators together.
Multiply denominators together.

$$\frac{2}{3} \times \frac{4}{7} = \frac{2 \times 4}{3 \times 7} = \frac{8}{21}$$

Dividing fractions

Find the reciprocal of the second fraction. Then multiply the two fractions together.

$$\frac{1}{4} \div \frac{5}{8} = \frac{1}{4} \times \frac{8}{5} = \frac{1 \times 8}{4 \times 5} = \frac{8}{20} = \frac{2}{5}$$

Adding and Subtracting Fractions

Need a common denominator

$$\frac{4}{5} - \frac{2}{3} \quad (\times 3,\ \times 5)$$

$$\frac{12}{15} - \frac{10}{15} = \frac{2}{15}$$

Multiply numerator and denominator by the same value.

Fraction of ratios

Ratio of black to red balls is **3:7.**

The fraction of red is $\frac{3}{10}$

The fraction of black is $\frac{7}{10}$.

10 is the total number of parts.

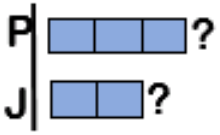
Unitary Form

This when you simplify the fraction to become 1:n.
Example 5 miles = 8 km

$$\div 5 \left(\begin{matrix} 5 : 8 \\ 1 : 1.6 \end{matrix} \right) \div 5$$

Sharing into a ratio

£30 is shared between Jenny and Peter in a ratio 2:3. How much does each person get?



5 parts in total. £30 to share into 5 parts. Each 1 part is worth 30 ÷ 5 = £6. Peter gets 3 parts so 3 x £6 = 18. Jenny gets 2 parts, so 2 x £6 = £12.

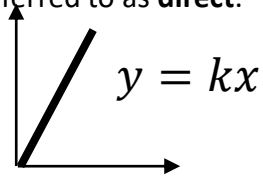
Given the difference

Peter and Jenny share some money in the ratio 2:3. Peter gets £8 more than Jenny. How much does Peter get? Peter gets one more part than Jenny, so each part is worth £8. Therefore, Peter gets 3 x £8 = £24 and Jenny gets 2 x £8 = £16.

Y10 Higher Maths 5

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

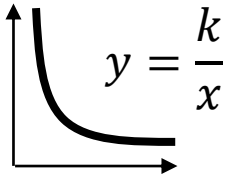
20 = 10k

k = 20÷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 x 9 = 36

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

Key Terms

1. Direct
2. Inverse
3. Irrational
4. Indices
5. Standard Form

Surds

Surds are expressions which contain an irrational square root.

$\sqrt{a} \times \sqrt{b} = \sqrt{a \times b}$ $\quad \sqrt{3} \times \sqrt{7} = \sqrt{3 \times 7} = \sqrt{21}$

$\frac{\sqrt{a}}{\sqrt{b}} = \sqrt{\frac{a}{b}}$ $\quad \frac{\sqrt{6}}{\sqrt{10}} = \sqrt{\frac{6^3}{10^5}} = \sqrt{\frac{3}{5}}$

$\sqrt{a} + \sqrt{b} \neq \sqrt{a+b}$ $\quad \sqrt{5} + \sqrt{20} = \sqrt{25}$ ✗

Writing in the form $a\sqrt{b}$

Think square numbers

$\sqrt{200}$ $\quad Square\ Factors = 4, 25, 100$

Choose the largest square factor

$\sqrt{100} \times \sqrt{2} = 10\sqrt{2}$

Rationalising the denominator

$\frac{6}{\sqrt{3}} \Rightarrow \frac{6}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}}$ Multiply top and bottom by irrational root $\Rightarrow \frac{6\sqrt{3}}{\sqrt{9}} \Rightarrow \frac{6\sqrt{3}}{3}$

A more complex example – conjugate pairs

$\frac{5}{3+\sqrt{2}} \Rightarrow \frac{5}{3+\sqrt{2}} \times \frac{3-\sqrt{2}}{3-\sqrt{2}}$ Multiply top and bottom by Conjugate (opposite root)

$= \frac{5(3-\sqrt{2})}{(3+\sqrt{2})(3-\sqrt{2})}$ Expand and simplify

$= \frac{15-5\sqrt{2}}{9-3\sqrt{2}+3\sqrt{2}-2} = \frac{15-5\sqrt{2}}{7}$

Standard form

Numbers in standard form are written as $a \times 10^n$ where n is an integer and $1 \leq a < 10$

3.71 x 10^5 = 371000

9.2 x 10^{-5} = 0.000092

3 x 10^4 x 4 x 10^9

= (3 x 4) x (10^4 x 10^9)

= 12 x 10^{13}

= 1.2 x 10^{14}

3 x 10^4 + 4 x 10^5

30000 + 400000

430000 = 4.3 x10^5

Laws of indices

Rule	Example
$a^m \times a^n = a^{m+n}$	$2^5 \times 2^3 = 2^8$
$a^m \div a^n = a^{m-n}$	$5^7 \div 5^3 = 5^4$
$(a^m)^n = a^{mn}$	$(10^3)^7 = 10^{21}$
$a^1 = a$	$17^1 = 17$
$a^0 = 1$	$34^0 = 1$
$\left(\frac{a}{b}\right)^m = \frac{a^m}{b^n}$	$\left(\frac{5}{6}\right)^2 = \frac{25}{36}$
$a^{-m} = \frac{1}{a^m}$	$9^{-2} = \frac{1}{81}$
$a^{\frac{x}{y}} = \sqrt[y]{a^x}$	$49^{\frac{1}{2}} = \sqrt[2]{49} = 7$

Y10 Higher Maths 6

Limits of accuracy

The upper bound is half a unit greater than the rounded measurement.
The lower bound is half a unit less than the rounded measurement.

Measurements rounded to the nearest unit could be up to half a unit smaller or larger that the rounded value. The possible value of x that round to 3.4 to 1 d.p. are $3.35 \leq x < 3.45$

Expanding Double Brackets

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

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

$=x^2+4x+2x+8$
$=x^2+6x+8$

Rearranging formulae

Rearrange $a=\sqrt{b-2}$ to make b the subject. If it says to make x the subject then you have to rearrange the equations to start with x.

(square it) $\sqrt{b-2}=a$ (square it)
(+2) $b-2=a^2$ (+2)
$b=a^2+2$

Calculating with bounds

Operation	Rule
Adding	Upper bound -> upper bound + upper bound Lower bound -> lower bound + lower bound
Subtracting	Upper bound -> upper bound (big) – lower bound (small) Lower bound -> lower bound (big) – upper bound (small)
Multiplying	Upper bound -> upper bound x upper bound Lower bound -> lower bound x lower bound
Dividing	Upper bound -> upper bound ÷ lower bound Lower bound -> lower bound ÷ upper bound

Angle Properties of Polygons

A regular polygon has equal sides and equal angles.
Angles in an *n*-sided polygon add up to $(n-2)\times 180°$.
Exterior angles of a convex polygon add up to $360°$.

Sequences
Finding the nth term rule

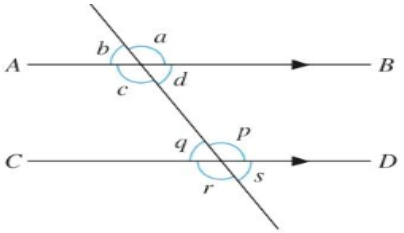
Sequence	5	8	11	13
Times table	3	6	9	12
Extra bit	+2	+2	+2	+2

(+3, +3, +3)

$3n+2$

Find the common difference.
(this will be your n coefficient.
Write times tables underneath your sequence (of your n coefficient).
Sequence subtract the times table. (this is the value you add or subtract onto your term containing . n

Angles between Parallel Line



$\angle a = \angle p$ Corresponding angles are equal

$\angle c = \angle p$ Alternate angles are equal.

$\angle d = \angle p = 180°$ Co-interior angles add up to 180°

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

For further revision use Corbett Maths.

Key Terms

1. Bounds
2. Factorise
3. Expand
4. Formulae
5. Sequences

Y10 Foundation Maths 1

Order of Operations and Using a Calculator

Brackets
Indices
Multiplication & **D**ivision
Addition and **S**ubtraction

For Example:

$$(2+4)^2 \times 4 - 8 \ (Brackets)$$
$$(6)^2 \times 4 - 8 \ (Indices)$$
$$36 \times 4 - 8 \ (Multiply)$$
$$144 - 8 \ (Subtract)$$
$$= 136$$

For further revision use Corbett Maths. ***This contains videos, practise questions and answers.***

Laws of indices

Rule	Example
$a^m \times a^n = a^{m+n}$	$2^5 \times 2^3 = 2^8$
$a^m \div a^n = a^{m-n}$	$5^7 \div 5^3 = 5^4$
$(a^m)^n = a^{mn}$	$(10^3)^7 = 10^{21}$
$a^1 = a$	$17^1 = 17$
$a^0 = 1$	$34^0 = 1$
$\left(\frac{a}{b}\right)^m = \frac{a^m}{b^n}$	$\left(\frac{5}{6}\right)^2 = \frac{25}{36}$
$a^{-m} = \frac{1}{a^m}$	$9^{-2} = \frac{1}{81}$

Function Machines

A function is a rule. The function +3 adds 3 to a number

5 → +3 → 8

5 → -3 → 8

The **inverse function** is -3 because it *reverses* the effect of the function +3

Factors, multiples and primes

A **factor** is a number that will divide equally into another number

Eg. The factors of 10 are 1, 2, 5 and 10

A **multiple** is a number that is in the times tables

Eg. The multiples of 5 are 5, 10, 15, 20, ...

A **prime number** has only 2 factors, 1 and itself

The first 5 prime numbers are 2, 3, 5, 7, 11

Highest Common Factor (HCF)

You find the HCF of two, or more numbers, by listing all the factors of the numbers and identifying the highest number that appears in both lists.

Find the HCF of 24 and 30

24: 1, 2, 3, 4, 6, 8, 12, 24

30: 1, 2, 3, 5, 6, 10, 15, 30

The HCF of 24 and 30 is 6

Lowest Common Multiple (HCF)

You find the LCM of two, or more numbers, by listing the first few multiples of the numbers and identifying the lowest number that appears in both lists.

Find the LCM of 10 and 315

10: 10, 20, 30, 40, 50, ...

15: 15, 30, 45, 60, ...

The LCM of 10 and 15 is 30

Key Terms

1. Factor
2. Multiple
3. Prime
4. Significant figure
5. Decimal place

Y10 Foundation Maths 2

Formulae

A **formula** has an equals sign and letters to represent different quantities eg. $A = \pi r^2$.

The letters are called **variables** because the values can vary. They are used in both Science and Maths.

Substitution

We can substitute into both expressions and formulae. A **formula** a mechanic uses to work out how much to charge a customer is as follows:

C = p + 20h

C = charge,
P = the cost of the parts,
H = hours the job took

How much would he charge for a job that took 5 hours with parts costing £30?

C = 30 + (20 x 5)

C = £130

Two-way Tables

A **two-way table** divides data into groups going across and down the table. You might be asked how to fill in the missing data.

A group of 20 children are asked if they have a pet. The information is shown in the two-way table.

	Yes	No	Total
Boys	2	4	6
Girls	3	11	14
Total	5	15	20

(a) Work out the number of boys who have a pet.
(b) Work out the total number of boys

(a) 5 – 3 = 2
(b) 6 from table

Stem and Leaf Diagrams

Key Male Female

8|1 Represents £18000 1|9 represents £19000

Male				Stem	Female			
			8	1	9	9		
9	5	2	0	2	1	2	6	7
8	7	3	0	3	0	4	4	
				4	5	6		
				5	4	8		

What is the highest male salary? £38,000
What is the lowest female salary? £19,000

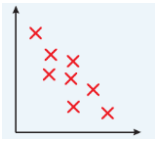
Scatter Graphs

A scatter graph shows a relationship or correlation between two variables

No (or zero) correlation

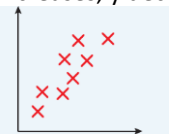
No linear relationship between x and y.

Negative correlation



Points lie close to a downward-sloping straight line. As x increases, y decreases.

Positive Correlation



Points lie close to an upward-sloping straight line. As x increases, y increases.

Expanding Brackets

Expanding means to remove the brackets by multiplying out.

Expand 4(3x + 2) = 12x + 8

multiply	3x	+2
4	12x	+8

Expand 3x(5x + 2) = $15x^2$ + 6x

multiply	5x	+2
3x	$15x^2$	+6x

Factorising

Factorising means to put into brackets by finding the HCF of both terms.

Factorise 4x + 24, the HCF is 4

= 4 (x + 6)

Factorise $x^2 + 5x$, the HCF is x

= x (x + 5)

Key Terms

1. Stem and leaf
2. Factorise
3. Formulae
4. Substitute
5. Correlation

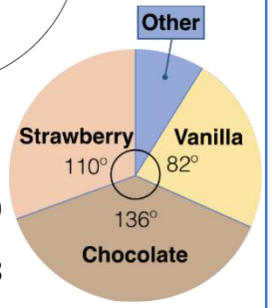
For further revision use Corbett Maths.

Y10 Foundation Maths 3

Pie Chart

Region	Frequency	Angle
Southern England	9 × 6	54°
London	23 × 6	138°
Midlands	16 × 6	96°
Northern England	12 × 6	72°
Total	60	360°

360 ÷ 60 = 6



This pie chart shows information about people's favourite flavour of milkshake, according to results of a survey.

204 people said that chocolate was their favourite flavour of milkshake.

a) How many people took part in the survey? $204 \div \frac{136}{360} = 540$

b) How many people chose vanilla? $\frac{82}{360} \times 540 = 123$

c) How many people chose neither vanilla, chocolate nor strawberry? $360 - (136 + 82 + 110) = 32$

d) What is the probability that a randomly selected person's favourite flavour is vanilla? $\frac{32}{360} \times 540 = 48$ $\frac{82}{360} = \frac{41}{180}$

Mixed Numbers

Always change a mixed number into a improper fraction before any calculations

$2\frac{1}{4} = \frac{2\times4+1}{4} = \frac{9}{4}$

Fractions of amounts

Divide by the denominator and multiply by the numerator

$\frac{2}{3}$ of 15. $\frac{1}{3}$ of 15 = 5 so $\frac{2}{3}$ of 15 = 10

Reciprocal

The inverse of a number

Reciprocal of 3 is $\frac{1}{3}$

Reciprocal of $\frac{1}{4}$ *is* 4

Reciprocal of $\frac{2}{3} = \frac{3}{2}$

Reciprocal of $\frac{1}{0.2} = 5$

For further revision use Corbett Maths.

Fractions

Multiplying fractions

Multiply numerators together.
Multiply denominators together.

$$\frac{2}{3} \times \frac{4}{7} = \frac{2 \times 4}{3 \times 7} = \frac{8}{21}$$

Dividing fractions

Find the reciprocal of the second fraction. Then multiply the two fractions together.

$$\frac{1}{4} \div \frac{5}{8} = \frac{1}{4} \times \frac{8}{5} = \frac{1 \times 8}{4 \times 5} = \frac{8}{20} = \frac{2}{5}$$

Adding and Subtracting Fractions

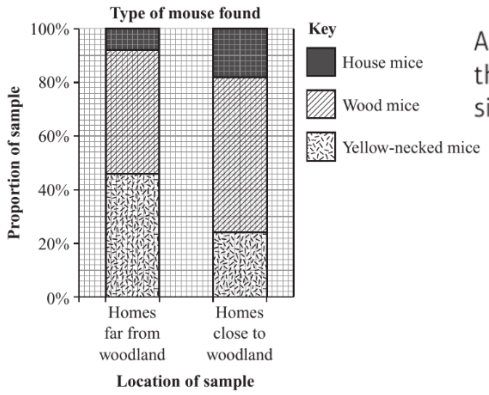
Need a common denominator

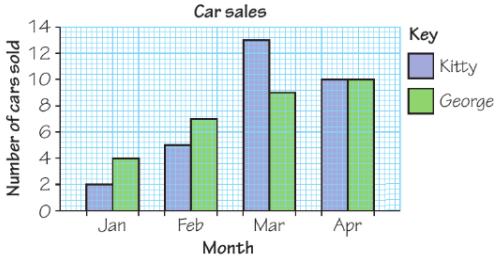
$\frac{4}{5} - \frac{2}{3}$ (×3 / ×5) $= \frac{12}{15} - \frac{10}{15} = \frac{2}{15}$

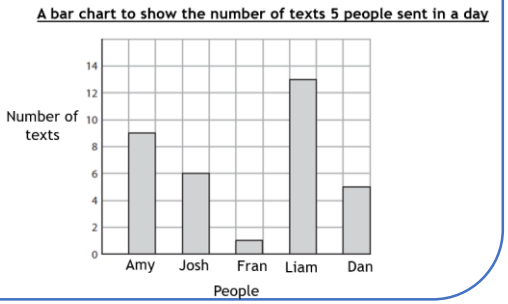
Multiply numerator and denominator by the same value.

Bar Chart

A **comparative bar chart** compares two or more sets of data on the same chart. **A composite bar chart** compares features within a single bar.







Key Terms

1. Frequency
2. Composite
3. Comparative
4. Reciprocal
5. Denominator

Y10 Foundation Maths 4

Finding Percentages

50% - Divide by 2
25% - Divide by 4
10% - Divide by 10
1% - Divide by 100

You can use the basic percentages to find percentages of an amount, percentage increase or percentage decrease

Percentage Increase/Decrease

Increase 54 by 12%
10% = 5.4, 1% = 0.54, 2% = 1.08, 12% = 6.48
= 60.48

Decrease 36 by 35%
10% = 3.6, 1% = 0.36, 5% = 1.8, 35% = 5.4
= 30.6

Calculating percentages using multipliers

Using Percentage Multipliers

Multiplier for an increase of 4% (100% + 4% = 104%)
Which as a decimal is 1.04

Multiplier for a decrease of 15%(100% - 15% = 85%)
Which as a decimal is 0.85

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?
£28 = 85%
£0.3=1%
£30= 100%

Simple Interest

This is when you get the same interest each year. ***£300 with simple interest of 5% each year for 3 years.*** *You would get £15 each year so £45 in total*

Solutions of Inequalities

X < 4 means all real numbers that are less than 4

e.g 3, 2, 1, 0, -1,…

X ≤ means all real numbers that are less than or equal to 4

X > 4 means all real numbers that are more than 4

e.g 5, 6, 7, 8,…

X ≥ means all real numbers that are more than or equal to 4

2 < x < 8 means all numbers more than 2 but less than 8

3, 4, 5, 6, 7

2 ≤ x < 8 means all numbers more than or equal to 2 but less than 8 = 2, 3, 4, 5, 6, 7

2 < x ≤ 8 means all numbers more than 2 but less than or equal to 8 = 3, 4, 5, 6, 7, 8

2 ≤ x ≤ 8 means all numbers more than or equal to 2 but less than or equal to 8 = 2, 3, 4, 5, 6, 7, 8

Solving Linear Equations with One Variable

1) a – 3 = 6 (Add 3 to both sides)

a – 3 + 3 = 6 + 3

a = 9

2) b + 7 = 11 (subtract 7 from both sides)

b + 7 – 7 = 11 – 7

b = 4

3) $\frac{c}{5} = 6$ (Multiply both sides by 5)

$\frac{c}{5} \times 5 = 6 \times 5$

C = 30

4) 4d = 20 (Divide both sides by 4)

$\frac{4d}{4} = \frac{20}{4}$

d = 5

Equations involving Brackets

Expand the brackets using the distributive law.

5(x -1) + 2(3x + 4) = 36

5x – 5 + 6x + 8 = 36

11x + 3 = 36, 11x = 33, X = 3

For further revision use Corbett Maths.

Key Terms

1. Percentages
2. Multiplier
3. Interest
4. Linear
5. Inequalities

Y10 Foundation Maths 5

Common Sequences Generate from Patterns

Square numbers: 1, 4, 9, 16… n^2
Cube numbers: 1, 8, 27, 64… n^3
Even numbers: 2, 4, 6, 8… $2n$
Odd numbers: 1, 3, 5, 7… $2n-1$

For further revision use Corbett Maths.

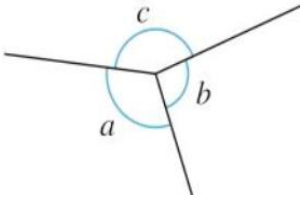
Types of Sequences

Arithmetic sequence: its term-to-term rule is add or subtract a number.
E.G 2, 5, 8, 11
The term to term rule is + 3
E.G 12, 10, 8, 6
The term to term rule is – 2
Geometric sequence: its term-to-term rule is multiplied by a number.
E.G 4, 8, 16, 32
The term to term rule is x2
E.G 81, 27, 9, 3
The term to term rule is x $\frac{1}{3}$

Sequence

A sequence is an ordered list of numbers. Each number in a sequence is called a term.
E.G 3, 7, 11, 15
3 is the first term.
The term-to-term rule defines a term using its previous terms. For the sequence above, the rule is 'add 4'.

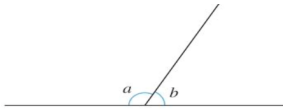
Angles at a Point



$\angle a + \angle b + \angle c = 360°$

(Angles at a point add up to 360°)

Angles on a Straight Line

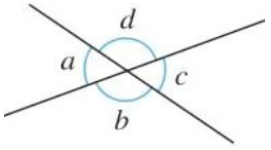


$\angle a + \angle b = 180°$
(Angles on a straight line add up to 180°)

Angle Properties of Polygons

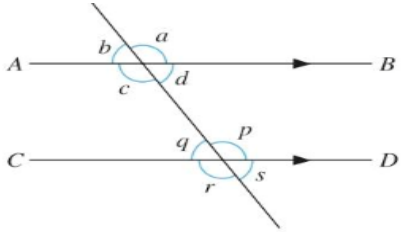
A regular polygon has equal sides and equal angles.
Angles in an *n*-sided polygon add up to $(n-2) \times 180°$.
Exterior angles of a convex polygon add up to $360°$.

Vertically Opposite Angles



$\angle a = \angle c$
$\angle b = \angle d$(Vertically opposite angles are equal)

Angles between Parallel Line



$\angle a = \angle p$ Corresponding angles are equal

$\angle c = \angle p$ Alternate angles are equal.

$\angle d = \angle p = 180°$ Co-interior angles add up to 180°

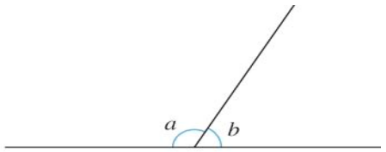
Key Terms

1. Arithmetic
2. Geometric
3. Vertically Opposite
4. Alternate
5. Co-interior

Y10 Foundation Maths 6

Perimeter and Area of 2D shapes

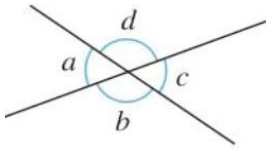
Angles on a Straight Line



$\angle a + \angle b = 180°$

(Angles on a straight line add up to 180°)

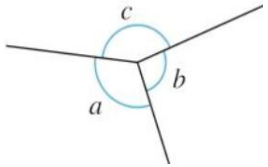
Vertically Opposite Angles



$\angle a = \angle c$

$\angle b = \angle d$(Vertically opposite angles are equal)

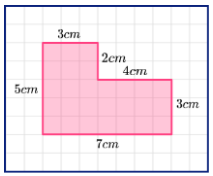
Angles at a Point



$\angle a + \angle b + \angle c = 360°$

(Angles at a point add up to 360°)

Perimeter



Perimeter is the distance around the outside of a 2D shape

Perimeter $= 5 + 3 + 2 + 4 + 3 + 7$

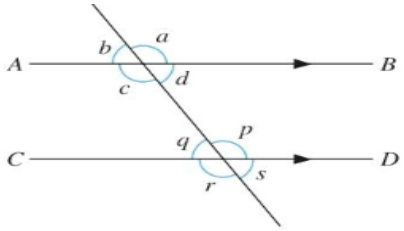
$= 24cm$

CONVERTING UNITS

To convert cm^2 to mm^2 you multiply by 10^2

To convert mm^2 to cm^2 you divide by 10^2

Angles between Parallel Line



$\angle a = \angle p$ Corresponding angles are equal

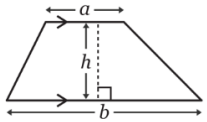
$\angle c = \angle p$ Alternate angles are equal.

$\angle d = \angle p = 180°$ Co-interior angles add up to 180°

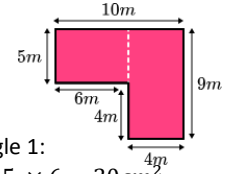
Area of a trapezium

Add the parallel sides, multiply by the height, divide by 2

$$A = \frac{1}{2}(a + b)h$$



Area is the number of square units inside a 2D shape



Rectangle 1:

$5 \times 6 = 30cm^2$

Rectangle 2:

$9 \times 4 = 36cm^2$

Total area = $30 + 36 = 66cm^2$

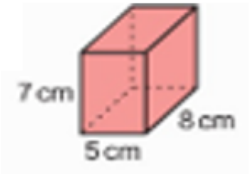
For further revision use Corbett Maths.

Surface area

Surface Area of a 3D is the total area of all its faces.

Method: To find the **Surface Area** sketch the net and work out all the areas of the faces and add up the total

Work out the surface area of this cuboid



1) Sketch the Net

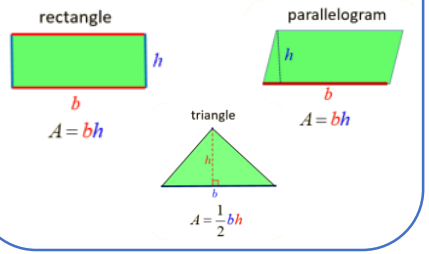
2) Label the lengths

3) Work out the area of each face

4) Add all the areas = Total Surface Area

Total Surface Area = 40+40+56+56+35+35 = 262cm²

Area of rectangles, parallelograms and triangles



Key Terms

1. Corresponding
2. Alternate
3. Co-interior
4. Parallel
5. Perimeter

Y10 English 1

'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

Y10 English 2

A Christmas Carol by Charles Dickens

Stave One	• 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	• 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	• 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	• 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	• 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

Y10 English 3

Dystopia: English Language Paper 1 skills

Qu.	Skill	Question stem	Marks	Top tips
1	Identify	List four things.	4	This question is worth 4 marks, so you have to find 4 separate points. • You can list the things, use quotations or put quotes in your own words.
2	Language	How does the writer use language ?	8	Here, you are looking at what the author has done to create meaning and how it impacts on the reader. This means you should be looking at: • Word choices used by the author (their meaning and connotations) • Techniques used by the author and their effect
3	Structure	How does the writer use structure ?	8	Have a clear focus on the beginning, middle and end of the extract • What has the writer focused on and WHY? • What do we learn because of the ORDER of events? • What are the links between paragraphs? • Is there a link between the beginning and the end?
4	Evaluate	To what extent do you agree?	20	Here, you will be given a statement about a text and you have to explain whether you agree or disagree with it. Your answer must: • Give reasons for your answers • Support your comments with relevant quotations from the text. • Comment on the overall effects that are created by the author • You must refer to whether you think the extract is successful/effective or not and give reasons why.

Dystopia:

Definition / Etymology:

The OED defines a dystopia as "an imaginary place or condition in which everything is as bad as possible."

Question 5: 40 marks

This is narrative or descriptive writing based on image or a given title.

Take 5 minutes to plan your ideas.

Be like a camera:

- **Start with a long shot of whole picture.**
- **Zoom in on one area of the mage**
- **Track across the image and zoom in on another area.**
- **Zoom out to a medium shot**
- **Zoom back in to a big close up.**

Use language and structural devices.

Remember this is a creative piece so needs to contain a number of descriptive methods and techniques.

Remember to use paragraphs and different types of sentences.

Use a range of punctuation.

Further reading:
Gulliver's Travels, Jonathan Swift. 1726.
The Time Machine; The Sleeper Awakes, H.G. Wells. 1895; 1910.
Brave New World, Aldous Huxley. 1932.
1984, George Orwell. 1949.
A Handmaid's Tale, Margaret Attwood. 1985.
The Hunger Games, Susan Collins. 2008.

Key Terms

1. Dystopia
2. Utopia
3. Implicit
4. Explicit
5. Judicious

Y10 English 4

English Language Paper 2 – Writers' Perspective and Viewpoints

Reading skills

Question	Skill	Question focus	Marks	Top tips
1	Identify	Choose four statements which are true.	4	**This question is worth 4 marks.** • 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	**This question is asking you to look at reasons for the differences.** • 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	**Here, you are looking at what the author has done to create meaning and how it impacts on the reader.** This means you should be looking at: • 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 ***You will be looking for information that is suggested/ implied - not obviously said.*** • ***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	**Here, you are being asked to compare ideas and perspectives over two texts – and the language they used to put these across.** • 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
Metaphor
Personification
Alliteration
Rhetorical question
List of three
Emotive language
Commands

Repetition
Flattery
Exaggeration
Facts
Statistics
Connectives
Counter-argument
Address the reader

Key Terms

1. Perspective
2. Viewpoint
3. Audience
4. Form
5. Evoke

Y10 English 5

Anthology Poetry: Power and Conflict

The Charge of the Light Brigade
Alfred Tennyson

A tribute to the British cavalry (soldiers on horseback) who died during the Crimean War. The men were given an incorrect order to charge into battle with swords and meet the Russian enemy, who were armed with guns. The cavalry were defenceless- yet still fought bravely.

Bayonet Charge
Ted Hughes

The poem focuses on a single soldier's experience of a charge towards enemy lines. It describes his thoughts and actions as he tries to stay alive. It is clear that the soldier is not ready for the charge. The soldier fears for his life and the patriotic ideals that encouraged him to fight have gone. Hughes was a former RAF serviceman and often looks at man's impact on nature.

War Photographer
Carol Ann Duffy

A war photographer is in his darkroom, developing pictures that he has taken in different warzones. As the pictures develop he recalls the death of one man and remembers the cries of his wife. The photographer contrasts his experiences to rural England and focuses on people who do not seem to care about war torn places. Duffy was inspired to write this poem by her friendship with a photojournalist.

Remains
Simon Armitage

Based on the account of a British soldier who served in Iraq, first published in a series of interviews by Channel 4 called 'The Not Dead'. . A group of soldiers shoot a man who's running away from a bank raid. His death is described in graphic detail & the soldier who is telling the story can't get the death of the man out of his head. He didn't know if the man was armed or not and the reader gets the impression that it was not an isolated incident.

Kamikaze
Beatrice Garland

Kamikaze is the unofficial name given to Japanese pilots who were send on a suicide mission. The mission was considered one of honour but this poem is about a pilot who aborted the mission. His daughter imagines that her father was reminded of his childhood and the beauty of nature and life whilst on the mission. When he returned home he was shunned.

Poppies
Jane Weir

A mother describes her son leaving home, seemingly to join the army. The poem is about the mother's emotional reaction losing her son to the war. She fears for his safety and after he leaves her she goes to a familiar place that reminds her of him. Weir is a textile artist as well as poet and textiles feature heavily here.

Exposure
Wilfred Owen

An authentic poem based on Owens' own experience on the front line. It was a horrendous winter and the men are subject not to enemy attacks, but to the brutality of nature. Nature is personified as the main enemy and the men can only wait to die. It is an anti-war poem and stresses the insignificance of man compared to nature. During the Somme, over 60,000 British soldiers died in one night.

Comparing connectives	Contrasting connectives
Likewise	However
In the same way	Whereas
Similarly	On the other hand
Equally	Conversely
Likewise	Alternatively
As with	Although

Key Terms

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

Example question:
Compare the ways poets present ideas about nature in 'Exposure' & in one other poem from the Power & Conflict cluster.

- ❑45 minutes
- ❑1 task only- no choice of question
- ❑1 poem printed

Y10 English 6

Unseen Poetry

English Literature Paper 2, Section C

45 minutes – 2 tasks – no choice

Both unseen poems will be printed on the question paper.

The questions will read something like:
Q1 – In 'To a Daughter Leaving Home', how does the poet present the speaker's feelings about her daughter? [24 marks]

Q2 – In both 'Poem for My Sister' and 'To a Daughter Leaving Home', the speakers describe feelings about watching someone they love grow up. What are the similarities and/or differences between the ways the poets present those feelings? [8 marks]

Steps for answering Question 1

1. Deconstruct the question: know what you are looking for from the question.
2. Read the poem twice: once to hear the sound and once to identify the key message / theme / ideas that stand out.
3. Terminology: Identify terminology and the reasons that it is important. What effect is created?
4. What's the focus?: Do some sections have more significance than others?
5. Form and structure: Look at the type of poem, stanza and line lengths, tone and mood, whether the message has changed from start to end.

Steps for answering Question 2

1. Deconstruct the question: know what you are looking for from the question.
2. Re-read the poems considering the question focus as you read.
3. Terminology: Identify terminology and the reasons that it is important. What effect is created?
4. Form and structure: Look at the type of poem, stanza and line lengths, tone and mood, whether the message has changed from start to end.
5. Find two similarities/differences.

WORDS TO DESCRIBE EMOTIONS, ACTIONS and QUALITIES What is being communicated in the poem?	
Happy	**joyous content blessed triumphant successful**
Sad	**mournful sombre disheartened despairing gloomy**
Pain	**agony torment torture trauma discomfort struggle**
Difficult	**strenuous challenging gruelling demanding**
Angry	**embittered indignant aggrieved resentful wrath despise**
Pointless	**futile hopeless aimless worthless**

Words to support your analysis

Conveys
Infers
Refers
Highlights
Suggests
Implies
Evokes
Reinforces
Portrays
Creates
Give the impression of
Has connotations of

Key Terms

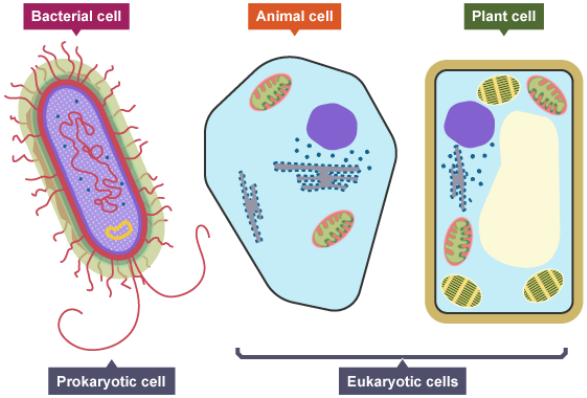
1. Compare
2. Stanza
3. Form
4. Feeling
5. Symbolism

Y10 Biology 1

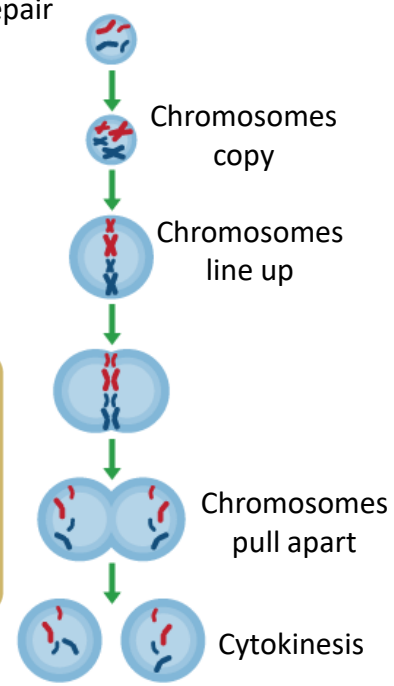
Electron microscopes have a higher magnification and a greater resolution

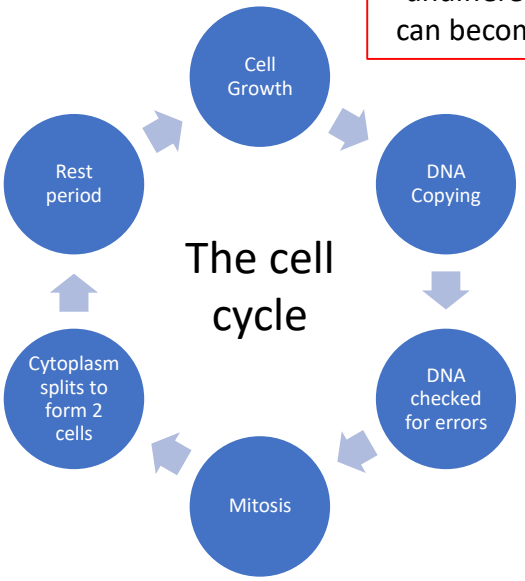
Light microscope

Electron microscope



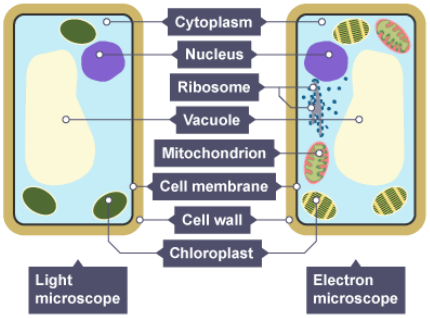
Mitosis- cell division for growth and repair



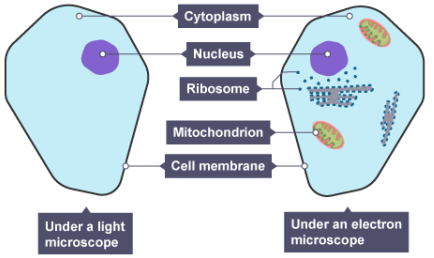


Stem cell is an undifferentiated cell that can become any other cell

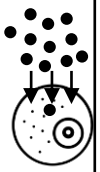
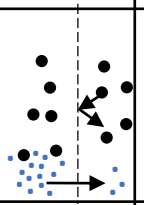
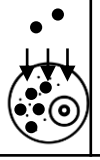
Plant Cell



Animal Cell



	Eukaryotic cell	Prokaryotic cell
Size	Most are 5 µm – 100 µm	Most are 0.2 µm – 2.0 µm
Outer layers of cell	Cell membrane - surrounded by cell wall in plants and fungi	Cell membrane - surrounded by cell wall
Cell contents	Cytoplasm, cell organelles include mitochondria, chloroplasts in plants and ribosomes	Cytoplasm, ribosomes, no mitochondria or chloroplasts
Genetic material	DNA in a nucleus - plasmids are found in a few simple eukaryotic organisms	DNA is a single molecule, found free in the cytoplasm - additional DNA is found on one or more rings called plasmids
Type of cell division	Mitosis	Binary fission

Diffusion		Movement of molecules from an area of high concentration to an area of low concentration
Osmosis		Movement of water from a weak solution to a strong solution through a partially permeable membrane
Active transport		Movement of particles from low to high concentration against a concentration gradient. Requires energy and a transport protein

Key Terms

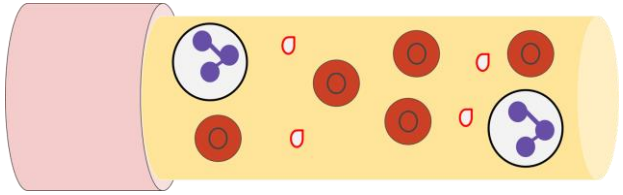
1. Resolution
2. Magnification
3. Mitosis
4. Diffusion
5. Osmosis

Y10 Biology 2

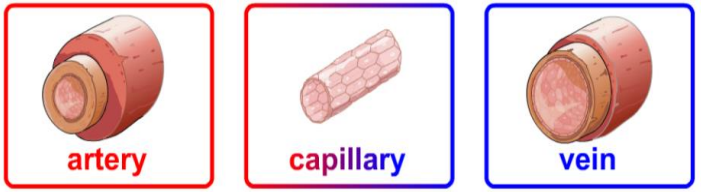
The Blood

Blood is a tissue consisting of 4 components:

- Plasma Carries substances around the body e.g. nutrients.
- Red blood cells  Carries oxygen to the body cells.
- White blood cells  Protects the body from pathogens.
- Platelets  Involved in blood clotting.



Blood Vessels



Artery:
Thick elastic muscle walls, small lumen.
Carries blood **away** from the heart at a high pressure.
Capillary:
Thin walls (one cell thick) to allow the exchange of substances via diffusion.
Carries blood to and from body cells.
Vein:
Thin walls, very large lumen and has valves to prevent backflow.
Carries blood back **to** the heart at a low pressure

The Heart

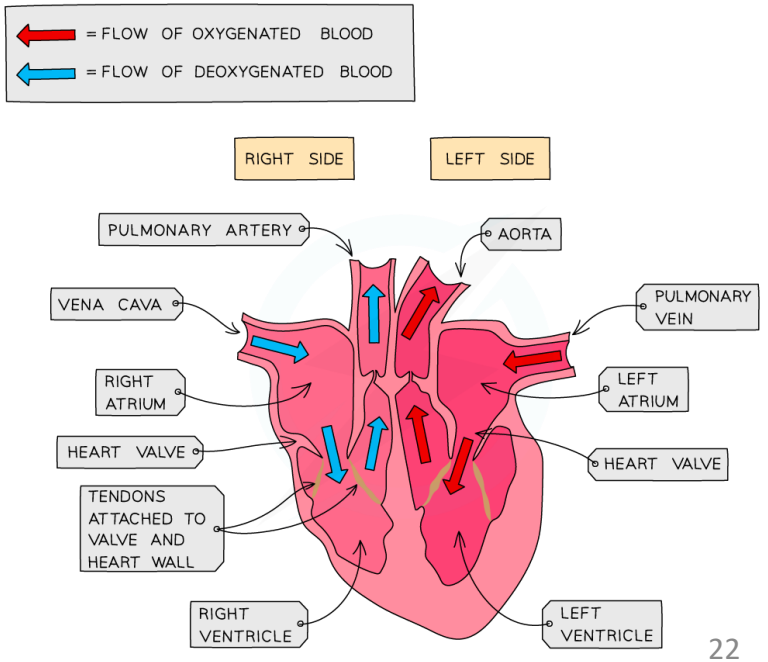
Vena cava carries deoxygenated blood from the body to the right atrium.

The atria contract, pushing blood to ventricles which then contracts and pushes blood to the lungs via the pulmonary artery

The blood picks up oxygen from the lungs

Pulmonary vein brings oxygenated blood from the lungs to the left atrium.

This contracts pushing blood to ventricles which then contracts and pushes blood to the rest of the body through aorta



Key Terms

1. Artery
2. Vein
3. Capillary
4. Ventricle
5. Atrium

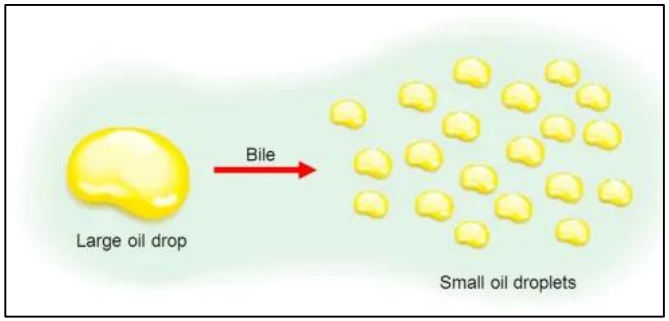
Y10 Biology 3

Enzymes

All cells contain enzymes which are biological catalysts. They speed up chemical reactions. The enzymes do not get used up, allowing them to take part in further reactions.

Bile

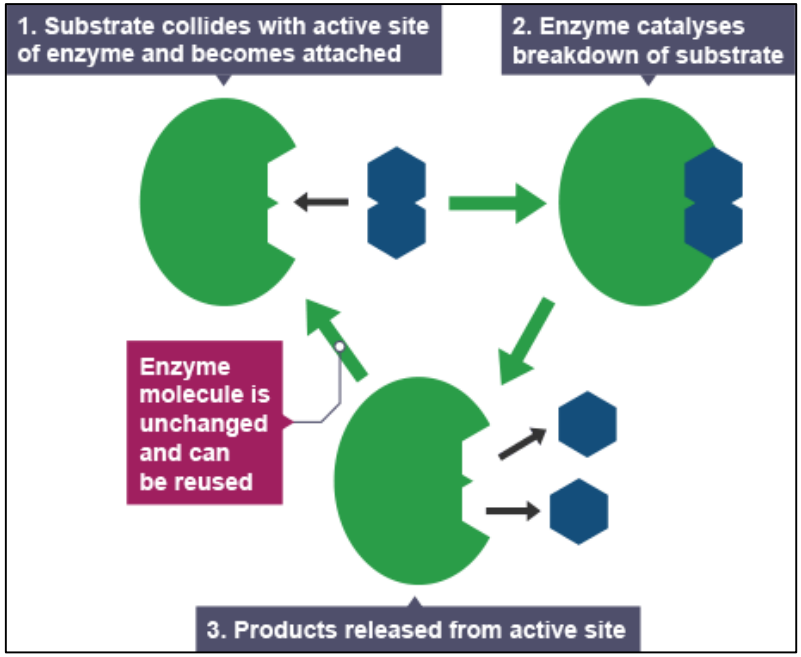
Bile emulsifies fats (breaks them down in to smaller fat droplets). This provides a larger surface area, allowing lipase enzymes to break down the fat more quickly.



When enzymes denature

In extreme pHs and high temperatures enzymes denature. They lose the specific shape of their active site and can no longer bind with the substrate.

The lock and key model



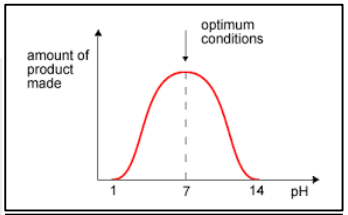
Enzymes and digestion

Digestive enzymes convert food molecules in to small soluble molecules that can be absorbed into the bloodstream.

	Starch	Protein	Lipids
Enzyme	Amylase	Protease	Lipase
Products	Glucose	Amino acids	Fatty acids and glycerol
Where produced?	Salivary glands, pancreas and small intestine.	Stomach, pancreas and small intestine.	pancreas and small intestine.

Enzymes and pH required practical

1. Measure 10 cm^3 of starch solution and place into a boiling tube.
2. Measure 1 cm^3 of buffer solution and add this to the starch solution.
3. Measure 1 cm^3 of amylase solution and add this to a **different** test tube.
4. Place both tubes into the water bath.
5. Put one drop of iodine solution into each well of the spotting tile.
6. Once the solutions have reached 36 °C add the amylase solution to the starch solution and mix.
7. Take out a drop of the starch amylase mixture and add to a well in the spotting tile.
8. Repeat this every 30 seconds until there is no change in colour or 5 minutes has passed.
9. Repeat steps 1 to 8 for different pH values.
10. Record the results in the table.



Key Terms

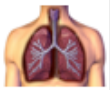
1. Enzyme
2. Active site
3. Substrate
4. Optimum
5. Denature

Y10 Biology 4

A pathogen is a micro-organism that causes disease. There are 4 types of pathogens; bacteria, virus, fungi and protists.

The body defends itself against pathogens.

Non-specific defences include:

	*Nose*	Nasal hairs, sticky mucus and cilia prevent pathogens entering through the nostrils.
	*Trachea and bronchus (respiratory system)*	Lined with mucus to trap dust and pathogens. Cilia move the mucus upwards to be swallowed.
	*Stomach acid*	Stomach acid (pH1) kills most ingested pathogens.
	*Skin*	Hard to penetrate waterproof barrier. Glands secrete oil which kill microbes

Communicable diseases:

1. Caused by pathogens.
2. Can be spread from person to person.

Pathogen	*Disease*	Symptoms	Method of transmission	Control of spread
Virus	*Measles*	Fever, red skin rash.	Droplet infection from sneezes and coughs.	Vaccination as a child.
Virus	*HIV*	Initially flu like systems, serious damage to immune system.	Sexual contact and exchange of body fluids.	Anti-retroviral drugs and use of condoms.
Virus	*Tobacco mosaic virus*	Mosaic pattern on leaves.	Enters via wounds in epidermis caused by pests.	Remove infected leaves and control pests that damage the leaves.
Bacteria	*Salmonella*	Fever, cramp, vomiting, diarrhoea.	Food prepared in unhygienic conditions or not cooked properly.	Improve food hygiene, wash hands, vaccinate poultry, cook food thoroughly.
Bacteria	*Gonorrhoea*	Green discharge from penis or vagina.	Direct sexual contact or exchange of body fluids.	Use condoms. Treatment using antibiotics.
Protists	*Malaria*	Recurrent fever.	By an animal vector (mosquitoes).	Prevent breeding of mosquitoes. Use of nets to prevent bites.
Fungus	*Rose black spot*	Purple black spots on leaves.	Spores carried via wind or water.	Remove infected leaves. Spray with fungicide.

White blood cells are an important part of the immune system, helping the body to defend against disease. The 2 types of white blood cells are ***phagocytes*** (non-specific) and ***lymphocytes*** (specific).

Phagocytes	*Phagocytosis*	Phagocytes engulf the pathogens and digest them.
Lymphocytes	*Antibody production*	Specific antibodies destroy the pathogen. This takes time so an infection can occur. If a person is infected again by the same pathogen, the lymphocytes make antibodies much faster.
	Antitoxin production	Antitoxin is a type of antibody produced to counteract the toxins produced by bacteria.

Vaccination is used to immunise a large proportion of the population, to prevent the spread of a pathogen. Vaccines contain small amounts of a dead or weakened pathogen.

Testing new drugs

New drugs need to be test to check; efficacy, toxicity and dose.

Preclinical trials – Drug is tested on cells, tissues and animals.

Clinical trials – Includes 4 stages.

Stage 1	*Stage 2*	*Stage 3*	*Stage 4*
Healthy volunteers try small dose of the drug to check it is safe record any side effects	A small number of patients try the drug at a low dose to see if it works	A larger number of patients; different doses are trialled to find the optimum dose	A double blind trial will occur. The patients are divided into groups. Some will be given the drug and some a placebo.

Key Terms

1. Antibiotic
2. Disease
3. Immunity
4. Pathogen
5. Vaccine

Y10 Biology 5

What is photosynthesis?

Photosynthesis produces glucose, using light from the sun as a source of energy.

It rearranges the atoms in the molecules of carbon dioxide and water into glucose and oxygen.

Useful products of photosynthesis

Plants use glucose in 5 main ways:

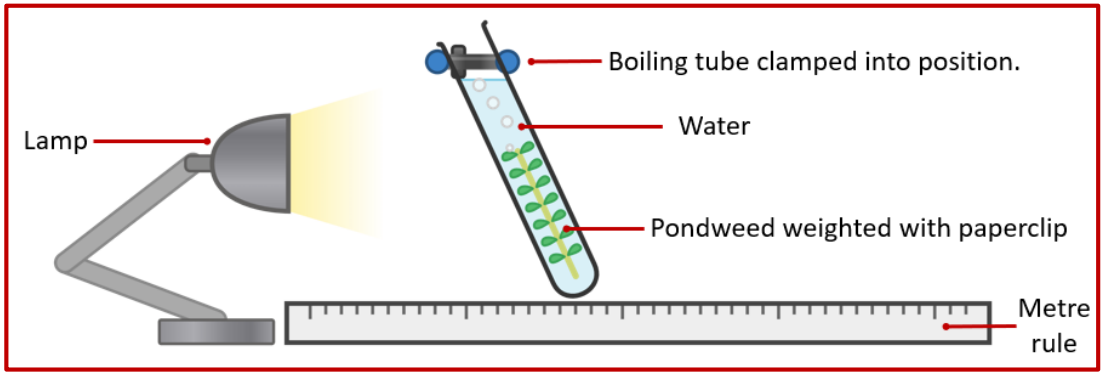
- → For respiration
- → Making cellulose
- → Making amino acids
- → Stored as oils or fats
- → Stored as starch

REQUIRED PRACTICAL – Measuring the rate of photosynthesis.

A rate is a **change in a quantity in a given amount of time.**
e.g. A speed of 30 mph is a rate because it is distance that would be travelled (quantity = miles) in a given time (one hour).

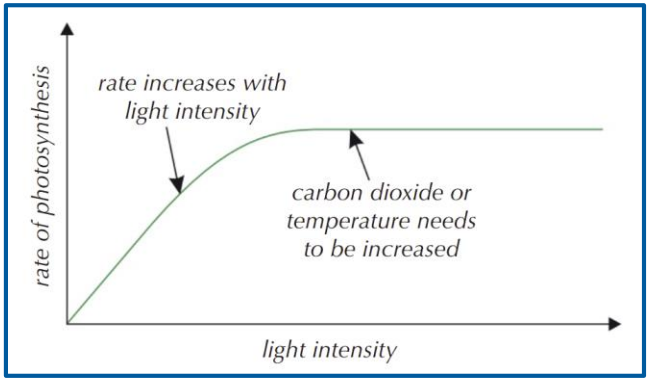
Several factors affect the **rate of photosynthesis**. We can look at the effect of **light intensity**, **wavelength of light (colour)**, **temperature** and **carbon dioxide concentration** on the rate of photosynthesis. In the required practical, we change the distance between a light source and pondweed to see the effect of light intensity on the rate of photosynthesis.

We can measure the rate of photosynthesis by either **counting the number of oxygen bubbles formed in a specific time period** or by collecting the volume of oxygen produced in a given time using a measuring cylinder or gas syringe.

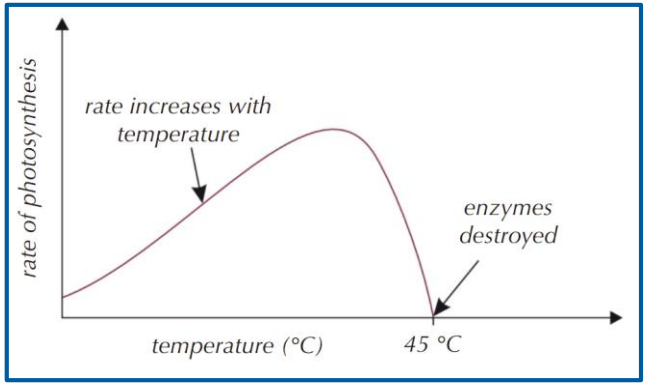


Limiting Factors

Effect of light intensity on R.O.P (rate of photosynthesis)



Effect of temperature on R.O.P



Optimum temperature is when ROP is greatest. When it gets too hot, enzymes denature so rate of photosynthesis decreases sharply.

Light intensity and **CO_2 concentration** to a plant is a bit like a fuel tank on a car. Once it's filled, it can't take in any more fuel. So once above a certain light intensity or CO_2 concentration , the plant is absorbing its maximum capacity and they can no longer be limiting the plant's growth.

Photosynthesis equations

carbon dioxide + water → glucose + oxygen

$$6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$$

Key Terms

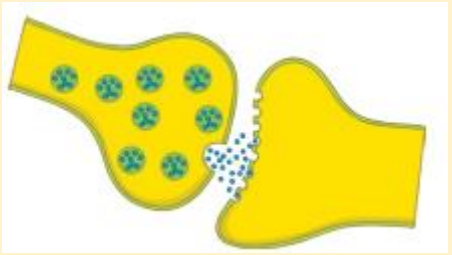
1. Photosynthesis
2. Glucose
3. Rate
4. Chlorophyll
5. Limiting Factors

Y11 Biology 6

Homeostasis is the regulation of a constant internal environment. In humans, homeostasis regulates **blood glucose** (sugar) levels, **temperature**, **CO^2** 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**.

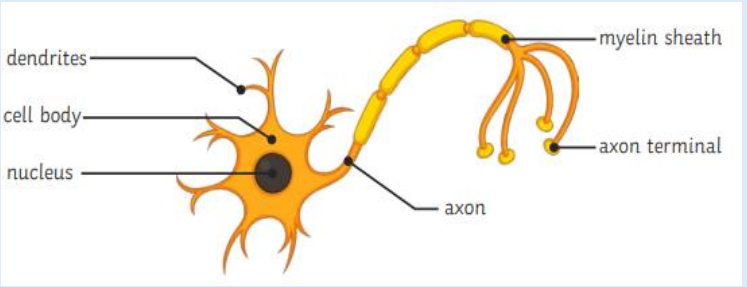
Synapses

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
		

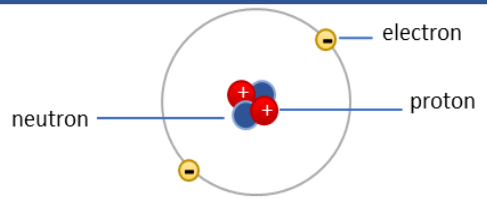
Key Terms
1. Stimulus
2. Receptor
3. Effector
4. Neuron
5. Homeostasis

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]

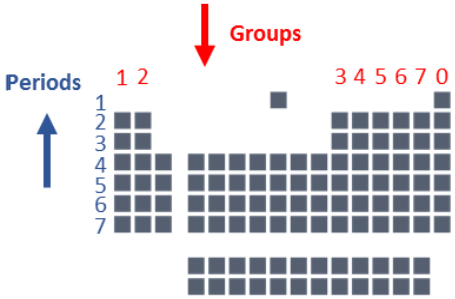
Y10 Chemistry 1

Atoms are made up of three sub-atomic particles:



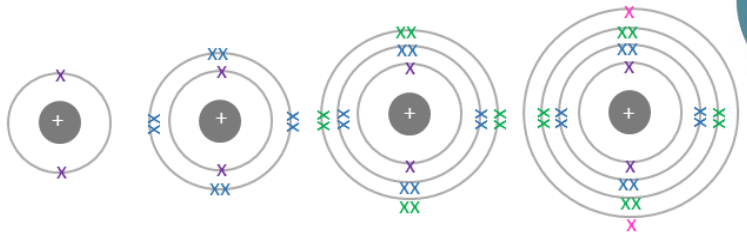
	Proton	Neutron	Electron
Relative mass	1	1	1/2000
Relative charge	+1	0	-1

Periodic Table:



Group	No. of electrons on outer shell
Period	No. of electron shells

Electron shells hold different numbers of electrons:



1st shell	2nd shell	3rd shell	4th shell
2 electrons	8 electrons	8 electrons	2 electrons

Trends in the Periodic Table: Group 1, Group 7 and Group 0

Group 1 – The Alkali Metals

- Group 1 atoms **lose** their **outer electron**.
- Electrostatic **force** between nucleus and outer electrons **weakens** with **increasing** distance.
- So **reactivity increases** down Group 1 as **atom size** increases (due to extra shells).
- **Melting** and **Boiling Points** ***decrease*** as you move down the group.

Group 7 – The Halogens

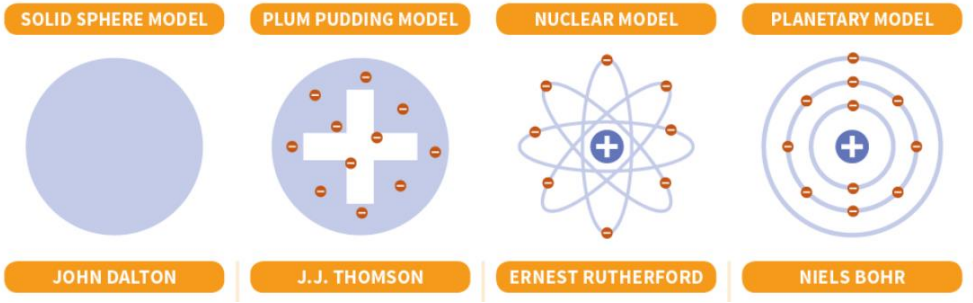
- Group 7 atoms **gain** an **electron** on their **outer shell**.
- Electrostatic **force** between nucleus and outer electrons **strengthens** with **decreasing** distance.
- So **reactivity decreases** down Group 7 as **atom size** increases (due to extra shells).
- **Melting** and **Boiling Points** ***increase*** as you move down the group.

Group 0 – The Noble Gases

- Group 0 atoms always have a **full outer shell**.
- Electronically stable, therefore **unreactive**.
- Also known as '***inert gases***'.
- **Boiling points** of Group 0 elements increase down the group with increasing atomic mass (atomic mass = protons + neutrons).
- Group 0 elements exist as single atoms.

History of the atom

Dalton: 1803
Thomson: 1904
Rutherford: 1911
Bohr: 1913



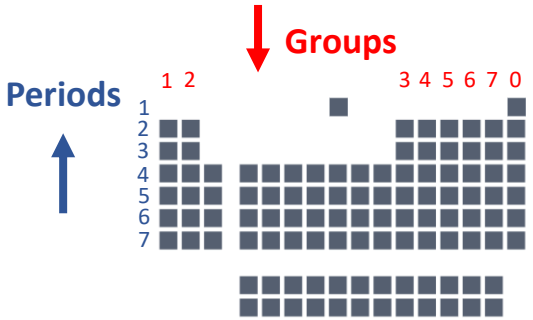
Key Terms

1. Electron
2. Neutron
3. Proton
4. Reactivity
5. Inert

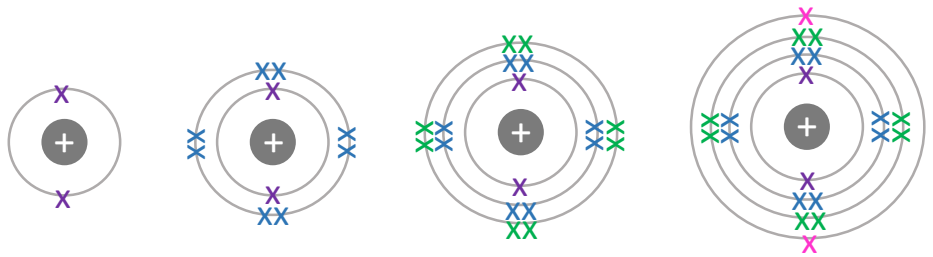
Y10 Chemistry 2

Key words: - bonding - ionic - simple - covalent - metallic - electron transfer

Periodic Table:



Electron shells hold different numbers of electrons:



Group	No. of electrons on outer shell	1st shell	2nd shell	3rd shell	4th shell
Period	No. of electron shells	2 electrons	8 electrons	8 electrons	2 electrons

Equation:

$$\text{No. of moles} = \frac{\text{mass in g}}{M_r \text{ or } A_r}$$

Examples (Higher Tier)

Iron (Fe) has an A_r of 56.

So one mole of iron weighs exactly 56 g.

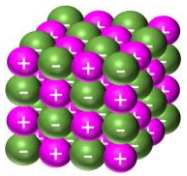
Nitrogen gas (N_2) has an M_r of $2 \times 14 = 28$

So one mole of N_2 weights exactly 28 g

Simple Molecular

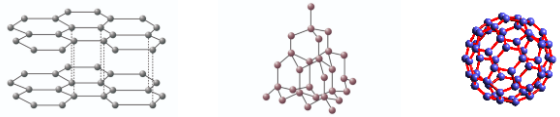
- Strong covalent bond **WITHIN** the molecule.
- **WEAK** attractive forces **BETWEEN** molecules (weak intermolecular forces).
- **Low boiling points** as less energy required to overcome weak forces.

Ionic



- Large entities joining metal and non-metal ions.
- **Strong attractive forces** between ions acting in all directions (Electrostatic force of attraction).
- **High melting points** as more energy required to overcome strong attractive forces between ions.

Giant Covalent



- Giant structures made from non-metal **atoms.**
- **Millions of strong covalent bonds** between atoms resulting in **very high melting points.**
- Some structures can **conduct electricity** due to delocalised electrons (graphite & graphene).

The Avogadro constant (Higher Tier)

Just like 'a million' is this many: 1 000 000; or a billion is this many: 1 000 000 000, so the **Avogadro constant** is this many:

602 000 000 000 000 000 000 000 or 6.02×10^{23}.

And that's all it is. Just a number.

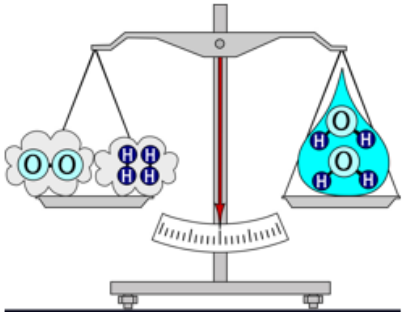
Moles (Higher Tier)

In chemistry, amounts of substances are measured in **moles**. One mole of any substance is just the amount of that substance that contains an Avogadro number of particles – so 6.02×10^{23} particles. The particles could be atoms, molecules, ions or electrons. And just like the units 'grams' are shortened to 'g', the units 'moles' are usually written as 'mol'.

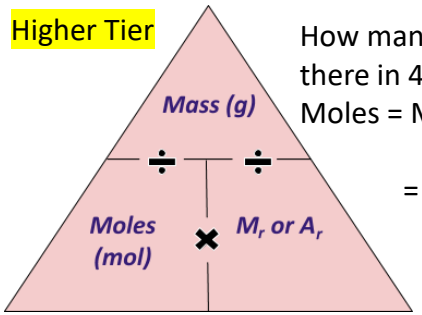
The mass of one mole of atoms or molecules of any substance is exactly the same number of grams as the **relative atomic mass** (A_r) or **relative formula mass** (M_r) of the element or compound. In other words, one mole of atoms or molecules or any substance will have a mass in grams equal to the value of the relative formula mass for that substance. Examples are shown above.

Y10 Chemistry 3

Law of conservation of mass states: no atoms are lost or made during a chemical reaction so the mass of the products = mass of the reactants. This means that in a chemical equation, it is balanced in terms of the numbers of atoms of each element involved on both sides of the equation- there must be exactly the same number on each side.



Higher Tier



How many moles are there in 42g of carbon?
Moles = Mass / M_r
42/12
= 3.5 moles

Relative formula mass (M_r) of a compound: sum of the relative atomic masses of the atoms in the numbers shown in the formula
e.g. for HCl: Mr= 1 + 35.5 = 36.5

Mass changes when a reactant or product is a gas. If a reaction appears to involve a change in mass – check to see if this is due to a reactant or a product as a gas and its mass has not been taken into account (e.g. because the gas has been released into the atmosphere) For example: when a metal reacts with oxygen: mass of metal oxide produced is greater than the mass of metal.

Higher Tier

Chemical amounts are measured in moles (mol). The mass of one mole of a substance in grams is numerically equal to its RFM. (e.g. the Mr of iron is 56, so one mole of iron weighs 56g or the M_r of nitrogen gas, N_2 , is 28 (2 x 14), so one mole is 28g).

The number of atoms, molecules or ions in a mole of a given substance is the Avogadro constant: 6.02×10^{23} per mole.

You can convert between moles and grams by using this triangle or the equation:
mass = moles x relative formula mass

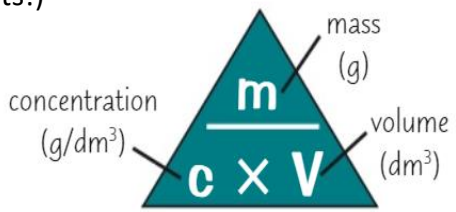
Higher Tier

Limiting reactants. In a chemical reaction with 2 reactants you will often use one in excess to ensure that all of the other reactant is used ● limiting reactant: the reactant that is used up / not in excess (since it limits the amount of products) ● If a limiting reactant is used, the amount of product produced is restricted to the amount of the excess reactant that reacts with the limiting one (so use amount of limiting reagent not one in excess for calculations).

Higher Tier

Concentration of solutions ● Concentration of a solution can be measured in mass per given volume of solution e.g. grams per dm^3 (g/dm^3) ● To calculate mass of solute in a given volume of a known concentration use mass = conc x vol
i.e. g = g/dm^3 x dm^3 (think about the units!)

● a smaller volume or larger mass of solute gives a higher concentration
● a larger volume or smaller mass of solute gives a lower concentration



Key Terms

1. Moles
2. Conservation of mass
3. Relative formula mass
4. Limiting reactant
5. Avogadro constant

Y10 Chemistry 5

The Reactivity Series

Here's a mnemonic to help you learn the order:

purple (potassium)
slime (sodium)
can (calcium)
make (magnesium)
a (aluminium)
careless (carbon)
zebra (zinc)
insane (iron)
try (tin)
learning (lead)
how (hydrogen)
camels (copper)
surprise (silver)
gorillas (gold)

carbon →
hydrogen →

potassium
sodium
calcium
magnesium
aluminium
zinc
iron
tin
lead
copper
silver
gold
platinum

The reactivity series is a league table for metals. The more reactive metals are near the top of the table with the least reactive near the bottom. In chemical reactions, a more reactive metal will displace a less reactive metal.

Reactions of Metals with Water

Metals, when reacted with water, produce a metal hydroxide and hydrogen.

lithium + water → lithium hydroxide + hydrogen

$2Li + 2H_2O \rightarrow 2LiOH + H_2$

The more reactive a metal is, the faster the reaction.

Reactions of Metals with Dilute Acid

Metals, when reacted with acids, produce a salt and hydrogen.

Sodium + hydrochloric acid → sodium chloride + hydrogen

$2Na + 2HCl \rightarrow 2NaCl + H_2$

Metals that are below hydrogen in the reactivity series **do not** react with dilute acids.

Reactions of Acids

The general formula for the reaction between an acid and a metal is:
acid + metal → salt + hydrogen

For example: hydrochloric acid + sodium → sodium chloride + hydrogen

$2HCl + 2Na \rightarrow 2NaCl + H_2$

When an acid reacts with an alkali, a neutralisation reaction takes place and a salt and water are produced.

The general formula for this kind of reaction is as follows:

acid + alkali → salt + water

hydrochloric acid + sodium hydroxide → sodium chloride + water

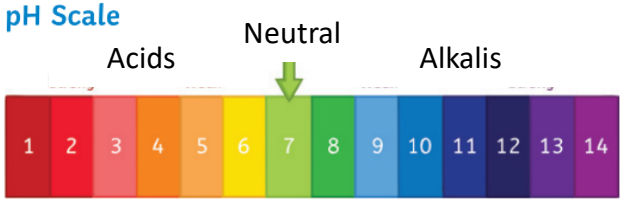
$HCl + NaOH \rightarrow NaCl + H_2O$

Reactions with Carbonates

The general formula for the reaction between an acid and a carbonate is:
acid + carbonate → salt + water + carbon dioxide

hydrochloric acid + calcium carbonate → calcium chloride + water + carbon dioxide

pH Scale



In aqueous solutions, acids produce H^+ ions and alkalis produce OH^- ions.

Neutral solutions are pH7 and are neither acids or alkalis.

For example, in neutralisation reactions, hydrogen ions from an acid react with hydroxide ions from an alkali to produce water:

$H^+ + OH^- \rightarrow H_2O$

Naming Salts

The first part comes from the metal in the metal carbonate, oxide or hydroxide. The second part of the name comes from the acid that was used to make it.

For example, sodium chloride.

Acid Used	Salt Produced
hydrochloric	chloride
nitric	nitrate
sulfuric	sulfate

Making soluble salts (sulphate)

1. Add copper oxide into sulphuric acid until no more reacts (add to excess).
2. Filter the solution to remove the excess copper oxide solid.
3. Add the solution to an evaporating dish and place the dish on a beaker of water to heat it gently until crystals start to form.
4. Once cooled, pour the remaining liquid into a crystallising dish and leave to cool for 24 hours.
5. Remove the crystals with a spatula and gently pat dry between paper towels.

Key Terms

1. Reactivity
2. Neutralisation
3. Crystallisation
4. Neutral
5. Alkali

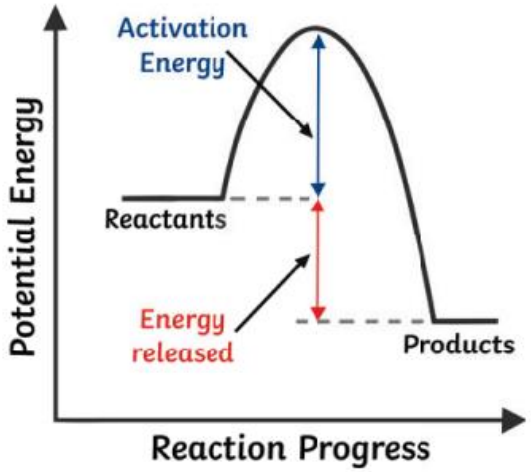
Y10 Chemistry 6

Reaction profiles – Exothermic

Energy level diagrams show us what is happening in a particular chemical reaction. The diagram shows us the difference in energy between the **reactants** and the **products**.

In an exothermic reaction, the reactants are at a higher energy level than the products.

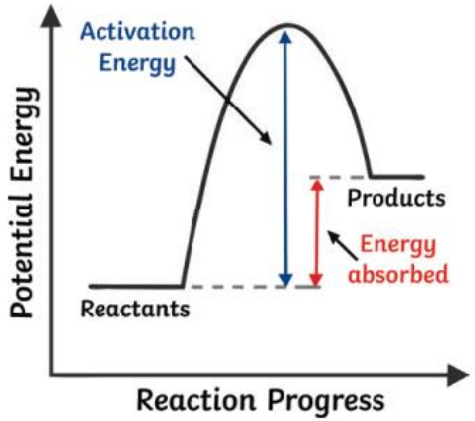
In an exothermic reaction, the difference in energy is released to the surroundings and so the temperature of the surroundings increases.



Reaction profiles – Endothermic

In an endothermic reaction, the reactants are at a lower energy level than the products.

In an endothermic reaction, the difference in energy is absorbed from the surroundings and so the temperature of the surroundings decreases.



Examples of **exothermic** reactions include: combustion and respiration. Hand-warmers and self-heating cans are examples of everyday exothermic reactions.

Examples of **endothermic** reactions include the thermal decomposition of calcium carbonate. Instant ice packs used for sports injuries are an example of an everyday use of an endothermic reaction.

Activation energy – the minimum amount of energy required for a chemical reaction to take place.

Catalysts – increase the rate of a reaction by providing an alternative pathway for a chemical reaction by lowering the activation energy

Key Terms

1. Exothermic
2. Endothermic
3. Catalyst
4. Activation energy
5. Reactant

Y10 Physics 1

Energy stores and Systems

Energy stores	
Chemical	Anything that can release energy during a chemical reaction
Elastic potential	Objects that are stretched
Magnetic	Magnets attracting or repelling
Electrostatic	Charges that attract or repel
Nuclear	Energy released from the nucleus of an atom
Thermal	All objects have thermal energy
Kinetic	Moving objects
Gravitational potential	Any object that is raised

Energy can be transferred in the following ways:
Mechanically – when work is done
Electrically – when moving charge does work
Heating – when energy is transferred from a hotter to a cooler object

Key Terms
1. Kinetic
2. Thermal
3. Chemical
4. Electrostatic
5. Conservation

power = work done ÷ time

P (W) = W (J) ÷ t (s)

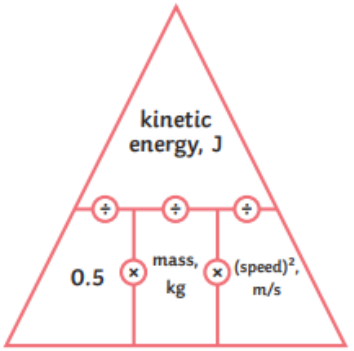
Kinetic and Potential Energy Stores

Movement Energy

kinetic energy = $\frac{1}{2}$ x mass × speed^2

$$E_k = \frac{1}{2}mv^2$$

(J) (kg)(m/s)

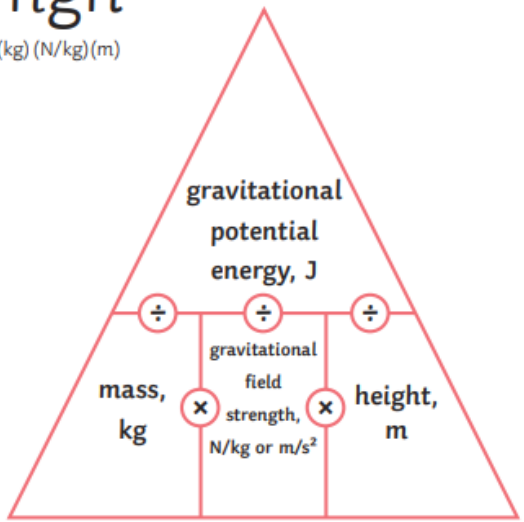


When something is off the ground, it has gravitational potential energy

gravitational potential energy = mass x gravitational field strength x height

$$E_p = mgh$$

(J) (kg) (N/kg)(m)



Conservation of energy
Energy cannot be created or destroyed but can be transferred between stores.

Y10 Physics 2

Activity and Count-Rate

Activity – the rate at which a source decays, measured in becquerels (Bq).

Count-Rate – the number of radiation counts reaching a detector per second.

Contamination and Irradiation

Radioactive contamination – Getting unwanted radioactive atoms onto or into an object.

Irradiation – the exposure of an object to nuclear radiation (doesn't make the object radioactive).

Three precautions to protect against irradiation:

1. Keep sources in lead-lined boxes.
2. Stand behind barriers or be in a different room to the source.
3. Handle sources with remote-controlled arms.

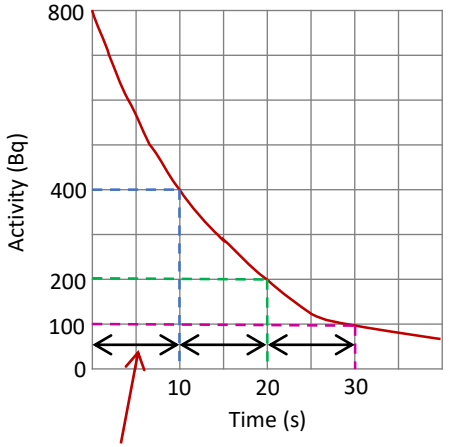


Risk of Radiation

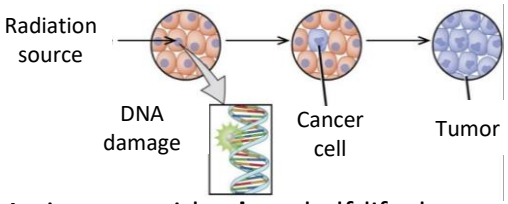
An isotope with a **short** half-life decays quickly – emits high amounts of radiation to start with but quickly becomes safer.

Half-life

Half-life – time taken for the number of nuclei of an isotope in a sample to halve.



One half-life is the time taken for the activity or count-rate of a sample to halve.



An isotope with a **long** half-life decays slowly – emits small amounts of radiation for a long time, so nearby areas are exposed for a long time.

Background radiation

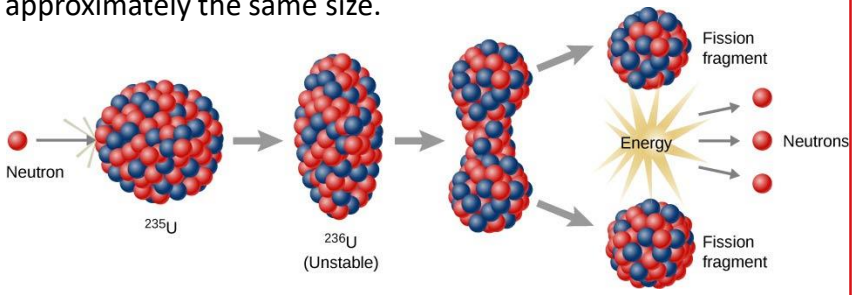
Background radiation – low-level radiation that's always around us.

Two types of sources:

1. Natural sources – rocks, food, cosmic rays, air, building materials.
2. Man-made sources – nuclear waste, fallout from nuclear explosions.

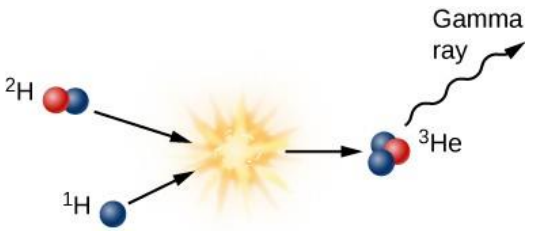

Nuclear Fission

Nuclear Fission – splitting a large, unstable nucleus (e.g. uranium or plutonium) into two smaller nuclei of approximately the same size.



Nuclear Fusion

Nuclear Fusion – two light nuclei collide at high speed and join to create a larger, heavier nucleus.



Key Terms

1. Contamination
2. Irradiation
3. Half-life
4. Count-rate
5. Radioactive

Y10 Physics 3

Key words: - charge - current - potential difference - resistance - directly proportional

Required Practical

Investigating Resistance in a Wire

Independent variable: length of wire

Dependent variable: resistance.

Control variables: type of metal, diameter of the wire.

Conclusion: As the length of wire increases, the resistance of the wire also increases.

Investigating Series and Parallel Circuits with Resistors

Independent variable: Circuit type (series, parallel).

Dependent variable: Resistance

Control variables: Number of resistors, type of power source.

Conclusion: Adding resistors in series increases the total resistance of the circuit. In a parallel circuit, the more resistors you add, the smaller the resistance.

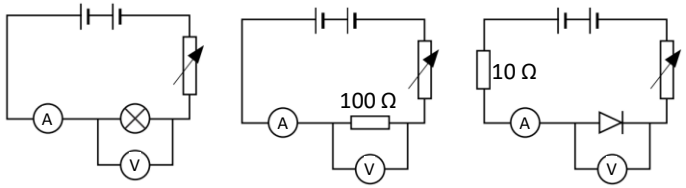
Investigating I-V Relationships in Circuits (Using a filament bulb, ohmic conductor, diode).

Independent variable: potential difference (V)

Dependent variable: current (A).

Control variable: number of components (e.g. 1 filament bulb, 1 resistor), type of power source.

Set up the circuits as shown below and measure the current and the potential difference.



Draw graphs of the results once collected.

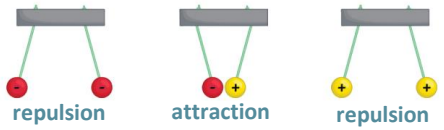
Equations and Maths

Equations		Maths
Charge:	Q = It	1kW = 1000W
Potential difference:	V = IR	0.5kW = 500W
Energy transferred:	E = Pt	50 000W = 50kW
Energy transferred:	E = QV	
Power:	P = VI	
Power:	P = I2R	

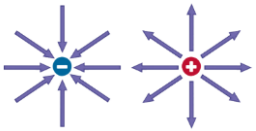
Static – Triple only

A build-up of static is caused by friction. When materials are rubbed together, the electrons move from one to the other. One material becomes positively charged and the other is negatively charged. The positive charges do not move.

Too much static can cause a spark. If the potential difference is large enough, the electrons can jump across the gap - this is the spark.



Electric charges create an electric field. The closer you get to the object, the stronger the field. The electric field can be shown by drawing field lines, they go from positive to negative.

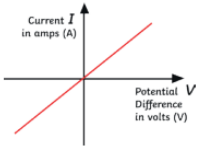


If a charged object is placed near the field, it will experience a force. The force becomes stronger as the charged object gets closer.

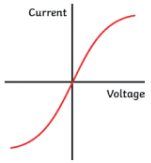
Resistance

Current (A) = potential difference (V) / resistance (Ω)

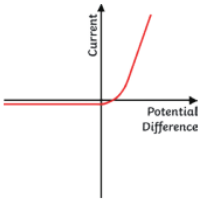
Ohmic conductor: the current is directly proportional to the potential difference - it is a straight line (at a constant temperature).



Filament lamp: as the current increases, so does the temperature. This makes it harder for the current to flow. The graph becomes less steep.



Diode: current only flows in one direction. The resistance is very high in the other direction which means no current can flow.



Y10 Art I

Horizontal and Vertical

Observational drawing AO3

Record your observations with different media and present them within your sketch book.

IDEAS

Window frames with reflections
Scaffolding
Fences
Woven objects (baskets, fabric)
Landscapes with trees
Buildings
Brick walls
Shadows
Play parks
Draws with objects

Scan: Urban Sketching Tutorial

Scan: Watercolour tutorial: 'Old Hinge'.

Scan: Watercolour tutorial: 'Brick wall'.

Key Terms

1. **Juxtaposition.**
2. **Repetition.**
3. **Reflective.**
4. **Unconventional.**
5. **Assimilated.**

Y10 Art 2

Demo - Playing with Ink and Collage

Task: Produce a series of observational drawings (AO3) of the following objects using a range of different materials and media – then add your outcomes to your class sketchbook.

Tyre – Rocks – Clothes - Trainers Shoes
Sunglasses – Flowers -
Chess pieces – Grapes – Umbrella – Insects
Electric appliances – Toys - Plastic objects – feathers.

Demo – Layers of paint

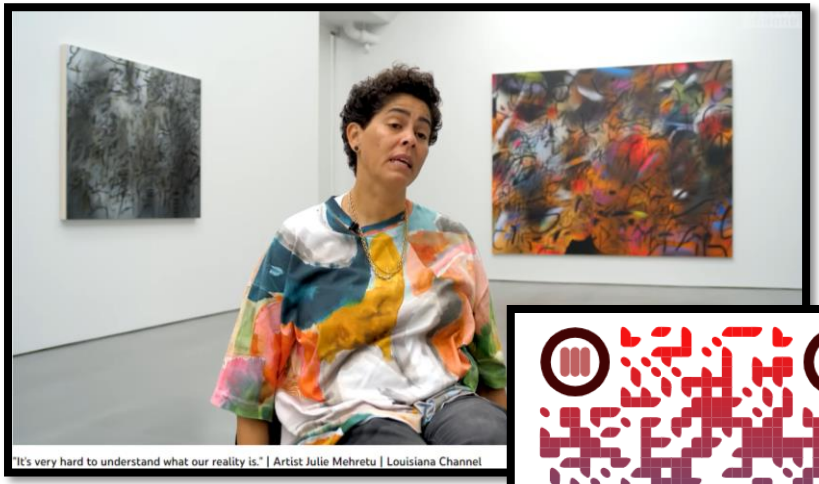
Key Terms

1. **Monochromatic**
2. **Reflection**
3. **Texture**
4. **Surface**
5. **Layers**

Y10 Art 3

Black+ Artists in Focus:

Toyin Ojih Odutola ↑



Artist Julie Mehretu →

Dutch Still Life Paintings ↑

←Robert Longo

Key Terms

1 Tonal

2 Figurative

3 Mark Making

4 Composition

5 Monochromatic

Y10 Photography 1

Colour Up!

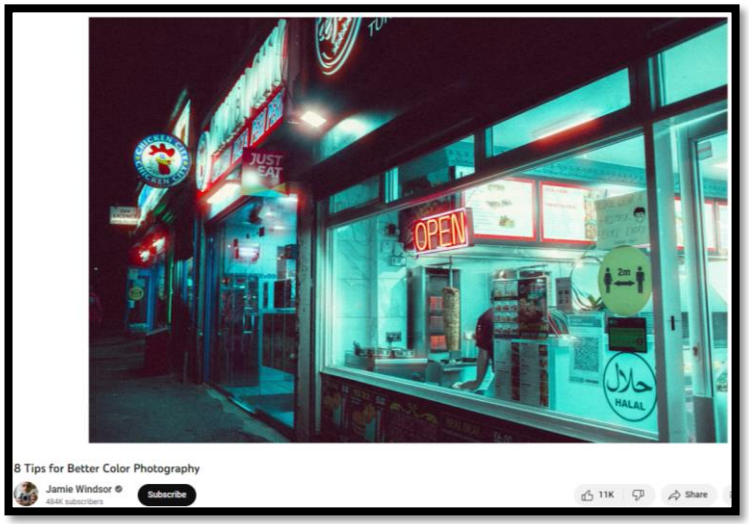
Observational Photography Ideas

Capturing Colour (AO3)

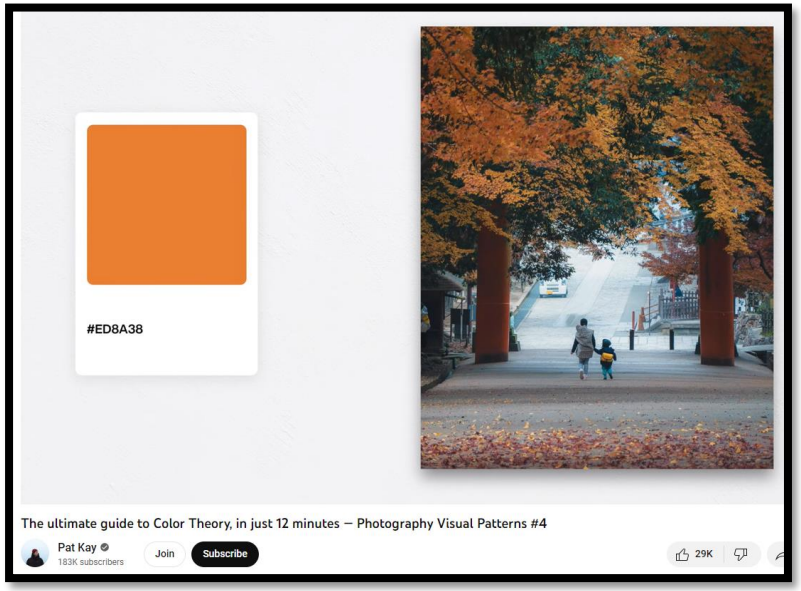
1. Use The Colour Wheel To Obtain Contrasting Colours.
2. Find A Pop Of Colour.
3. Use Colour To Create An Abstract Photo.
4. Use Bright Colourful Backgrounds
5. Understand Dominant And Receding Colours.
6. Produce a series of photography in either hot or cold colours.

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.

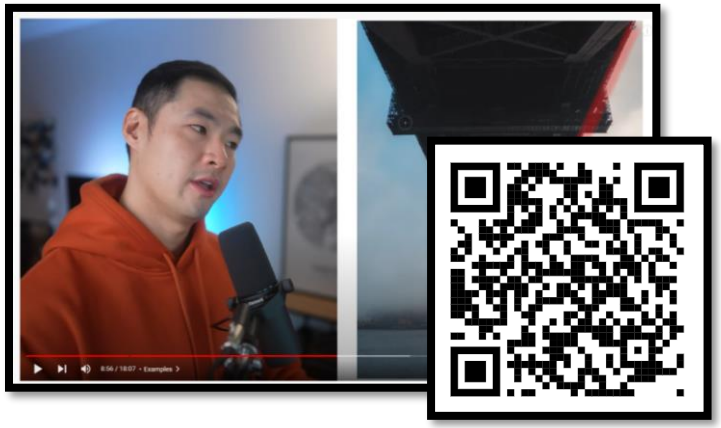


The ultimate guide to Colour Theory.

Key Terms

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

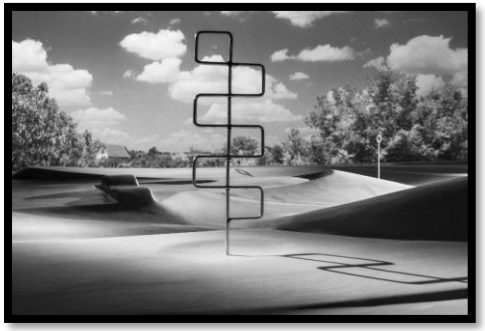
Y10 Photography 2



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

Y10 Business & Enterprise

What is Component 1?

•Component 1 is titled **Exploring Enterprises**.
•It is **internally assessed** (via a Pearson-set assignment) rather than an external exam.
•It typically represents **30%** of the overall qualification grade.
•Within Component 1 learners cover three Learning Aims:
•A: Understand how and why enterprises and entrepreneurs are successful
•B: Understand customer needs and competitor behaviour (via market research)
•C: Understand how the outcomes of situational analyses may affect enterprises

What does Component 1 Cover?

Learning Aim A – Enterprises and Entrepreneurs
•The size and features of enterprises (e.g., small, medium, large enterprises) and sectors in which they operate.
•Business models and types of enterprises.
•Why enterprises are started (aims and objectives) and what makes entrepreneurs and their enterprises successful (skills, characteristics).

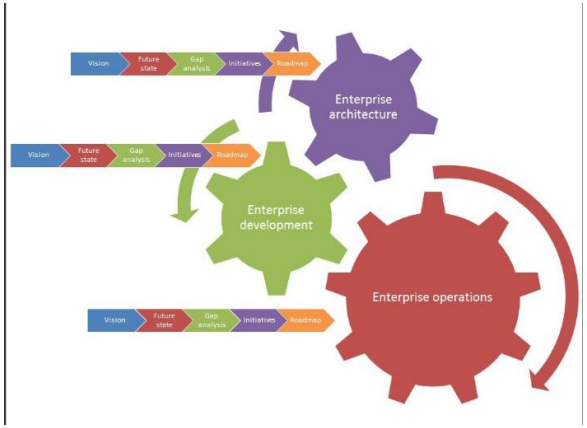
Learning Aim B – Customer needs, competitors and market research
•Methods of market research: primary (surveys, interviews, observations) vs secondary (desk research).
•Understanding customer needs (what customers want/expect) and how enterprises identify these.
•Understanding competitor behaviour: who the competitors are, how they affect market position, how enterprises respond.

Learning Aim C – Situational analysis
•Internal and external factors that affect an enterprise (for example: strengths, weaknesses, opportunities, threats; PEST analysis: Political, Economic, Social, Technological).
•How the outcomes of market research and situational analysis (e.g., SWOT, PEST) may influence decisions by an enterprise—e.g., deciding to change product/service, or open a new market.

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



Y10 Business & Enterprise

Assessment details & format

•As noted, Component 1 is **internally assessed** via an assignment set by Pearson. Learners complete preparation time, then a supervised assessment (for example: 5 hours preparation + 6 hours supervised).

•Evidence is typically a report/portfolio of work covering the three Learning Aims above, applied to one or more enterprises (may be contrasting enterprises).

•You will need to demonstrate both knowledge (what you know) and application (how it applies to real-life enterprise/s).

•It's important to link theory to a real enterprise (or enterprises) — so pick an example enterprise you can refer to throughout your assignment.

Study & assignment tips

Here are some tips to help you do well in Component 1:

•**Choose your enterprise(s)** early: Pick one or two enterprises (could be small/medium businesses, or large ones) that you know enough about or can research. Using a contrasting enterprise helps showing differences.

•**Use business tools**: Make sure you are comfortable with SWOT, PEST, maybe Porter's Five Forces (if applicable), market research methods. Be able to apply them to your chosen enterprise.

•**Focus on customer & competitor**: Use actual examples of customer needs and competitor behaviour for your enterprise. Show you understand how research methods help discover these.

•**Link to success/failure**: In Learning Aim A, don't just list entrepreneur characteristics — show how they helped or hindered the enterprise's success, with specific examples.

•**Structure your report clearly**: Make sure you separate your work by Learning Aim (A, B, C). Use headings, clear paragraphs, example enterprise(s), theory + application + conclusion.

•**Use real data/examples**: If you can find real-world data (financial figures, market share, media articles) about your enterprise(s), that will strengthen your assignment.

•**Check the assessment criteria**: Ensure you cover all the criteria laid out by Pearson in the specification for Component 1 (for example, depth of analysis, application, evaluation).

•**Proofread & reference**: Make sure your writing is clear (good spelling/punctuation helps), you reference any sources used, and your work meets the word-count/time limits given.

•**Practice past assignments**: Although each assignment is slightly different, practising previous example tasks or mock tasks helps with timing and structuring your answer.

Y10 Hospitality & Catering1

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

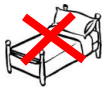
Provides accommodation (somewhere to stay)

Hotels - Guest houses - Holiday parks –Cruise ships - Glamping - Farmhouses - B & B's

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

Non residential



No accommodation Hospitality & catering only

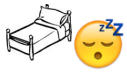
Restaurants – Cafes - Pubs – Bars - Fast food outlets - Take away - Casinos - Food vans - Tourist attractions *(e.g. theme park)* - Sport stadiums – Concert/gig venues – Delicatessen - School meals - transport catering - B & B's

Clients

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

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

Residential



1. Public sector
   a) Health and welfare
   NHS, care homes, emergency services, prisons
   a) Education
   Colleges, schools, universities
   a) Armed forces
   Army, navy & air force

2. Private sector
   a) Private nursing
   b) Private care home

3. Hostels and shelters

Non residential

1. Public sector
   Schools, nurseries

2. Workforce catering
   Canteens in shops, factories etc.

3. 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.

Types of Hotel Rooms

Single- A room for one, one single bed.
Double- A room for two, one double/ 2 singles.
King- A room with a king sized bed.
Suite- Where there is a living room area as well as a bedroom.
Family room- Larger than standard room, accommodates up to 6 people.
Shared facilities- Private room with shared bathroom or kitchen facilities.

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.

Y10 Hospitality & Catering 2

Structure of the Industry

AC 1.1 Job Requirements | AC 1.2 Employment contracts | AC 1.3 Factors affecting success

AC 1.1 Job Requirements

Supply & Demand

Supply = the ability to 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.

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, certsificate 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

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 l

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; Positive;
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 is means	Advantages & disadvantages: To employer ('boss')	Advantages & disadvantages: 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 then 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;

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

Sales 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

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, spiralised 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 effect a business i.e. Brexit

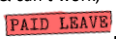
Policies, laws & regulations
- Licensing law – selling alcohol
- Employment laws – including health & safety, discrimination, sick pay, redundancy, contracts, trade unions
- Health & Safety – fire escapes, food safety act, public liability insurance

What having a contract means:

(only casual workers do not receive a contract)

Holiday pay/leave: Paid time off work

Sick pay/leave: If you are ill & can't work, you are entitled to be paid



Maternity pay: Paid while you take time off to care for a baby

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

Y10 Hospitality & Catering 3 | A.C. 1.2 | Understand how hospitality & catering provision operates

A.C. 1.2.1 The operation of the kitchen

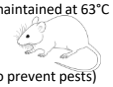
Kitchen Layout

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.

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

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.

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

Equipment & materials

Large
i.e. Ovens, cooking range, walk in freezer/fridges, floor 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

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

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, nails or perfume to avoid contamination/ odours

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

Tourist information centre

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 friends 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 **pest**s 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

Y10 Hospitality & Catering 4 | **A.C. 2.1.1** | **Understanding the importance of nutrition**

Macro Nutrients – Carbs, Protein, Fats, needed in large amount and measured in grams
Micro Nutrients – Vitamins & minerals, need in small amounts and measured in milligrams

Carbohydrate
- ✓ Main source of energy
- ✓ Should make up 1/3 diet
- ✓ 1g carbs = 3.75cals
- ✓ Sugar is a carb
- ✓ Starch carbs _ complex - gives slow releasing energy, keep us fuller for longer
- ✓ Sugar – simple, releases glucose very fast giving short burst of energy

Protein
- ✓ Is vital for growth, repair maintenance of body cells and the production of enzymes and hormones
- ✓ Made from amino acid chains found in animal and plant sources
- ✓ Animal protein have high biological protein (HBV) – Cheese, milk, eggs, meat, fish
- ✓ Vegetable proteins have a low biological protein (LBV), found in nuts, seeds, beans, lentils etc

Fat
- ✓ Provides energy
- ✓ Needed for insulation & body warmth
- ✓ Protects vital organs
- ✓ Acts as a carrier for the fat soluble vitamins
- ✓ Saturated fats (animal sources)
- ✓ Unsaturated fats (plant sources)
- ✓ 1g fat = 9 cals

Water - Helps control temperature of the body, helps get rid of waste products from the body and prevents dehydration. Foods that contain water naturally include fruits and vegetables, milk and eggs

Dietary fibre (NSP) - Helps digestion and prevents constipation. Examples include wholegrain foods (wholemeal pasta, bread and cereals), brown rice, lentils, beans and pulses.

Name	Food source	Why	Not enough/Too much
Vitamin A	Liver, dairy foods, egg yolk, oily fish, yellow fruits, red & green veg	Healthy immune system, helps us see in dim light	Deficiency rare but can cause night blindness. Too much – fractures in old age, birth defects if pregnant
Vitamin D	Oily fish, eggs, liver, sunlight on skin	Formation of bones & teeth. Controls calcium absorption.	Deficiency causes rickets in children or osteomalacia in adults. Heart failure.
B group Vitamins	Cereal, wholegrains, eggs, dairy foods, marmite, green leafy veg, red meat, liver	Releasing energy from food Nervous system Growth in children	Deficiency –muscle wasting, dry, sore skin, some anaemia Too much – unlikely because it is flushed out in urine
Vitamin C	Citrus fruits, berries, tomatoes, peppers, dark green leafy veg	Collagen formation, wound healing, helps absorption of iron	Deficiency – bleeding gums, wounds not healing. Anaemia if not enough iron is absorbed. Too much is flushed out in urine.
Calcium	Milk, dairy food, dark green leafy veg, wholegrain cereal	Form, strengthen & maintain bones & teeth. Blood clotting. For muscles and nerves of the heart	Deficiency - rickets in children, osteomalacia in adults – Osteoporosis Too much – a build up in the kidneys can be fatal
Iron	Red meat, liver, wholegrain cereals, beans, nuts, dark green leafy veg	To make blood hemoglobin, which carries oxygen to cells	Deficiency – Anaemia (tired, lethargic & very pale margins) Too much – Constipation & nausea
Sodium	Salt and 'hidden' in processed foods.	Maintains water levels in all cells. Controls nerves & muscles	Deficiency – rare Too much – High blood pressure which can lead to strokes.
Potassium	Bananas, broccoli. Parsnips, beans, nuts, fish	Helps heart muscle to work correctly & regulates the balance of fluid in the body	Deficiency – High blood pressure, muscle weakness, fatigue Too much –palpitations, heart attack
Magnesium	Whole meal bread, nuts, spinach	Helps convert food into energy	Deficiency – High blood pressure, heart diseases. Too much –does not pose a health risk.

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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 fist 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

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.

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)*

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1.3.1

Health & Safety Requirements

Personal Safety responsibilities in the workplace Employers (the company) & employees (the staff/workers) have a responsibility to:
- Prevent accidents
- Ensure the workplace is safe

Health & Safety At Work Act (HASAWA)

This covers general health and safety at work

Employers responsibilities:	Employees responsibilities:
- EQUIPMENT: tested for safety & maintained - CHEMICALS: stored & correctly used - TRAINING: staff should be trained - RISK ASSESSMENTS: should be in place - HEALTH & SAFETY POLICY: a document outlining health & safety requirements	- SAFE when working - FOLLOW RULES - REPORT any risks - TRAINING: attend all training

Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)

Employers responsibilities:	Employees responsibilities:
- REPORT: all accidents to the Health & Safety Executive/HSE)(a government agency to report to) - KEEP RECORDS: of all accidents	- REPORT: all possible risks/ hazards & accidents that might occur - ACCIDENT BOOK: record all actual accidents in

Control Of Substances Hazardous to Health (COSHH)

Employers responsibilities:	Employees responsibilities:
- CARE when planning the storage, use and disposal of any chemicals - LABEL any dangerous substances to warn people (e.g. toxic, irritant)	- INSTRUCTIONS: follow all instructions - TRAINING: attend all training - SYMBOLS: learn the symbols

Manual Handling Operations Regulations (MHOR)

Employers responsibilities:	Employees responsibilities:
- ASSESS the possible risks - AVOID any handling or lifting which might cause injury to staff (e.g. don't ask staff to move a large packet containing several bags of flour, ask them to unpack the bags then move a few bags at a time) - REDUCE the risk (e.g. get a forklift or a trolley;	- TRAINING: attend all training - ASSESS the risk: know own strength, don't take a risk, ask for help, use a ladder - TECHNIQUE: squat & lift with a straight back, do not bend

Personal Protective Equipment Regulations (PPER)

Employers responsibilities:	Employees responsibilities:
- PROVIDE PPE: e.g. gloves for raw meat; goggles/facemasks for cleaners or working with dusts (such as flour & icing sugar) in large quantities; long sleeves for frying (prevents hot oil splash); aprons; non slip shoes - TRAIN staff in correct use of PPE - SIGNS to remind/inform staff of PPE requirements	- TRAINING: attend all training - WEAR the PPE provided

Risk Assessments

A hazard - something that could cause harm to someone's health/physically injure them. Types : trips & falls, cuts, burns & scalds, ingesting chemicals, injury moving or lifting, breathing in dusts , electric shock, fire, food poisoning

A risk - how likely it is that someone may be harmed or injured by a hazard. High risk = more likely to cause harm or injury low risk = less likely

A control measure - an action put in place to prevent/reduce the risk of a hazard. e.g. staff training, using oven gloves, wet floor signs

A risk assessment – A document used to identify & assess the level of risk involved. Risks can occur in
a) using equipment (e.g. using a deep fat fryer).
b) an activity (e.g. carrying a heavy pan of boiling water)
c) a situation (e.g. evacuating the kitchen in a fire)

Risk assessment for employee safety

Risk	Control measure
Slips, trips & falls	Make sure all work areas are well lie & free from obstructions Provide equipment, e.g. ladders, to enable employees to access equipment safely Provide PPE – non slip shoes Staff wipe up/pick up spills and use wet floor signs Staff training including first aid training
Cuts	Ensure all machinery has the correct safety guards fitted Staff training on carrying and using knives safely as well as first aid training
Burns & scalds	Fit splatter guards around deep tat fryers to stop hot oil burns and around hot surfaces PPE – sleeves, aprons, oven gloves; signs & warnings of possible hazards Staff training on how to use pans and equipment safely, as well as first aid training
Electric shock	Ensure all electrical wiring & equipment is in good working order & regularly PAT safety tested Avoid having electrical equipment near water sources Signs and warnings; emergency switches Staff training – i.e. handle electrical equipment with dry hands, first aid training
Fire	Extinguishers; Ensure that all emergency exits are clear of any obstructions
Exposure to dust in the air, e.g. flour, chemicals; or cold/heat	Provide protective equipment, e.g. rubber gloves, eye protection and masks Train employees to store and use chemicals safely and follow COSHH guidelines Make sure the kitchen is well ventilated & has air conditioning Design the kitchen layout so workstations are as far away from sources of heat as possible Make sure employees take plenty of rest breaks in a cool place and have access to water
Repetitive strain injury, Muscle strain /back pain	e.g. wrist strain - constant kneading, back & muscle pain from lifting heavy items or sitting at a computer Train employees how to lift and carry heavy objects correctly Provide equipment, e.g. trolleys, to assist moving equipment and materials Provide equipment, e.g. mixing, kneading, cutting, peeling machines, to reduce repetitive manual actions Receptionist - given regular breaks to walk around, suitable chair and padding for mouse/keyboard.

Risk assessments for security issues

Risk	Control measure
Aggression Intrusion Theft\ Fraud	Employ security staff CCTV & Security lighting outside Security passes and ID; Lockers Report anything suspicious

Risk assessment for customer safety

Risk	Control measure
Food poisoning/ allergies	Use HACCP ; Show allergens on menus
Trips, slips & falls	Well-lit floors, free from obstruction, use signs for wet floors
Fire/emergency	Signpost emergency exits, fire extinguishers, fire drills
Fraud /personal details	Carry out payment transactions in front of customer Have secure areas e.g. safe for personal belongings

Key Terms

Responsibility - something required to do as part of a job, role, or legal obligation.
Employer - a person or organization that employs people.
Employee - a person employed by the employer for wages or salary.
HASAWA (Health & Safety At Work Act) - This covers general health and safety at work
Risk assessment - a document used to identify and assess the level of risk involved
HSE (health & safety executive) - a government agency to report health and safety issues to
H&S policy – a document which sets out the arrangements put in place for managing health & safety in a business-who does what, when and how.
RIDDOR (Reporting of Injuries, Diseases & Dangerous Occurrences Regulations) This covers workplace accidents/incidents
e.g. serious burns, slips, trips, equipment collapsing, faulty gas cookers
Accident book/log – an essential document for employers & employees, who are required by law to report details of specified work-related injuries and incidents.
COSHH (Control Of Substances Hazardous to Health) - This covers dangerous substances that people might be exposed to (e.g. chemicals, fumes, smoke, dusts, gas)
MHOR (Manual Handling Operations Regulations) - This covers injuries and accidents when lifting and moving heavy objects
PPER (Personal Protective Equipment Regulations) - This covers protective clothing & equipment to protect staff
Hazard - something that could cause harm to someone's health/physically injure them. e.g. a cut
Risk how likely it is that someone may be harmed or injured by a hazard. High risk = more likely to cause harm or injury low risk = less likely
Control measure an action put in place to prevent/reduce the risk of a hazard. e.g. staff training, using oven gloves, wet floor signs
Obstruction - something that blocks a road, passage, entrance, etc. so that nothing can go along it,
PAT test - Portable appliance testing – a test to prove that a piece of electrical equipment is safe to use
Repetitive strain injury - a condition where carrying out repetitive actions, typically with the hands, causes pain or damage of function in the muscles involved.
HACCP – (Hazard analysis critical control point) - a management system in which food safety is addressed through the analysis & control of hazards
Fraud - the crime of getting money by deceiving people

Y10 Geography 1

Key Words…

Development – A process that creates growth, progress, positive change socially, economically and environmentally.

LIC – Low Income Country

NIC – Newly Industrialising Country

HIC – High Income Country

Global City – Cities that are well connected by the process of globalisation (e.g. trade, business, media, culture).

Megacity – Cities that have a population greater than 10 million people

Urbanisation – Physical and human growth of cities

Counter urbanisation – The movement of people and businesses from large cities to smaller towns and rural areas

Re-urbanisation – Recent trend where people are choosing to move back to the city as it becomes more desirable

What is a Global City and a Megacity?

Mega-cities are cities that have a population greater than 10 million people. Global Cities interact with each other at a global scale – the UK has 13 Global Cities including London, Manchester and Cardiff. Through Globalisation cities can connect through migration, banking and finance, transport, business and media.

What are the reasons for Cardiff's growth?

1850-1920 – Urbanisation – The growth of the Coal Industry

- Rapid growth between 1850-1920 in search of jobs from the sale of coal from the docks – urbanisation
- Terraced housing used in inner urban areas to provide housing for dock workers

1930-1980 – Counter urbanisation – The Growth of the Suburbs

- People no longer had to live near the CBD due to better transport and more car ownership
- Housing was built further away from the inner urban zone causing the city to spread outwards (suburban sprawl)

1980-2018 – Re urbanisation – Urban Renewal

- New housing built on Brownfield Sites (old industrial site) in in the Inner Urban area of Cardiff.
- As Inner Urban areas become more attractive, more people move back to the city – reurbanisation.

What are the features of the urban zones?

Central Business District (CBD) - office blocks, banks, restaurants, large department stores, good access (roads / trams), expensive parking. Groups = young professionals
Inner City – old factories (early 1900's, terraced houses, high rise flats, cheap housing, limited space, near services. Groups = unemployed / ethnic minority groups / students
Inner Suburbs – semi-detached housing, houses with gardens, more space. Groups = working families
Outer Suburbs = detached houses, large gardens, bungalows. Groups = working families / retired and elderly
Rural-Urban Fringe – high cost housing, fields, farms, forest, greenbelt areas. Groups = wealthy families

What problems do Global Cities like Cardiff face?

Affordable Housing – Rising population has led to a housing shortage due to less space, cost and lack of affordable housing.
Transport – Rising car ownership and more commuters has led to increasing levels of congestion, parking, pollution.
Waste – Produce more than 290 million tonnes of waste every year creating shortage of landfill sites and pollution.

Y10 Geography 2

Key Terms…

Emerging Middle Class – The growing number of people in developing countries who are well educated and reasonably well paid.

Formal Occupations – Jobs that receive a regular wage and which are recognised and controlled by the state

Informal Sector – Irregular jobs that is not taxed or monitored by any form of government (e.g. street vendor, waste collector)

Sustainable Community – Community designed to have minimum impact on the environment – renewable energy, public transport

Self-Help Scheme – Improvement projects carried out by ordinary people rather than by businesses or governments.

Wholesale Clearance – The demolition of a large quantity of old unfit housing and the redevelopment of new, better homes

What is Mumbai like?

Mumbai is located on a peninsular on the Western coast of Maharashtra state in western India. A mega-city, there are 18.4 million people and it continues to grow. A Global City, the headquarters of a number of global financial institutions such as the Reserve Bank of India and Tata Group. Mumbai is a city of contrasts, being one of the richest cities in Asia but also home to some of the world's poorest people.

Why has the population of Mumbai grown?

Rural to Urban Migration - Movement of people from the countryside to towns / cities
Natural Increase – The growth of population as there are more births than deaths. If women have more than two children the population will grow

Social impacts of Development: Why is there a growing 'Emerging Middle Class' in Mumbai?

- Rural population go to Mumbai to seek a better life (e.g. jobs, services and education for children)
- Children often work their way up to university and seek employment in Mumbai
- Multinational company (e.g. Tata Steel) employ graduates in Mumbai in manufacturing / services

Economic Impacts of Development: What types of jobs are found in Mumbai?

Jobs in Mumbai can be split into two categories. Formal Occupations are jobs that receive a regular wage and which are regular and controlled by the state (tax is paid). The Informal Sector are irregular jobs that are not recognised by the state (tax is not paid). Examples include ragpickers, rickshaw drivers and street vending.

Why can Dharavi (slum in Mumbai) be seen as a Sustainable Community?

- People live in low-rise self built homes close to where they work so no need complex and expensive urban transport.
- The residents are hard working and most work in the informal sector (e.g. pottery, recycling)
- Ragpickers recycle 80% of Mumbai's waste

What problems does Mumbai face?

Transport: Mumbai is India's largest city with a population of 18.4mill people. With only 4 railway crossings onto the island creating a number of problems for 7.5million commuters including overcrowding, poor rail safety and delayed trains.

Housing: Bhendi Bazaar is a mixed area of chawls and 1,250 shops. This area is overcrowded, there is no waste disposal system and limited water supply. There are plans to demolish 250 buildings and replace them with 17 high-rise tower blocks which is known as Wholesale Clearance. However some people believe Dharavi should be developed using Self-help Schemes whereby improvement projects are carried out by ordinary people rather than by businesses or governments (e.g. micro-credit scheme).

Y10 Geography 3

Key Terms…

Development Indicators – Data or evidence that can be used to measure the economic or social development of a country

Gross National Income (GNI) per person – The average income in a country

Human Development Index (HDI) – A measure of development, takes into account a country's level of education, wealth and life expectancy

Tariffs – A type of tax that may be charged on goods as they enter a country

Quotas – Restrictions on the amount of particular goods that can be imported each year

Subsidy – A payment that a country makes to its own farmers and businesses so that their goods can be sold at a lower price to consumers

Development Aid – Help which is given to tackle poverty and improve quality of life over the long term

How do we measure development?

Development means 'change'. To see how much a country is developing Development Indicators need to be used.

- Economic Indicators – GDP / GDP Per Capita / GNI / GNI Per Capita
- Social Indicators – Birth Rate / Death Rate / Life Expectancy / Infant Mortality / Literacy Rate

What is the Human Development Index (HDI)?

Money is not the only way to measure development, there are also social indicators that can be used. To improve the accuracy the Human Development Index (HDI) can be used. This is calculated using Literacy, GNI Per Capita and Life Expectancy which provides a single figure between 0-1 (closer to 1 the more developed).

What is globalisation?

The flows of people, ideas, money, and goods making an increasingly complex global web that links people and places from distant continents together. Reasons for globalisation include improvements in transportation, freedom of trade, Improvements of communications, Labour availability and skills. NIC's have benefitted from globalisation due to large labour force to manufacture goods, tax benefits so cheaper for foreign companies and encourage Multinational Companies (MNC's) to invest.

What are the patterns of trade between LIC's/HIC's?

LIC's export cheaper raw materials (e.g. banana's or cocoa) and import manufactured goods.

HIC's export valuable manufactured goods such as electronics and cars and import cheaper raw materials (tea, coffee).

How can trade be managed – Free Trade?

Free trade – there are no limits on the amount of goods that are imported or exported. Benefits exporting countries as they are free to export more goods to trading partners, increasing profits.

How can trade be managed – Controlled Trade?

Some countries (usually HIC's) look to protect themselves from importing cheap goods by plaing Quota's, Tarriff's or Subsidies on goods.

What are the different types of aid?

Short term Aid:

- Emergency Aid – Help that is given urgently after a natural disaster or a conflict to protect the lives of survivors.

Long Term Aid / Development Aid

- Bilateral aid – Aid is given from one country to another, conditions usually imposed such as trade deals (tied aid).
- Multilateral aid – Aid given to an organisation (World Bank, EU, IMF) then redistributed to countries that need it.
- Charitable aid – Collecting money from the public and usually spent on specific small scale projects (OXFAM)

Y10 Geography 4

Key Terms…

Fetch – The distance over which wind has blown to create waves on the sea. The greater the fetch the larger the waves

Longshore Drift – A process where beach material is moved along the coast by waves that approach the shore at an angle

Spit – Coastal landform formed by the deposition of sediment where the coastline changes direction

Shoreline Management Plan (SMP) – The plan that details how a local authority will manage each stretch of coastline in the UK

Cost/Benefit Analysis – Assessment of the cost of a defence with the value of the land and properties that it protects.

Groyne – Type of coastal defence consisting of low walls built along the coast to trap sediments that is moved by longshore drift.

How do waves erode the landscape?

The size and energy of a wave is influenced by the 'fetch' (i.e. how far the wave has travelled) wind duration and wind strength.

There are two types of waves, Constructive Waves (created in calm weather, less powerful, swash stronger than the backwash long wavelength, and are low in height.

Destructive Waves (created from strong waves when the wind is powerful and blowing for a long time travelled over a long fetch, short wave length and are high and steep).

How is material moved along the coastline?

Solution – Minerals are dissolved in sea water and carried in solution (not visible).
Suspension – Small particles are carried in the water without touching the sea bed.
Saltatation – Sand-sized particles bounce along the river bed In the flow of the water.
Traction – Pebbles are rolled along the sea bed.

How are coastal areas being eroded?

- Hydraulic Action – Waves crash against cracks of the cliff forcing rocks apart.
- Abrasion – Waves pick up rocks and rub them against the cliff causing the cliff to wear away.
- Attrition – Pebbles hit against each other and break down into smaller, rounded particles.
- Corrosion – Minerals are slowly dissolved in the water.

Erosional Landform: How are Caves, Arches, Stack and Stumps formed?

- Weak areas are attacked by waves and opened to form a CAVE due to erosion.
- Cave widened and deepened by erosion to form an ARCH.
- As the roof of the arch is continually undercut it eventually collapses leaving an isolated STACK.
- Stack is continually eroded to eventually form a STUMP.

Depositional Landform: How are Spits formed?

- Longshore drift moves material along the coastline through swash and backwash.
- Spits form when material is deposited as cliffs change direction.
- The spit develops a hook if wind direction changes.
- Waves cannot get past a spit, creating a sheltered area called a salt marsh.

Y10 Geography 5

Key words…

Hydrological Cycle – The continuous flow of water between the earth's surface and the atmosphere

Drainage Basin – The area a river collects its water from – also called catchment area

Discharge – The amount of water flowing through a river channel – measured in cubic metres per second (cumecs)

Erosion – Wearing away of the landscape (e.g. rivers / coasts)

Transport – The movement of material through the landscape (e.g. rivers / seas)

Deposition – Laying down of material in the landscape when the energy carrying the material reduces (e.g. rivers / coasts)

Hard Engineering – Artificial structures to defend against flooding such as sea walls or concrete river embankments

Soft Engineering – Method of reducing floods by planting trees or allowing areas to flood naturally

How do rivers erode material?

Hydraulic Action: Water/air are forced into gaps in rocks causing them to break

Abrasion: Rocks carried by the river, wear away of the landscape by friction

Attrition: Rocks hit against each other making them smaller and rounded

Corrosion: The wearing away of the landscape by chemical processes

How is material transported in rivers?

Traction: large boulders and rocks rolled along the bed

Saltation: small pebbles and stones bounced along the bed

Suspension: fine light material Carried along in the water

Solution: minerals dissolved in the water and carried in solution

What is deposition?

The process of deposition creates layers of sand and gravel that are often sorted by sediment size as the larger material is deposited first and the finer material (pebbles and sand) are deposited last.

How do waterfalls form – upper course

Waterfalls often form in the upper stages of a river where it flows over different bands of rock. It erodes soft rock more quickly than hard rock and this may lead to the creation of a waterfall. Formation of a waterfall: The soft rock erodes more quickly, undercutting the hard rock.

How do meanders form – middle course

The formation of meanders is due to both deposition and erosion. The force of the water erodes and undercuts the river bank on the outside of bend where water flow has most energy due to decreased friction. This will form a river cliff.

What are the causes of flooding?

Impermeable rock – these rocks do not let water through so water is forced into the river as surface runoff

Saturated soil – if heavy rainfall has fallen earlier the soil may become saturated forcing water to run directly into the river

Steep slopes – rain falling onto steep slopes is unable to enter the soil so runs as surface runoff into the river

Deforestation – cutting trees reduces interception and so more water directly enters the river

Urbanisation – rain falling on concrete/tarmac is unable to soak into the ground

How can flooding be managed?

Hard engineering – more expensive and has a greater impact on the surrounding landscape as they aim to control the flow of the river (e.g. dams, flood barriers)

Soft engineering – cheaper and long-term and *sustainable*, with less impact on the environment as they work with the river (e.g. afforestation)

What is a storm hydrograph?

Peak Discharge - maximum flow of water recorded in a river during a flood event

Peak Rainfall – maximum level of rainfall recorded during a flood event

Lag Time – difference in time between peak rainfall and peak discharge during a flood event

Y10 Geography 6

Key Terms…

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Discharge – The amount of water flowing through a river channel – measured in cubic metres per second (cumecs)

Erosion – Wearing away of the landscape (e.g. rivers / coasts)

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Deforestation – cutting trees reduces interception and so more water directly enters the river
Urbanisation – rain falling on concrete/tarmac is unable to soak into the ground. Drains quickly direct the water into the river

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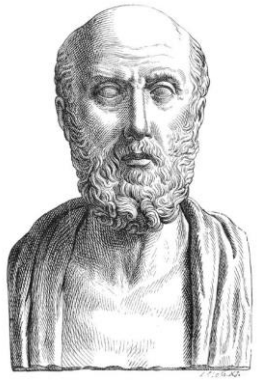
Y10 History 1 – Medicine stands Still

Hippocrates and Galen	• The ideas of Hippocrates (Ancient Greece) and Galen (Ancient Rome) were incredibly influential for centuries and even millennia after they died • In particular, Hippocrates' theory of the Four Humours was believed by medical doctors: the idea that any of the 'Four Humours' of the body (blood, black bile, yellow bile, phlegm) being out of balance would cause illness • For example, bloodletting was a common treatment for having 'too much blood', whereas drinking red wine would be a treatment for 'not having enough' • Galen advanced Hippocrates' ideas by dissecting animals such as monkeys, but never dissected a human – the church fully endorsed Galen's ideas
Medieval medicine	• There were many people to go to if you were ill – for example, the local wise woman, barber-surgeons (who performed minor operations and bloodletting), and (if you could afford it), a university-trained doctor • Medieval doctors followed the Ancient Greek method of 'clinical observation) to diagnose (identify) the disease • They would normally only check the pulse and check the colour, smell, and taste of the patient's urine • After the diagnosis, natural medicines, such as from plants, would be prescribed
Medical progress	• Mainly because of the influence of the medieval Church in believing Galen's ideas, the progress of medicine was limited during this time period • For example, the Church massively disapproved of human dissections • Normally, only progress could be made by pioneers who tried new methods • Using natural anaesthetics (such as opium) was risky because of overdoses, and cauterisation was a very common method of burning a wound to stop the flow of blood
Christianity	• The Church believed that looking after the sick was a Christian duty, and founded many hospitals • Because there was a strong belief that disease was sent as a punishment from God, prayer was the most important treatment • Because the Church believed in Galen's books, they endorsed his ideas – anybody seen as criticising Galen would also be seen as criticising the Church • Ultimately, the Church saw the role of the doctor as not a healer, but as someone who could predict the symptoms and duration of an illness, and provide reasons as to why God might have inflicted the illness on that person
Islam	• During the height of Islam's culture and learning from c750-1050, Islamic doctors made great contributions to medical knowledge • Unlike Christianity, Muslims were encouraged to discover cures – 'For every disease, Allah has given a cure' • Also, unlike Christians, Muslims treated patients with compassion, as they did not see illness as a punishment • Al-Razi (c865-c925) believed that all students should improve on the work of their teacher, stressed the importance of clinical observation, distinguished measles from smallpox for the first time, and wrote over 150 books (including one called Doubts about Galen) • Ibn Sina (980-1037) wrote a great encyclopaedia of medicine called Canon of Medicine, which was over a million words long and covered the whole of ancient Greek and Islamic medical knowledge at the time
Medieval towns	• Medieval towns were typically very dirty places – sometimes people just threw their toilet waste onto the street, along with other rubbish • There was a lack of sanitation because people had no idea about germs – they thought disease was carried by bad air (the theory of Miasma) • Often, sewage from cesspits polluted the local rivers and wells • Some medieval town councils tried to keep the environment clean and healthy by removing rubbish, but it was not easy to maintain cleanliness
Monasteries	• Unlike towns, monasteries had excellent facilities for washing, where waste water could be emptied into a river • Monks were very educated and very disciplined – they were trained in the use of herbs for healing, and had access to medical books • Monasteries were also built a long way from towns – isolation was good, as it reduced the chance of catching diseases from towns.
Black Death	• The Black Death was an epidemic disease that reached England in 1348, and wiped out around 40% of Europe's population • The disease is said to be a combination of the Bubonic (spread by fleas) and the pneumonic (spread by contact with an infected person's breath or blood) plagues • People believed several things about the causes of the Black Death, such as the position of the stars and planets, bad air (miasma), punishments from God, and the poisoning of wells by Jews – these were all untrue.

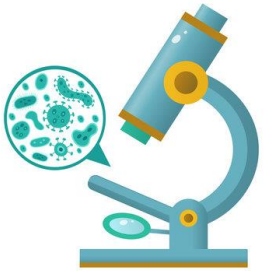


Key Terms

1. Antibiotic
2. Reform
3. Welfare
4. Want
5. Squalor

Y10 History 2 – Beginnings of Change

The Renaissance	• Renaissance' is a French word for 'rebirth' • Indeed, the time period of roughly 1300-1600 was a rebirth of ideas – specifically, this is the time period when religious ideas would finally be challenged (including Galen's!) • New inventions such as the microscope aided scientific discovery, and the printing press made the spreading of medical ideas much easier!
Vesalius, Pare and Harvey	• **Paré**: 16th century French army surgeon - found an alternative to the dangerous process of cauterisation (burning wounds to stop bleeding/prevent infection) by using a healing solution made from oil of roses to dress the wounds for effective healing • **Vesalius**: 16th century Flemish surgeon – carried out own dissections as he believed that anatomy was the key to understanding how the human body worked • **Harvey**: 16th/17th century English physician – discovered that blood circulated around the body, contradicting Galen's idea that the liver made new blood to replace that lost around the body
Great Plague	• The Great Plague of 1665 is often compared with the Black Death of 1348 • Indeed, there were many similarities – most people still thought the plague was a punishment from God, or due to the movement of planets, or miasma • There was still no cure, but there was more organisation in terms of trying to stop the spread of the plague, i.e. quarantine, and trade between towns with the plague stopped
18th Century hospitals	• Prior to the 18th Century, hospitals were places of care rather than cure • However, at this time, the idea of modern hospitals using modern methods to cure patients began, along with the training of doctors • They were founded and supported by the charity of the rich • Although much treatment was still based on the four humours approach, there were new hospitals set up for specific ailments, i.e. mental illness, venereal disease, and maternity
John Hunter	• John Hunter (18th century surgeon) was known as a 'father of anatomy', and spent many hours dissecting bodies to understand how they worked – he also kept a huge collection of 'anatomical specimens' to study from
Thomas Sydenham	• Thomas Sydenham (17th century physician) was known as the 'English Hippocrates', due to his belief in the Four Humours, and in careful observation of the patient
Edward Jenner and vaccination	• Before 1796, inoculation had been the fashion in Britain – infecting oneself with a small, live amount of a disease (by scratching it into the skin) in order to build up one's immune system to the disease • However, the amount could be fatal, and in 1796, country doctor Edward Jenner discovered a safer way – vaccinations • He discovered that milkmaids who had previously had cowpox (a much milder form of smallpox) could not get smallpox (a massive killer of the time), and proved this theory correct by infecting local people • He knew it worked, but did not understand how, and faced much opposition – mainly from inoculation doctors who were losing money. Vaccinations for smallpox eventually became compulsory in 1853



Key Terms

1. Renaissance
2. Reform
3. Vaccination
4. Want
5. Squalor

Y10 History 3

GCSE History: A Revolution in Medicine 19th Century

In the 1800s, industrial towns grew rapidly leading to significant public health problems	• Overcrowding was a common problem. A large family might live in one small room and share toilets and water pumps with many families. Infectious diseases such as typhus and typhoid spread quickly. • There were very few safety rules in the workplace. Many people worked in dangerous environments and became ill. For example, chimney boys suffered from scrotal cancer from soot particles and coal miners from pneumoconiosis from breathing in coal dust. • There was no regulation of food or hygiene. Milk might be watered down and re-coloured using chalk powder.
John Snow proved that cholera was caused by infected water	• Britain faced many deadly cholera epidemics between 1831 and 1866. Cholera causes watery diarrhoea and sickness leading to rapid dehydration and death. It was greatly feared. • People did not know what caused cholera. The common explanation was miasma (bad air). John Snow thought differently. In 1849 he wrote a book arguing it was caused by infected water. • During the 1854 epidemic, John Snow proved the link between cholera and dirty water; • He did house to house interviews and mapped the location of each cholera case. • He worked out which water pump the infected houses used. He removed the handle of that water pump. The outbreak ended. • Further exploration found that the lining of the nearby cesspit had cracked. Its contents had leaked into the drinking water. • Snow's discovery was made before Pasteur published his germ theory.
Individuals played a significant role in public health reform in the 1800s	• William Farr introduced compulsory registration of births, marriages and deaths in 1837. This meant the authorities were more aware of health problems. • Thomas Southwood Smith studied diseases caused by poverty. His work was used by Edwin Chadwick as evidence for the need to improve public health. • Edwin Chadwick was the Secretary to the Poor Law Commissioners. He researched living conditions and health of the poor in towns. He published his findings in his Report on the Sanitary Conditions of the Labouring Population. He linked poverty to poor living conditions.
Government attitudes changed and laissez-faire was replaced by legistlation	• In the early 19th Century the government followed a policy of laissez-faire (the government should not interfere in people's lives). • Attitudes were gradually changed by a combination of the growing evidence of health problems in industrial cities, cholera epidemics, the Great Stink of 1858 and the pioneering work of individuals. • Public health laws were introduced in the second half of the 19th Century.
Public Health Acts	• 1848 Public Health Act – Voluntary. Allowed councils to raise money to improve conditions in their town. However, very few opted to use this power. • 1864 Factory Act – Unhealthy conditions in factories became illegal. • 1866 Sanitary Act – Local authorities became responsible for sewers, water and street cleaning. • 1875 Food and Drug Act – Regulated food and medicine. • 1875 Public Health Act – Compulsory. It forced local councils to provide clean water and appoint medical officers of health and sanitary inspectors.

Y10 History 4

Introduction to womanhood in Elizabethan England:
-It was very ***stereotypical.***
-On average, a woman gave birth to a child every two years, but as a lot of babies and children died from sickness, families were not always large.
-Elizabethan society was **patriarchal**, meaning that men were considered to be the leaders and women their inferiors. Women were regarded as "the weaker sex", not just in terms of physical strength, but emotionally too.
-Women not seen as powerful enough to rule as queen, this raised issues of marriage for Elizabeth.
-Women linked to the original sin of Eve.

Great Chain of Being:
-People believed that God had put them there, and that is why they were rich and poor.
-It was a way to blame the poor for being poor, but also a way to encourage the rich to give to charity.

The Gentry: Gentry houses were surrounded by gardens, orchards & estate farms. Their owners, always had plenty of food & a rich & varied diet. Around 2% of the population, were rich gentlemen, but they owned half the land.

Middling sort: These people were craftsmen or tradesmen, who had successful businesses in the towns. Sometimes, they governed their own village, or looked after the church.

The labouring poor: Half the population, who earned their living in the countryside. They went from place to place, looking for work (called vagabonds) They would struggle to pay their rent, buy food & fuel, during these times.

Key Words

1. Patriarchal
2. Poverty
3. Armada
4. Exploration
5. Propaganda

Elizabeth's image: Elizabeth has the struggle of being a woman. Grew up as a child in the weakest position. She was deemed illegitimate, her brother was the true heir, her sister, although in a similar position, has powerful relatives along the continent. Elizabeth learned that the only person to protect her was herself.
Her image became the most important. She had two key images:

'Gloriana' is from Spenser's 'The Faerie Queene', which was Arthurian fantasy literature that made allegorical references to recent history and prominent people, **Gloriana** was one of the characters Spenser meant to allude to **Elizabeth** herself. She liked it and gave Spenser a pension of £50 a year to complete it.

'The Virgin Queen' - Married only to her country, pure.

Power:
The Privy Council (P.C.): These were the most trusted courtiers. They would advise her on matters, such as; finance, law, trade & defence.
-Parliament: Not like today, met and discussed less important matters, were wealthy landowners.
- **Lord Lieutenant**: responsible for each county.
- JPs: Did the most to keep Elizabethan society running. Usually from educated gentry families.

Why was there a conflict with Spain?
Marriage: Elizabeth Refused Phillip II.
Religion: The Papal Bull excommunicated Elizabeth.
Sailors: Francis Drake had attacked the Spanish for years, there had been many issues in the Americas.
Mary Queen of Scots: The beheading of a Catholic Queen.

Why did the Spanish Armada fail?
English Tactics: The fire ships broke the formation of the ships. The bombardment by the English cannons. The English had faster ships and experienced commanders.
Spanish mistakes: Spanish ships were designed for the Mediterranean. They were delayed in the Netherlands because the soldiers were not ready. Brought many of the wrong cannonballs. Commanders inexperienced.
Weather: Storms caused great destruction to the Spanish fleet.

Religious problems:

In February 1570, **Pope** Pius V declared that **Elizabeth** was a heretic and, as such, she was **excommunicated** by way of a Papal Bull (order). The Bull released Catholics from any loyalty to **Elizabeth** and called upon them to remove her from the throne.

This led to a series of plots against Elizabeth that strove to depose her and replace her with Mary, Queen of Scotts.

Examples of plot: Babington Plot, Ridolphi Plot

Spanish Armada: An attempted invasion of England by Catholic Phillip II of Spain to win back England for the Pope and avenge Mary Queen of Scots.

Y10 History 5

Exam guidance

There are three types of question on this paper, plus an essay question on the historic environment (this is part of the AQA British depth study):

- [Interpretation A] How convincing is A about…? (8 marks)
- Explain why... (8 marks)
- Write an account of the... (8 marks)
- Write an account of the importance of... (16 marks)

[Interpretation A] How convincing is A about…? (8 marks)
This type of question assesses your analysis of an interpretation, such as a photograph or painting, and your contextual knowledge of the topic.
e. g. How convincing is Interpretation A about Elizabeth I's relationship with Mary, Queen of Scots?

Explain why…? (8 marks)
This type of question is focussing on one of the key concepts of cause and consequence, or change and continuity.
e. g. Explain why the theatre was important for Elizabethan England.

How convincing is Interpretation A about Elizabeth I's relationship with Mary, Queen of Scots?

This is an interpretation of Elizabeth I signing the death warrant of Mary, Queen of Scots in 1587.

The picture was drawn in 1911.

Explain your answer using Interpretation A and your contextual knowledge.

Write an account of the…? (8 marks)
This type of question is focussing on one of the key concepts of cause and consequence, or change and continuity.
e. g. Write an account of the importance of Elizabeth's defence of the English religious settlement.

Write an account of the importance of…? (16 marks)
(SPaG: 4 marks)
This final question requires you to produce a complex argument in response to a statement, using the **second-order concepts** of change and continuity or cause and consequence. You should give a balanced answer that considers ways in which the statement could be valid and ways in which it is not.
e. g. 'The theatres of Elizabethan England showed the new unity of society in the 'Golden Age'.'
How far does a study of ____ support this statement?
Explain your answer.
You should refer to ____ and your contextual knowledge.
This question relates to a historic environment, chosen from a changing list provided by the exam board each year. The kind of statement given in the exam paper will vary according to whether the environment is a stately home, a church or a site.

Guidance on structuring answers
Consider using a PEEL structure for your paragraphs:
P = Point
The first sentence of each paragraph should clearly state the point of the paragraph which in turn should be directly connected to the overall theme of the question. Be precise and clear about what you will be discussing.
E = Evidence
Provide evidence to support your point and the theme of the answer. Make the evidence specific, eg use key terms, dates and names. Be precise with the facts – don't generalise.
E = Explain
Interpret the evidence and show how it agrees or disagrees with the question theme.
L = Link
When providing the link sentence at the end of your paragraph you are not only linking back to the rest of the paragraph and the main idea but you are also allowing for a transition to the next topic or paragraph.

Key Terms

Interpretation
Consequence
Convincing
Assess
Contextual

Y10 History 6

Alliances	• **Triple Entente** – Britain, France, and Russia • **Triple Alliance** – Germany, Austria-Hungary, and Italy
Morocco 1905	• 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 **Triple Entente** soon after.
Morocco 1911	• 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	• 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	• 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…

- **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.

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.

Key Terms

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

Y10 Health and Social Care

Health and Social Care Knowledge Organiser:
Component 1 Human Lifespan Development Learning
Aim A: Understand human growth and development across life stages and the factors that affect it How do people grow and develop throughout their lives? How can factors such as lifestyle choices, relationships affect this? Understanding these processes is essential knowledge and understanding for health and social care practitioners

A1 Growth and development across life stages

Lifestages
1. Infancy (0 – 2 years)
2. 2. Early childhood (3 – 8 years)
3. 3. Adolescence (9 – 18 years)
4. Early adulthood (19 – 45 years)
5. Middle adulthood (46 – 65 years) 6. Later adulthood (65+ years)

Holistic Development
1. Physical development – Physical growth and physiological change
2. 2. Intellectual development – Developing thinking and language skill and common activities that promote learning and development
3. Emotional development – Developing feelings about self and other
4. Social development – Forming relationships

A2 Factors affecting growth and development

Physical factors
a) Genetic inheritance
b) Diet and lifestyle choices c) Experience of illness and disease
d) Appearance

Social, Cultural and emotional factors
- Educational experiences
- Culture, e.g. community involvement, religion, gender
- Influence of role models
- Influence of social isolation e) Personal relationship with friends and family

Economic factors:
a) Income/ wealth
b) Material possessions

Learning Aim B: Investigate how individuals deal with life events

1 Different types of life events.
Physical events
a) Accident/ injury
b) b) Ill health
Relationship changes
a) Entering a relationship
b) Marriage
c) Divorce
d) Parenthood
e) Bereavement

Life circumstances
a)Moving house, school or job
b) Exclusion from education
c) Redundancy
d) Imprisonment
e) Retirement

B2 Coping with change caused by life events

How individuals adapt to these changes
Sources of support
a) Family, friends partners
b) Professional carers and services
c) Community groups, voluntary and faith based organisations

Types of support
a)Emotional
b) Information advice
c) Practical help, e.g. financial assistance, childcare, transport

Key words:
1. Development
2. Redundancy
3. Culture
4. Intellectual
5. Physical

Y10 Health and Social Care

Health and Social Care Knowledge Organiser: Component 2 Health and Social Care Services and Values Learning
Aim A: Understand the different types of health and social care services and barriers to accessing them learning.
Aim B: Demonstrate care values and review own practice Providing good health and social care services is very important and a set of 'care values' exist to ensure this happens. Care values are important because they enable people who use health and social care services to get the care they need and to be protected from different sorts of harm

A1 Health and social care services

Different health care services and how they meet service user needs
a. Primary care, e.g. dental care, optometry, community health care
b. Secondary & tertiary care, e.g. specialist medical care
c. Allied health professionals, e.g. physiotherapy, occupational therapy, speech and language therapy, dieticians
Different social care services and how they meet service user needs
a. Services for children and young people, e.g. foster care, residential care, youth work
b. Services for adults or children with specific needs (learning disabilities, sensory impairments, long-term health issues) e.g. residential care, respite care, domiciliary care
c. Services for older adults, e.g. residential care, domiciliary care
d. Role of informal social care provided by relatives, friends and neighbour

A2 Barriers to accessing services

Types of barriers and how they can be overcome by the service providers and users
a. Physical barriers, e.g. issues getting into and around the facilities
b. Sensory barriers, e.g. hearing and visual difficulties
c. Social, cultural and psychological barriers, e.g. lack of awareness, differing cultural beliefs, social stigma, fear of loss of independence
d. Language barriers, e.g. differing first language, language impairments
e. Geographical barriers, e.g. distance of provider, poor transport links
f. Intellectual barriers, e.g. learning difficulties
g. Resource barriers for service provider, e.g. staff shortages, lack of local funding, high local demand h. Financial barriers, e.g. chargin

B1 Care values

Empowering and promoting independence by involving individuals, where possible, in making choices
2. Respect for the individual by respecting service users' need, beliefs and identity
3. Maintaining confidentiality
4. Preserving the dignity of individuals to help them maintain privacy and self-respect
5. Effective communication that displays empathy and warmth
6. Safeguarding and duty of care
7. Promoting anti-discriminatory practice by being aware of types of unfair discrimination and avoiding discriminatory behaviour

B2 Reviewing own application of care values

Key aspects of a review
a. Identifying own strengths and areas for improvement against the care values
b. Receiving feedback from teacher or service user about own performance
c. Responding to feedback and identifying ways to improve own performance

Key words:
1. Services
2. Individual
3. Identity
4. Psychological
5. Intellectual
6. Resource

Travel and Tourism Component 1: Travel and Tourism Organisations and Destinations

Topic: Accommodation Services

Hotels chains

There are many hotel chains that operate throughout the tourism industry and that are a key component of tourism.

Multinational corporations have expanded throughout the tourism industry with key players being hotel chains such as Marriott, Radisson, Hilton, Travel Lodge and Holiday Inn.

However, hotel chains such as these have come under increased scrutiny as a result of the economic leakage in tourism that they cause.

Hostels and budget accommodation

Hostels and budget accommodation options are popular with budget travellers and backpackers.

There are a range of hostels found throughout the world. These are particularly popular in destinations where accommodation is expensive, such as London, New York and Singapore.

The Youth Hostel Association (YHA) and Hostelling International are popular hostel providers that are found across the UK and overseas

Holiday parks and campsites

Billy Butlin changed the face of the British holiday market with the introduction of his seaside holiday parks back in 1936. Since this time, other similar chains have expanded throughout the UK and the rest of the world. Camping is also an important component of tourism. There are camp sites situated throughout the world ranging from safari camps to glamping (glamorous camping

Key words:

Accommodation
Tourism
Tour Operator
Travel Agent
Transport Holiday
Retailer
Infrastructure
Epidemic
Industry
Budget
Travellers
Glamping
Multinational, National, Regional, Local Component Package, Holiday, Hybrid work

Topic: Transport Services

Travel by air

Travel by air has grown exponentially in the past few decades. With the introduction of low cost airlines and deregulation, the competitive market has been a tourist's paradise. New routes opening up has introduced tourists to areas that they may never have been able to reach before and low prices have resulted in more of us taking more trips abroad using air travel as our means of transportation. Travel by air is an essential component of tourism and this was demonstrated during the Coronavirus epidemic. During this time most air traffic was halted, which had a devastating impact of the tourism industry world-wide.

Travel by road

Travel by road is also a core component of tourism, particularly for domestic tourism.

Travel by road is more popular in some countries than others. This largely depends on accessibility options (i.e. what is accessible by road), distances required and road conditions. In destinations where travel by road is popular, there are often many car hire or rental companies.

Travel by train

Travel by train is very popular in destinations that have good rail networks in infrastructure. In some parts of the world, such as China and Japan, there are world-class high-speed railways that can be more efficient than flying. In other parts of the world, the rail journey is part of the tourism experience. A good example of this is the Siberian Railway. In Europe you can buy an affordable interrail pass, which allows you to travel throughout Europe using the rail system. Travel by water Travel by water is also an important component of tourism. The structure of the tourism industry includes cruises, ferries and leisure boats, among other types of travel by water. Travel by water can vary considerably in price and can include anything from a round the world cruise to a short long tail ride in Thailand

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Travel and Tourism Component 2: Global influences on travel and tourism requires learners to apply their knowledge and understanding of the factors influencing tourism, the impact of tourism on destinations and destination management to travel and tourism contexts.

Types of Customer

Internal customers:
Definition: 'Those who you directly work with to ensure excellent service is given to external customers'.

- Colleagues and staff with whom you can work closely
- Supervisors and managers
- Directors and owners
- Staff and other locations
- Suppliers

New customers:
If the organization is new, the customers are new.
The organization will be unfamiliar with needs.

Demographic: Customers who are divided based on age, gender, income, education, and other demographic factors.

Geographic: Customers who are segmented based on location, such as country, region, or city.

Psychographic: Customers who are divided based on their lifestyle, interests, values, and personality traits.

Business: Customers who want service, speed, and convenience with less emphasis on price.

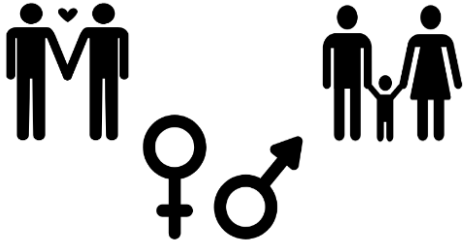
Luxury: Customers who are willing to pay a premium for the ultimate experience, desire a peaceful and relaxing experience.

Family: Customers who are looking for convenience, amenities, and activities for children and adults.

Families
By life stage, these consumers take the most holidays, with **young families (i.e. children under 5) taking an average 2.4 domestic breaks and older families (children over 5) taking 2.7 per year**.
As a consumer group, families can be difficult to please, mostly due to the fact that their needs represent those of a multi-generational group.
In 2017, **40% of bookings were for immediate family members only with a further 21% including extended members as well**.
This means that you'll need to balance priorities ranging from price and activities, to child-friendly amenities and services.
Children are a huge factor when it comes to where and how their families travel, with around 77% stating that their children "highly influenced" the planning of activities, and 54% saying that they helped choose the hotel.

The business or solo traveller
In the UK alone, **business travel accounts for £39 billion, which is set to rise over the next ten years at 3.7% per annum**.
Furthermore, what starts as a simple business trip for many consumers actually leads to a **hybrid form of travel now known as "bleisure", as 49% of corporate guests extended their stay this year to enjoy themselves**.
This new trend is particularly prominent amongst millennials, considering that 80% of working professionals in this age range have planned personal time around their work plans.
Although these guests have begun showing an interest in shared economy platforms, with 25% having made an Airbnb booking and a further 44% considering it for the future, if you provide the right loyalty scheme, you'll soon build a lasting rapport.
Whilst those aged 65 and over are fast-becoming the most common solo traveller, with 18% travelling alone within the past 12 months, and 81% of those suggesting that they wanted the opportunity to do what they want.
Whether travelling for work or pleasure, the solo traveller will require space, access to Wi-Fi, value for money and convenience.

Y10 RWP 1



Types of Family

- **Nuclear Family** is a family with a mother, father and children – some Christians argue this is the ideal

- **Extended Family** is a family where grandparents and other relatives are involved

- **Single Parent Family** this is a family where one parent brings up the child

Sexual Orientation

- The Roman Catholic church teaches that sex between people of the same gender is 'disordered'

- They argue that **homosexual** relationships are banned by the Bible

- Liberal Christians teach that Jesus wanted people to love each other and show **mercy** and that we should be accepting of homosexuals

- **Gay marriage** is banned in the Catholic Church and Church of England

"Do not have sexual relations with a man as one does with a woman" – Leviticus 18:22

Artificial contraception:

- **Artificial contraception** means using something to stop yourself from getting pregnant. This could be a condom, the pill or a device like the coil.

- **Family planning** means using the natural cycle of fertility which women go through to predict when a woman would be least fertile. It is much less effective than artificial contraception.

- God tells Adam and Eve (the first couple) to "*be fruitful and multiply"* (Genesis 1:2) which encourages them to have children.

☒ The ***Catholic Church*** argues that all sexual acts inside marriage must be open to **procreation** (having babies) and that a baby is a gift from God. They may use family planning as it is a natural method.

☑ The ***Church of England*** argues that contraception should be allowed so that couples can take time and consider if they want to have children.

Adultery and Sex Outside Marriage

- Roman Catholics argue that all **sex before marriage** and after a divorce is unacceptable. Sex should only take place inside a marriage which is a lifelong, loving relationship.

- **Adultery** means the act of having sex with someone who is not your husband or wife.

- It is prohibited by the Bible and Christians argue it is wrong as it undermines marriage involves lies and secrecy.

"You shall not commit adultery" - Exodus 20:14

- **Marriage** is a religious and legal ceremony in which two people make **vows** (promises) in front of their friends and family and (if in a church) in front of God

- During the ceremony you agree to be **together for life** saying "*til death do us part"* (Marriage Ceremony)

- **Divorce** is the legal break-up of a marriage. It is **legal** in the UK and many marriages currently end in divorce.

- Many Christians do not like it as it is seen to **break the promises** made in a marriage

☒ The ***Catholic Church*** do not support divorce. They believe that sex after divorce is a form of adultery and you cannot get remarried in a Catholic Church once you have been divorced. Jesus says *"if a man divorces his wife [...] he involves her in adultery"* (Matthew 5:32)

☑ The ***Church of England*** accepts divorce, especially if it is for reasons of abuse but you have to receive special permission to get remarried in a church. They might see it as a merciful option.

- **Gender equality** means that men and women should be equal and given the same rights and opportunities as each other

-In the UK women can face gender **prejudice and discrimination** where they are not treated equality

- The **Catholic Church** argues that women have a special role as mothers and they do not allow women to be priests

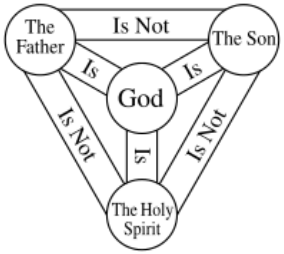
- The **Church of England** has allowed women priests since 1994

Key Terms

Marriage
Homosexual
Contraception
Gender
Equality

Y10 RWP 2

SECTION A: KEY WORDS	
Denomination	A distinct group within the Christian faith e.g. Catholic: branch of Christianity led by the Pope in Rome Protestant: there are many Protestant denominations. They believe the Bible is the only authority for Christians.
Monotheism	Belief in one God.
Omnipotent	God is all-powerful
Omnibenevolent	God is all-loving
Omniscient	God is all-knowing
Transcendent	God knows no limits. He is not beyond human understanding. He is both of this world and of the universe.
Justice	Bringing about what is right and fair according to the law.
Trinity	The belief that there are three persons in the One God; the Father, the Son and the Holy Spirit
Creation	The act by which God brought the universe into being.
The Word	Term used at the beginning of John's gospel to refer to the Son of God.
Incarnation	Becoming flesh. Taking on human form.
Resurrection	1. Rising from the dead. 2. Jesus rising from the dead on Easter Sunday.
Blasphemy	A religious offence which includes claiming to be God.
Crucifixion	1. Roman method of execution. 2. The method used to kill Jesus on Good Friday.
Ascension	When Jesus returned to Heaven 40 days after his resurrection.
Heaven	A state of eternal happiness in the presence of God; the place of eternal peace rules over by God.
Hell	The place of eternal suffering or the state of being without God.
Purgatory	The intermediate state where souls are cleansed in order to enter Heaven.
Satan	Name for the devil – power and source of evil.
Afterlife	What Christians believe follows life on Earth.
Day of Judgement	A time when the world will end and every soul will be judged by God and rewarded or punished.
Forgiveness	Showing grace and mercy and pardoning someone for what they have done.
Atonement	Restoring the relationship between people and God through the life, death, and resurrection of Jesus.
Mass	Ceremony, also called the Eucharist, in which the sacrificial death and resurrection of Jesus is being celebrated using bread and wine.



Y10 RWP 3

Christianity Beliefs & Teachings

Key ideas

The nature of God	Christians believe in **one God** who is the creator and the sustainer of all that exists. God is **omnipotent** which means they are almighty and have unlimited power. God is **benevolent** which means they are all-loving and all-good. God is **just** which means they are a perfect and fair judge **The Problem of Suffering** asks: if God is all these things why do they allow bad things to happen to good and innocent people?	
The Trinity	- Christians believe God is three persons in one. This idea is called the Trinity. Each person of the Trinity is fully God but the three persons of the Trinity are not the same. The Father is the creator of all life. The Son is Jesus Christ who is both fully human and fully God. The Holy Spirit is the unseen power of God at work in the world, especially answering prayers "We believe in one God, Father, Son and Holy Spirit" – The Nicene Creed	
Crucifixion & Incarnation	**Crucifixion** Jesus travelled to Jerusalem to preach and he was sentenced to death by Pontius Pilat. Jesus was then nailed to a **cross** where he died. In his last moments Jesus was able to forgive those who were killing him showing Christians how important **forgiveness** is. This event is remembered on Good Friday *"Forgive them father, they know not what they do"* – Luke 23:34	**Incarnation** Christians believe that God was **incarnated** (born) in human form as **Jesus Christ. Mary** was impregnated by the Holy Spirit and gave birth as a virgin – for Christians this is proof of Jesus' status as the son of God. **Christmas** is the festival that celebrates the incarnation *"The word became flesh"* – John 1:14
Resurrection & Ascension	**Resurrection** After Jesus was dead and buried Christians believe he **rose from the dead** – this is the **resurrection.** Early on the Sunday three women visited his tomb expecting to find his body but it was not there. After his resurrection Jesus appeared to his disciples and told them to spread the word of him. This event is celebrated on **Easter Sunday** *"He is risen"* – Christians say this to each other on Easter Sunday	**Ascension** - Forty days after he rose from the dead Jesus **ascended** (went up) into heaven
Sin & Salvation	Christians believe you are **judged** after you die (see Religion and Life) and how well or badly you have lived and treated others decides if you go to **heaven** or **hell** - **Sin** is any action or thought that goes against God's will, Christians can look in the Bible for advice on what is a sin e.g. murder (you shall not kill) and adultery (cheating, you shall not commit adultery) - God gave humans **free will** but they should use that freedom to make good choices and not sin - **Salvation** is the idea that Jesus's crucifixion saves human beings from eternal damnation - The death of Jesus made up for **original sin** – the idea that we were all damned by Eve's choice to disobey God – it allows us to atone for sins and reach eternal life in heaven	








Y10 RWP 4

Theme D: Religion, Peace & Conflict

Reasons for War

Greed
To gain more land or to control important resources such as oil or gas.
e.g. The UK and US invading Iraq in order to control oil resources

Self-Defence
To defend one's country against invasion or attack or to protect allies who are under attack
e.g. UK threatened by Nazi invasion in WWII Retaliation

To fight against a country that has done something very wrong or to fight against a country that has attacked you
e.g. US invading Afghanistan in retaliation for 9/11

Holy War

A Holy War is a war which is fought for religious reasons, often with the backing of religious leaders. An example of this was the Crusades fought from the 11th-14th Century by Christians, backed by the Pope.
Religion can still be a cause for war today such as in Northern Ireland where Protestant and Catholic Christians fought a civil war between 1968-98.

Just War Theory

Just War Theory is a Christian moral theory for working out if a war meets internationally accepted criteria for fairness. These are some of the conditions that must be met in order for a war to be just:

- Just Cause – fought in self-defence or to protect others
- Just Intention – fought to promote good and defeat wrongdoing
- Last Resort – only going to war if all other methods have been tried first
- Proportional – excessive force should not be used and innocent civilians must not be killed

Christians try to follow Jesus' teaching that "blessed are the peacemakers"
Christians try to show mercy and agape to victims of war and provide them with assistance.
This can be through charity or through welcoming them into their churches. It can be victims in their own country or refugees such as people fleeing from Syria or Yemen.
This is an example of 'love your neighbour' in action.

Protests

The right to gather together and protest is a fundamental democratic freedom.
UK law allows for peaceful public protest but sometimes protects can turn violent and become a riot.
Christians often protest unjust laws or for other forms of justice but would rarely advocate the use of violence in protest.

Terrorism

Examples of terrorism include suicide bombing, mass shootings or using vehicles to injure pedestrians.
The aim of terrorism is to make society aware of a cause or issue and to make people frightened to go about their business.
Christians don't promote political violence + believe terrorism is wrong as it targets innocent people

Nuclear War and WMD

Nuclear weapons work by a nuclear reaction and devastate huge areas and kill large numbers of people. They are a type of WMD (weapons of mass destruction) which also includes chemical and biological weapons. All these weapons are not allowed under the Christian Just War Theory and would therefore be rejected by most Christians.
Nuclear weapons were used at the end of WWII in Japan to force the Japanese to surrender. Some people say their use was justified as it prevented more suffering even though 140,000 people died.
Although some Christians justify war with 'an eye for an eye', this cannot be used to justify the use of weapons of mass destruction as they are not a proportionate response.

Pacifism and Christian Responses to War

Pacifism is the idea that all forms of violence are wrong. Pacifists such as Quakers refuse to take part in war and often choose to be a conscientious objector (someone who doesn't go to war for moral reasons) or to assist in medical tasks like ambulance driving.

Key Terms

1. Just war
2. Nuclear weapons
3. Holy war
4. Pacifism
5. Protest

Y10 RWP 5

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
Beneficent	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 brough 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 cntre 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

<u>Key beliefs</u>

- 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, beneficent, 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

<u>Authority</u>

- 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.

Y10 RWP 6

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 id 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 side for religious reasons; an act of worship and devotion
Hajj	The annual pilgrimage to Mekkah 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 Mekkah (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-Ul-Fitr	A celebration at the end of Ramadan
Eid-Ul-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 ack 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-Ul-Adha, the leftover food/ meat form the celebration is frozen or canned and given to the poor
- The next day, the pilgrims return to Mekkah 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 Mekkah. 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-Ul-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-Ul-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.

Y10 TECH AWARD 1/2 in Sport

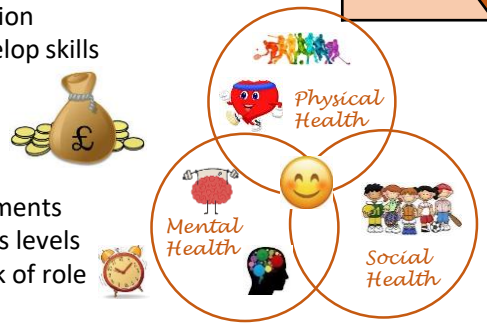
Component 1
Preparing Participants to take part in Sport & Physical Activity.

Learning Aim A: Explore types and provision of sport and physical activity for different types of participant.

Benefits of physical activity include…
- ✓ Improve fitness and physical health
- ✓ Meet new people
- ✓ Resilience, self confidence and self-esteem through competition
- ✓ Learn and develop skills

What methods could we use to address these barriers?

Barriers to participation…
- ❖ Cost – clothing, equipment
- ❖ Access – location, resources
- ❖ Time – family, school, work commitments
- ❖ Personal barriers – body image, fitness levels
- ❖ Cultural barriers – single sex sport, lack of role models



Public – local authorities, school provision	**Private –** organisations who aim to make a profit	**Voluntary –** volunteers who have a common interest in activity/sport

Advantages & Disadvantages
- ❖ Types and range of sport & activities
- ❖ Types and range of equipment
- ❖ Cost
- ❖ Accessibility
- ❖ Additional products or services e.g. crèche, refreshment facilities, access to professionals in sport

Types of participant

Old, young, people with disabilities both visual, hearing and physical, people with long-term health issues.

Learning Aim B: Examine equipment and technology required for participants to use when taking part In sport and physical activity.

Sports clothing & equipment…

Clothing & Footwear- e.g. sports kit, waterproofs, trainers, studied boots

Equipment:

Sport-specific- participation/travel related/fitness training

Protection & safety- e.g. mouth protection, headguard, ice packs

Assistive- e.g. adapted wheelchairs

Officiating- e.g. whistle, microphone, earpiece.

Facilities- e.g. gym, 3G pitch, climbing wall

Performance Analysis- e.g. smart watches, heart monitors

What technology is used to help improve participation and performance in sport & physical activity?

Limitations of using technology…
Time, Access, Cost, Accuracy of data, Usability.

Learning Aim C: Be able to prepare participants to take part in sport and physical activity.

Pulse Raiser

Mobilisers

Preparation stretch
- Static
- Dynamic

Adaptations for warm ups…

Categories of participants – e.g. lower intensity and timing for lower fitness levels and people aged 50+

Specific to physical activity – e.g. introducing equipment specific to activity e.g. football

Y10 TECH AWARD 1/2 in Sport

Component 2
Taking part and Improving Other Participants Sporting Performance

Learning Aim A: Understand how different components of fitness are used in different physical activities

Components of Physical Fitness

- Aerobic Endurance
- Muscular Endurance
- Muscular Strength
- Flexibility
- Body Composition
- Speed

Components of Skill-Related Fitness

- Reaction Time
- Power
- Static Balance
- Dynamic Balance
- Agility
- Coordination

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?

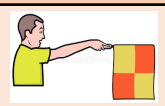
Practical Sports Rules and Regulations of Sport

- Equipment
- Number of players
- Non-adherence to rules
- Starting & restarting play
- Application by officials
- Scoring systems
- Length of time for play

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.

Officials in Sport:

Referee /Umpire	Assistant referee / line umpire	Scorers / judges	Video officials
			

Learning Aim C: Demonstrate ways to improve participants sporting techniques

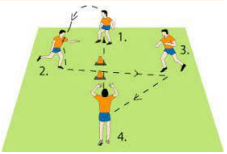
Planning

- Providing Teaching points
- Keep It Short & Simple

- Demonstrations

Organisation

- Groupings
- Equipment



- Selecting appropriate drills and conditioned practices

- Providing instructions & feedback

Develop & Improve

Y10 TECH AWARD 1/2 in Sport

Component 3
Developing Fitness to Improve Other Participants Performance in Sport and Physical Activity

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

Exercise Intensity

What do we multiply the **BORG RPE** scale number with to predict your current/perceived heart rate?

Answer : **10**

Maximum heart rate (HR):
220 – YOUR age = Max HR

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***

Effects of long-term fitness on body systems

Aerobic Endurance training:
-cardiac hypertrophy
-decrease resting HR

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.

Smarter
Measurable
Achievable
Realistic
Time-related
Exciting
Recorded

Y10 Music 1

Musical Elements (Key Terms)

Component 1

Texture
How layers of sound interact within a piece of music.
- Solo
- Duet
- Monophonic
- Homophonic
- Polyphonic
- Unison

Instrumentation
The arrangement of instruments within a piece of music.
- Instrumental Techniques
- Type of ensemble
- Alternative instrumentation
- Sonic features
- Electronic sounds

Rhythmic Techniques
The recurrence of notes and rests in time.
- Meter
- Tempo/BPM
- Syncopation
- Swing
- One drop/Skanking
- Polyrhythms
- Hemiola
- Phasing

Structure/Form
The order in which different parts in a song or piece of music. is played
- Verse/Chorus
- 12 bar blues
- Through-composed
- Bridge
- Intro
- Outro
- ABACAD

Timbre
The quality of sound and tone from different instruments
- Sonic Features
- Electronic sounds
- FX

Harmony
The sound of two or more notes heard simultaneously
- Major and Minor triads
- Power chords
- 7^{th} chords
- Sus chords
- Extended chords
- Suspensions
- Inversions
- Chord sequences
- Arpeggios
- Broken chords

Melodic Techniques
A section a music that is repeated at different pitches.
- Conjunct
- Disjunct
- Chromatic
- Diatonic
- Phrasing
- Repetition
- Sequence
- Ornamentation
- Motifs
- Round/Canon
- Riffs
- Hooks
- Improvisation

Production
The process in which music is created, captured, manipulated and distributed.
- Microphone use
- Recording styles
- Sampling
- FX
- Looping
- Controllerism
- Turntablism
- Quantisation
- Sequencing
- Automation

Tonality, Scales and Modes
The pitch in which music is written in.
- Major scales
- Minor scales
- Blues scale
- Pentatonic scale
- Modes
- Ragas
- Exotic scales

Y10 Music 2

Component 1

Rock and Roll

- Texture – Monophonic / Homophonic.
- Instrumentation –Drum kit, Electric guitar, Bass guitar and vocals. Sometimes piano!
- Harmony / Tonality – Mainly major to keep the music upbeat
- Structure/Form – Verse – Chorus structure / 12 bar blues
- Production / Timbre – Distortion
- Melodic technique – Repetitive
- Rhythmic structure – 4/4 timing, usually quick and upbeat for dancing to.

The introduction of the electric guitar was a key development in the sound of rock 'n' roll.
Teenage culture started to develop in the 1950s. Rock 'n' roll was the first style of music to appeal to the new young audience. It was often disapproved of by the older generation, and so represented a sense of youthful rebellion. Rock 'n' roll songs were meant for dancing to. They had fast tempos, simple time and syncopated rhythms in the melody.

Rock and Roll
BBC Bitesize

Y10 Music 3

Component 1

Film Music

- Texture – Dependent on the layers of music for the film genre
- Instrumentation – Orchestral or midi keyboards can be used
- Harmony / Tonality – Can be written in major or minor depending on the scene
- Production / Timbre – Produced in a studio with the composer with use of effects where needed
- Melodic technique – Leit motifs, underscoring, main themes etc
- Rhythmic structure – Can be faster or slower paced dependent on the film genre

The first film containing sound (both music and spoken dialogue) was *The Jazz Singer*, released in 1927. Since then, music has been an extremely important part of cinema.

Film composers use music to create atmosphere, sync with on-screen action, and create iconic themes associated with characters in movies.

A film composer will sit down with a director and discuss ideas for a film's soundtrack. The composer will then work on ideas for themes and other music. Once the film has been shot, the composer will write a number of '**cues**' (sections of music to be used in the film). The music will then be recorded and added to the film.

Film Music – BBC Bitesize

Y10 Music 4

Component 1

- Texture – Monophonic / Homophonic / Polyphonic
- Instrumentation – Drums, Electric bass, Electric guitar, and Keyboard
- Harmony / Tonality – Major and minor keys
- Structure/Form – Verse – Chorus structure (Strophic)
- Production / Timbre – Delay and Reverb
- Melodic technique – Repetitive and simple melodies, mainly conjunct
- Rhythmic structure – Syncopated / 4/4 time signature / Riffs

Reggae

Reggae is a unique form of rock music which originated in Jamaica. It has its roots in a number of other musical styles.
You can hear the influence of traditional Jamaican music as well as American rhythm 'n' blues, which would have been easily picked up in Jamaica in the early days of radio.
Music has always had a big role in the lives of Jamaican people. The roots of traditional Jamaican music can be traced back to African music due to number of Jamaicans who are descendants of Africans brought to the West Indies to work as slaves on sugar plantations.
There were three main musical styles that influenced reggae: Mento, Ska and Rocksteady.

Reggae – BBC Bitesize

Y10 Music 5

Component 1

African Drumming

- Texture – Polyphonic
- Instrumentation – Djembes, Talking drum, Dunun etc
- Structure/Form – The drum leader decides on the structure of the piece
- Production / Timbre – Different pitches depending on where you hit the drum
- Melodic technique – Only added when singing during performances / Oral tradition
- Rhythmic structure – Polyrhythmic / Quick Tempo

Percussive instruments are a part of life in some African societies. Traditionally they have been used for ceremonies of all occasions, from celebrating birth to respecting the dead, calling to arms in wars, religious rites and rituals and communicating across distances. Music and dance are an integral part of the African culture. They used to and still provide a valuable way to communicate with workers in the fields or pass messages to other villages. The music can vary hugely throughout Africa but has similar purposes, eg for storytelling, welcoming heroes, and religious ceremonies. Music is seen to illustrate the importance of human life, to connect people and to support the sense of community.

African Drumming - BBC Bitesize

Y10 Music 6

Component 1

Composition Skills

1. Musical/Composition Skills

These focus on the musical ideas and techniques you use when creating music.

- **Melody creation** – writing memorable, expressive melodic lines
- **Harmony** – using chords, progressions, and tonal structures effectively
- **Rhythm and metre** – creating interesting rhythms and patterns
- **Texture and layering** – combining different musical parts (e.g., counterpoint, accompaniment)
- **Form and structure** – organising music (verse, chorus, bridge, intro/outro, sections)
- **Dynamics and articulation** – controlling volume and note expression
- **Style and genre awareness** – composing music appropriate to the chosen style
- **Motif and theme development** – repeating, varying, or developing musical ideas
- **Tonality and key management** – major/minor modes, key changes, modulation

2. Technical/Software Skills

In modern music composition, technical skills are essential.

- **Music notation** – writing music clearly in staff notation or tablature
- **DAW/Sequencing software** – using software like GarageBand, Cubase, Logic, or Ableton
- **MIDI programming** – creating and editing electronic instruments
- **Recording techniques** – capturing live instruments or vocals
- **Editing and arranging** – cutting, copying, layering, and refining parts
- **Audio effects and mixing** – basic EQ, reverb, panning, and balance

3. Creative and Idea Development Skills

These skills show your ability to experiment and make musical choices.

Originality and innovation – creating unique ideas or approaches
Improvisation – generating musical ideas spontaneously
Experimentation – trying different sounds, instruments, or textures
Adapting ideas – developing rough ideas into finished pieces
Responding to a brief – composing to meet a given theme, style, or task

4. Analytical and Review Skills

Part of BTEC assessment is reviewing and improving your work.

- **Listening critically** – evaluating your own and others' music
- **Editing and refining** – making improvements based on reflection
- **Justifying musical choices** – explaining why you wrote certain melodies, chords, rhythms, or effects
- **Problem-solving** – overcoming challenges in composition or arrangement

Songwriting – BBC Bitesize

Y10 Music 7

Component 1 Performance Skills

What skills do we need to perform?

Musicians of any level can build up their performance skills. Here are four top tips.

1.Practice - Musicians have to practice to make sure they are ready to perform. Sometimes when we perform, we can get nervous. Musicians practice so that they can still play their best even when they are nervous.

2.Prepare - Make sure you have everything ready for your performance. This might include the music or setting your instrument up.

3.Express yourself - Music is a great way to share emotions and feelings. Really think about the feeling you are trying to share when you perform.

4.Enjoy it - Performing in front of others can be really fun! Your performance will bring joy to everybody listening!

Regular practice is essential to making good progress on any instrument. Much like revising different areas of study and listening to different pieces of music, time must be set aside for regular practice. However, as well as practising regularly it is important to practise effectively. Here are some suggestions for how to create an effective practice regime:

- Long term – Practice timetable
- Medium term – Aims
- Short Term – Practice sessions

Use the QR code to go into more detail on these [illegible]nd short term goals.

Performanc e Skills – BBC Bitesize

Y10 Performing Arts 1

Performing Arts – Key Vocabulary

General Performing Arts Vocabulary

- **Performance** – A presentation of work in front of an audience.
- **Rehearsal** – The practice and preparation period before a performance.
- **Production** – The overall creation and staging of a performance, including design, direction, and performance.
- **Audience** – The people who watch and respond to the performance.
- **Interpretation** – How a performer or director chooses to present a piece or role.
- **Creativity** – The ability to develop original and imaginative ideas.
- **Collaboration** – Working effectively as part of a team to create a performance.

Acting and Drama Vocabulary

- **Characterisation** – The process of developing and portraying a character.
- **Role** – The part played by an actor in a performance.
- **Improvisation** – Acting without a script; making up dialogue and action spontaneously.
- **Script** – The written text of a play or performance.
- **Blocking** – The planned movement and positioning of actors on stage.
- **Gesture** – Movement of the hands or body to express meaning.
- **Facial Expression** – Use of the face to show emotion or reaction.
- **Voice Projection** – Speaking loudly and clearly enough to be heard by the audience.
- **Tone / Pitch / Pace / Volume** – Qualities used to shape how the voice sounds.
- **Physicality** – How an actor uses body movement, posture, and presence.
- **Ensemble** – A group of performers working together as a unit.

Dance Vocabulary

- **Choreography** – The creation and arrangement of dance movements.
- **Routine / Sequence** – A series of dance steps performed in order.
- **Dynamics** – The energy and quality of movement (e.g. sharp, smooth, flowing).
- **Timing** – Performing movements in sync with music or rhythm.
- **Formation** – The positioning or pattern of dancers in space.
- **Gesture** – Movement that expresses meaning or emotion.
- **Canon / Unison / Contrast** – Choreographic devices for structuring group movement.
- **Transitions** – Smooth linking between movements or sections.
- **Motif** – A recurring movement or phrase that represents an idea or theme.

Production and Technical Vocabulary

- **Stagecraft** – Skills related to stage design, lighting, sound, and props.
- **Lighting** – The use of light to create mood, focus, or setting.
- **Sound Design** – The use of sound effects or music to enhance performance.
- **Set Design** – The visual layout and physical environment of the stage.
- **Props** – Objects used by performers on stage.
- **Costume** – Clothing worn to represent a character or setting.
- **Cue Sheet / Prompt Script** – A guide for technical or stage management cues.

Assessment and Reflection Vocabulary

- **Research** – Gathering information to develop understanding of a role or style.
- **Exploration** – Experimenting with ideas, techniques, and materials.
- **Development** – Refining and improving performance work.
- **Feedback** – Comments or advice given to help improve.
- **Target / Goal** – A specific aim set for improvement.
- **Reflection** – Thinking critically about your work and progress.

Y10 Performing Arts 2

Performing Arts – Component 1
Exploring the Performing Arts

🎯 **Learning Aim A: Understand the processes and practices used in professional performance work**

What this means:

You need to show that you understand **how professional performances are created** — from the first idea to the final show.

You should know about:

•The **creative process** (research, improvisation, rehearsal, refinement, performance).

•The **roles and responsibilities** of different people (performers, choreographers, directors, designers, etc.).

•How professionals **collaborate and use rehearsal techniques** to develop ideas.

•The **resources and planning** needed for a production (e.g. time, space, props, costumes, budget).

🎭 **Learning Aim B: Demonstrate knowledge of performance styles, creative intentions, and roles**

What this means:

You need to show you understand the **style** and **purpose** of professional performance work.

You should know about:

•Different **styles and genres** (e.g. naturalism, physical theatre, contemporary dance, musical theatre).

•The **creative intentions** — what the artists are trying to express (themes, messages, moods).

•The **roles and contributions** of people involved (performers, choreographers, designers, directors).

•The **structure, themes, and techniques** used in the chosen professional works.

Example:

If studying *Matthew Bourne's Swan Lake*, explain how the dance style (ballet with theatrical storytelling) and creative choices (male swans) express modern themes.

💡 **Learning Aim C: Reflect on how professional work inspires your own practice as a performer or creator**

What this means:

You should show how **studying professional work** has influenced **your own creative ideas and skills**.

You should talk about:

•What you have **learned or been inspired by** from professional performers or companies.

•How you have **applied their techniques or ideas** in your own work.

•How your understanding of **style, creativity, and process** has developed.

•What you might do differently next time based on what you've learned.

Example:

You might say you were inspired by *DV8's use of physical storytelling* and applied similar movement sequences in your own devised performance.

Y10 Performing Arts 3

Performing Arts Skills
Acting / Drama

Core Acting & Drama Skills

1. Vocal Skills

- **Projection** – speaking clearly and loudly enough for an audience to hear.
- **Articulation** – pronouncing words clearly.
- **Tone and pitch** – using your voice expressively to convey character or emotion.
- **Pace and pause** – using rhythm and timing in delivery.

2. Physical Skills

- **Body language** – using your body to show character or emotion.
- **Movement** – purposeful movement on stage; may include stylized or choreographed actions.
- **Facial expression** – conveying emotion and intention through the face.
- **Posture and gesture** – using stance and hand movements to build character.

3. Characterisation Skills

- Developing believable and engaging **characters**.
- Using **hot-seating**, **role-on-the-wall**, and **thought-tracking** to explore character motives.
- Understanding a character's **objectives**, **relationships**, and **backstory**.

Performance and Rehearsal Skills

4. Rehearsal Discipline

- Being punctual and prepared.
- Taking direction from teachers or directors.
- Working collaboratively in a group.

5. Improvisation & Devising

- Responding spontaneously to prompts.
- Creating scenes or performances from scratch.
- Collaborating on ideas, storylines, and character development.

6. Script Work

- Understanding and interpreting a script.
- Learning and performing lines accurately.
- Understanding stage directions.

Theoretical & Reflective Skills

7. Understanding Performance Styles

- Knowledge of genres like **naturalism**, **physical theatre**, **melodrama**, etc.
- Awareness of theatre practitioners (e.g., **Stanislavski**, **Brecht**, **Frantic Assembly** – depending on the course focus).

8. Evaluating Performance

- Giving and receiving **constructive feedback**.
- **Reflecting** on your own and others' performances to improve.

Professional & Personal Skills

9. Teamwork & Communication

- Collaborating well with others.
- Listening and responding effectively on and off stage.

10. Confidence & Creativity

- Willingness to try new things.
- Expressing original ideas and taking creative risks.

These skills are typically assessed through **practical workshops**, **logbooks**, **evaluations**, and **final performances**. Students aren't expected to be professionals yet, but they should show **progress, commitment**, and **an understanding of the performance process**.
Let me know if you want a printable summary or help with revising for an assignment or performance piece!

Y10 Performing Arts 3

Performing Arts Skills Musical Theatre

1. Performance Skills
These are the core abilities you show when performing — blending acting, singing, and movement.
- **Energy and focus** – staying engaged and committed throughout
- **Stage presence and projection** – commanding attention and communicating confidently
- **Characterisation** – developing and sustaining a believable character
- **Interaction with others** – reacting and connecting naturally with other performers
- **Consistency and control** – maintaining the same level of quality through rehearsals and performance
- **Interpretation of material** – understanding and performing the meaning, style, or intention of the piece

2. Vocal (Singing) Skills
Musical theatre relies heavily on strong, expressive singing techniques.
- **Pitch control** – singing in tune
- **Breath control and support** – managing breath for sustained notes and phrasing
- **Tone quality** – creating the right sound for the character or song style
- **Diction and articulation** – clear pronunciation so lyrics are understood
- **Dynamic contrast** – using loudness and softness effectively
- **Vocal expression** – conveying emotion and intention through the voice
- **Musicality and phrasing** – shaping lines in time with the accompaniment
- **Blending and harmony** – matching tone and tuning in ensemble singing

3. Dance / Movement Skills
Musical theatre choreography demands both precision and storytelling through movement.
- **Coordination and rhythm** – moving in time with the music
- **Spatial awareness** – using performance space effectively
- **Timing and accuracy** – performing choreography as rehearsed
- **Posture, balance, and alignment** – maintaining control and stability
- **Expression through movement** – dancing with purpose and emotion
- **Style and genre** – adapting to different dance styles (jazz, tap, contemporary, etc.)
- **Ensemble awareness** – keeping spacing, timing, and synchronisation with others

4. Acting / Interpretive Skills
Acting connects the story between the dialogue, songs, and dances.
- **Facial expression and body language** – showing emotion and intent physically
- **Focus and concentration** – staying in character and responding truthfully
- **Voice projection and clarity** – being heard and understood when speaking or singing
- **Emotional range** – portraying different moods or feelings
- **Improvisation and adaptability** – responding to unexpected moments or direction changes
- **Motivation and objectives** – understanding what your character wants
- **Subtext** – communicating meaning beyond the lines

5. Rehearsal and Professional Skills
These are essential for preparation and working effectively in a company.
- **Commitment and discipline** – attending, practising, and showing reliability
- **Learning and remembering lines, lyrics, and choreography**
- **Responding to feedback** – improving from teacher/director notes
- **Teamwork and collaboration** – supporting castmates
- **Self-reflection** – evaluating your strengths and areas to develop
- **Time management and organisation** – being ready for rehearsals and performances

6. Creative and Interpretive Skills (for devised or developed work)
If your assessment includes developing material or interpreting existing works:
- **Understanding context** – style, period, composer, and theme
- **Adapting performance to suit the piece** – e.g. different eras or genres
- **Developing character through song and movement**
- **Contributing creative ideas to ensemble work**

Y10 Performing Arts 3

Performing Arts Skills
Dance

1. Physical Skills
These are the technical, body-based abilities that allow dancers to move safely, effectively, and with control.
- **Posture and alignment** – maintaining correct body position
- **Balance** – control while moving or holding positions
- **Coordination** – linking movements smoothly
- **Flexibility** – range of motion in joints and muscles
- **Strength** – muscle power to support movement
- **Stamina** – sustaining performance energy over time
- **Control** – managing energy and accuracy
- **Isolation** – moving one part of the body independently
- **Extension** – lengthening movements fully
- **Spatial awareness** – knowing and using performance space effectively

2. Technical Skills
These focus on the dance technique itself and how well the dancer performs in different styles.
- **Accuracy in action** – performing choreography as intended
- **Timing and rhythm** – moving in time with the music or beat
- **Reproduction of movement** – accurately recalling and performing set choreography
- **Dynamic range** – using contrasts in energy and movement quality
- **Style and genre** – demonstrating characteristics of specific dance styles (e.g., contemporary, jazz, street, ballet)
- **Use of weight and flow** – controlling movement qualities (heavy/light, bound/free)

3. Expressive / Interpretive Skills
These show the dancer's ability to communicate meaning, emotion, and intention.
- **Facial expression** – showing emotion and character through the face
- **Projection** – communicating energy and intention to the audience
- **Focus** – maintaining concentration and direction of attention
- **Musicality** – responding to music's phrasing, rhythm, and emotion
- **Characterisation** – embodying a role or theme within a dance
- **Sensitivity to others** – awareness of other performers and ensemble dynamics
- **Emotional connection** – conveying feeling through movement

4. Performance and Rehearsal Skills
These relate to preparation and professionalism in performance contexts.
- **Commitment and concentration** – staying engaged throughout rehearsal and performance
- **Learning and retaining choreography** – remembering and refining movement material
- **Responding to direction** – adapting based on feedback
- **Self-discipline and teamwork** – cooperating and contributing positively
- **Consistency and improvement** – developing skills through practice and reflection

5. Creative and Choreographic Skills (for some components)
If you're creating dance material or contributing to choreography, you'll also need:
- **Improvisation** – generating movement ideas
- **Motif development** – manipulating movement ideas (e.g., repetition, retrograde, inversion)
- **Structuring and form** – organising a dance piece
- **Use of space, dynamics, and relationships** – choreographic choices
- **Intent and communication** – clarity of theme or message

Y10 French

Key Grammatical Concepts

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.

Use a time phrase at the start of your sentence

Normalement je…. *= Normally I*
Hier j'ai ….. *= Yesterday I…*
La semaine prochaine je vais…*= next week*

For the photo!!
Never say "He is playing" etc…

~~**Il est jouer au foot**~~
~~**Ils sont aller en ville**~~

Il joue au foot
Ils vont en ville

Correct verb endings!!

~~**J'étudier**~~ **= J'étudie**
~~**Je parler**~~ **= je parle**
~~**Je apprendre**~~ **= j'apprends**
~~**Elle écouter**~~ **= elle écoute**
~~**Ils manger**~~ **= ils mangent**

Use all PANDA

Je préfère
J'aime….
Je n'aime pas…
Je déteste…
J'adore…

Use all PECPC

Parce que
Étant donné que
Comme
Puisque
Car

Correct <u>negative</u> structures

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

Talk about other people, with correct endings…

nous allons = we go
nous jouons = we play
nous regardons = we watch
ils portent = they wear
ils chantent = they sing

Plenty of time phrases, quantifiers and connectives!

aussi (also), **mais** (but),
donc (therefore)
toujours (always), **souvent** (often), **quelquefois** (sometimes)
assez (quite), **vraiment** (really), **tellement** (really)

An infinitive structure
A simple verb followed by an infinitive

Je voudrais être = I would like to be
J'aime lire = I like reading
J'adore essayer = I love trying

3 tenses: present, past and future

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

Impressive use of adjectives (one before one after the noun)

Un bel avenir prometteur
= a beautiful promising future
Une belle céremonie romantique
= a beautiful romantic ceremony
Un nouveau sac bleu
= a new blue bag

Avant de + infinitive

Avant d'arriver = before arriving

Avant de manger = before eating

Après avoir + past participle

Après avoir mangé, je….
= after eating , I…
Après avoir fini la revision, je…
=after revising , I

Comparatives

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

Y10 French

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.

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 ?

Y10 French

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. Identity and Relationships with others, Healthy Living and Lifestyle, and Education and Work.

Examples of questions:

Quelle est ta personne préférée ?
Comment serait ton homme/ ta femme idéal ?
Combien de sports fais-tu ?
À ton avis, es-tu en bonne forme ?
Quelle est ta matière préférée ?
Aimes-tu ton uniforme ?

Y10 French

Exam Practice: Writing

AQA

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 of your school for them. Write approximately 50 words in French. You must write something about each bullet point.

Mention:

- what your school is like
- your teachers
- lunchtime at school
- sport at school
- your uniform.

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.

5 marks

Example: Le concert ……**finit**…….. à dix heures.

finit	**finis**	**finissent**	**finit**

Y10 French

Exam Practice: Writing

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

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ACHIEVING EXCELLENCE TOGETHER

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)

How to guide:

Reduce and Expand

For large sections of content, it is important in the first instance to reduce this down to key points. You will start by reading the content and deciding what are the key points (you will already be thinking)

You will then write these key points out multiple times until they stick

Once you have a good grasp of the key points you can start to build further key information around them again using the layered mind map technique again.