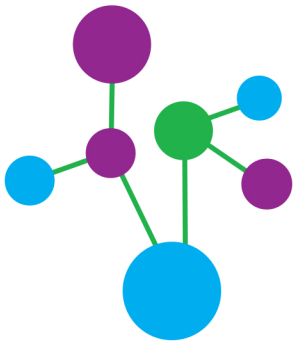
NAME: _____

TERM 1&2

YEAR 10



PLYMPTON ACADEMY

HANDBOOK

TERM 1&2

Cluster One- War.

Bayonet Charge by Ted Hughes

Content, Meaning and Purpose

-Describes the terrifying experience of 'going over the top': fixing bayonets to the end of rifles and leaving a trench to charge directly at the enemy.

-Steps inside the body and mind of the speaker to show how this act transforms a soldier from a living, thinking person to a dangerous weapon of war.

Language

'The patriotic tear that brimmed in his eye Sweating like molten iron'- his sense of duty has now turned into the hot sweat of fear and pain.

-'Cold clockwork of the stars and nations'- the soldiers are part of a cold and uncaring machine of war.

-'His foot hung like statuary in mid stride'- he is frozen with fear/bewilderment.

Form and structure

-The poem starts 'in medias res' to convey shock and pace.

-Enjambment maintains the momentum of the charge/

-Time stands still in the second stanza to convey the soldier's bewilderment and reflective thoughts.

Exposure- Wilfred Owen

Content, Meaning and Purpose -

Speaker describes war as a battle against the weather and conditions. -Imagery of cold and warm reflect the delusional mind of a man dying from hypothermia.

-Owen wanted to draw attention to the suffering, monotony and futility of war.

Language

-"Our brains ache" physical (cold) suffering and mental (PTSD or shell shock) suffering.

-Semantic field of weather: weather is the enemy.

-"the merciless iced east winds that knive us…" – personification (cruel and murderous wind); sibilance (cutting/slicing sound of wind); ellipsis (never-ending).

-Repetition of pronouns 'we' and 'our' – conveys togetherness and collective suffering of soldiers.

-'mad gusts tugging on the wire' – personification

Form and structure

-Eight verses of five lines: a regular structure.

-Refrain used four times.

-Enjambment.

Kamikaze- Beatrice Garland

Content, Meaning and Purpose

-In World War 2, Japanese Kamikaze pilots would fly manned missiles into targets such as ships. -This poem explores a kamikaze pilot's journey towards battle, his decision to return, and how he is shunned when he returns home. -As he looks down at the sea, the beauty of nature and memories of childhood make him decide to turn back.

Language

-The Japanese word 'kamikaze' means 'divine wind' or 'heavenly wind', and has its origin in a heaven-sent storm that scattered an invading fleet in 1250.

-"dark shoals of fish flashing silver": image links to a Samurai sword – conveys the conflict between his love for nature/life and his sense of duty. Also has sibilance.

- "they treated him as though he no longer existed": cruel irony – he chose to live but now must live as though he is dead.

-"was no longer the father we loved": the pilot was forever affected by his decision.

Form and structure

-Narrative poem. Some sections are italicised to show a first person narrative.

-Written in seven, six line stanzas.

-No regular rhyme or rhythm.

Charge of the Light Brigade- Alfred Lord Tennyson

Content, Meaning and Purpose -

Published six weeks after a disastrous battle against the Russians in the (unpopular) Crimean War -Describes a cavalry charge against Russians who shoot at the lightly-armed British with cannon from three sides of a long valley. -Of the 600 hundred who started the charge, over half were killed, injured or taken prisoner. -It is a celebration of the men's courage and devotion to their country, symbols of the might of the British Empire.

Language

-"Into the valley of Death": this Biblical imagery portrays war as a supremely powerful, or even spiritual, experience.

-"jaws of Death" and "mouth of Hell": presents war as an animal that consumes its victims.

-"Honour the Light Brigade/Noble six hundred": language glorifies the soldiers, even in death. The 'six hundred' become a celebrated and prestigious group.

Form and structure

-Regular in its structure, with several examples of repetition.

-Narrative poem, with features of the ballad form. This means that each stanza progresses the story of the attack.

-Six stanzas, as if each stanza is a memorial stone to one hundred of the six hundred cavalrymen.

Key Characters

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

Plot Summary.

1. Ebenezer Scrooge is at work in his counting house. Despite the Christmas Eve cold, he refuses to spend money on coals for the fire. Scrooge's turns down his nephew, Fred's, invitation to his Christmas party and the request of two men who want money for charity.
2. Scrooge is visited by the ghost of his dead partner, Jacob Marley, who tells Scrooge that, due to his greedy life, he has to wander the Earth wearing heavy chains. Marley tries to stop Scrooge from doing the same. He tells Scrooge that three spirits will visit him during the next three nights. Scrooge falls asleep.
3. He wakes and the Ghost of Christmas Past takes Scrooge into the past. Invisible to those he watches, Scrooge revisits his childhood school days, his apprenticeship with a jolly merchant named Fezziwig, and his engagement to Belle, who leaves Scrooge as he loves money too much to love another human being. Scrooge sheds tears of regret before being returned to his bed.
4. The Ghost of Christmas Present shows Scrooge Christmas as it will happen that year. Scrooge watches the Cratchit family eat a tiny meal in their little home. He sees Bob Cratchit's crippled son, Tiny Tim, whose kindness and humility warm Scrooge's heart. The spectre shows Scrooge his nephew's Christmas party. Scrooge asks the spirit to stay until the very end. Toward the end of the day the ghost shows Scrooge two starved children, Ignorance and Want. He vanishes as Scrooge notices a dark, hooded figure coming.
5. The Ghost of Christmas Yet to Come takes Scrooge through a sequence of scenes linked to an unnamed man's death. Scrooge, is keen to learn the lesson. He begs to know the name of the dead man. He finds himself in a churchyard with the spirit pointing to a grave. Scrooge looks at the headstone and is shocked to read his own name. He is desperate to change his fate and promises to change his ways. He suddenly finds himself safely tucked in his bed.
6. Scrooge rushes out onto the street hoping to share his newfound Christmas spirit. He sends a turkey to the Cratchit house and goes to Fred's party, As the years go by, he continues to celebrate Christmas with all his heart. He treats Tiny Tim as if he were his own child, gives gifts for the poor and is kind, generous and warm.

Poverty

The population of the towns and cities was increasing rapidly. Due to the effects of the industrial revolution, people were flocking into the towns and cities in search of employment. Large numbers of people were looking for work, so wages were low, barely above subsistence level. If work dried up, or was seasonal, men were laid off, and because they had hardly enough to live on when they were in work, they had no savings to fall back on. Living conditions for the poor were appalling- large houses were turned into flats and the landlords who owned them, were not concerned about the upkeep or the condition. These houses were extremely overcrowded and dirty. There were children living with their families in these desperate situations but there were also numerous homeless children living on the streets of London. Sometimes, the only water the poor had access to was from the sewage ditch in the street.

Industrial Revolution

During the Victorian era, Britain became one of the world's primary economic powers. After the invention of steam power, many people moved from rural areas to the cities to search for higher paying work. The people who moved to the city in search of work were dubbed the "working class". Britain became an industrial hub and the economy was strong. With a sharp increase in production, Britain's trade industry increased drastically as well. Everything converted from traditional, manual labour to machine-driven, highly-productive labour. This caused a reduction in the amount of men needed for work, which therefore increased poverty levels and crime in the cities. Working with machinery was also was more dangerous and life threatening for the workers.

The Workhouse

The Poor Law Amendment Act of 1834 allowed the poor to receive public assistance only if they went to the workhouse. Workhouses were deliberately made to be miserable in order to deter the poor from relying on public assistance. In the workhouse, the poor had to work for their food and accommodation. Workhouses were appalling places and the poor would often beg on the streets or die to avoid going to these places. Upon entering the workhouse, the poor were stripped and bathed. If a family entered the workhouse, they were split up and they would be punished if they tried to speak to one another. Children received an education which did not include the two most important skills of all, reading and writing, which were needed to get a good job. They sometimes were 'hired out' to work in factories and mines where they were made to do dangerous and deadly jobs.

Capitalism

The word capital means "something of value". Capitalism is an economic system in which people who own the means of production (factories, land, shops, tools, machines, shipping companies etc.) are able to make a lot of money by producing what people want and need. Capitalism has a more or less free market economy. That means prices move up or down according to the availability of the products. The people who own the businesses (capitalists) produce these popular goods and employ workers on a wage to produce them. These workers use their skills to produce products which are then sold for a profit by the business owner. The profit is not shared with the employees. Some people argue that this system hurts workers, because businesses make more money by selling things than they pay the workers. Business owners become rich while workers remain poor and exploited.

Dickens' ideas and intentions

Dickens' writing criticised economic, social, and moral issues in the Victorian era. He showed compassion and empathy towards the vulnerable and disadvantaged people in English society, and help to bring about several important social reforms. Dickens' deep social commitment and awareness of social issues come from his traumatic childhood, where his father was imprisoned for debt, and he was forced to work in a shoe-blacking factory at 12 years old. In his adult life, Dickens developed a strong social conscience and empathised with the victims of social and economic injustice.

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.

Language

Satire- use of humour or ridicule to criticise
Asyndeton- list without conjunctions
Polysyndeton- list with conjunctions (and)
Simile- comparing using 'like' or 'as'
Metaphor- saying one thing is another
Personification- make object human
Pathetic fallacy- weather to create mood
Pathos- language to evoke pity
Allusion- reference to another literary work
Hyperbole- exaggerated statement
Connotation- associated meaning of word
Characterisation- built up description of character in text
Semantic field- words related in meaning
Imagery- visually descriptive language

Structure and Form

Conflict- problem faced by characters
Resolution- point where conflict is resolved
Foreshadowing- clue about something later
Foreboding- sense that something will occur
Juxtaposition- two contrasted ideas
Backstory- insight into character's past
Exposition- revelation of something
Poetic justice- good rewarded bad punished
Melodrama- exaggerated characters/events
Motif- repeated image or symbol
Antithesis- contrast of ideas in same grammatical structure
Authorial intrusion- where author pauses to speak directly to reader
Allegory- characters/events represent ideas about religion, morals or politics

ENGLISH LITERATURE

BIDMAS N3

...or BODMAS. Use the correct order of operations; take care when using a calculator.

- **B**rackets
- **I**ndices (or p**O**wers)
- **D**ivision and **M**ultiplication
- **A**ddition and **S**ubtraction

Types of number N4

Integer: a "whole" number
Factors; the divisors of an integer
➔ Factors of 12 are 1, 2, 3 ,4, 6, 12
Multiples; a "times table" for an integer (will continue indefinitely)
➔ Multiples of 12 are 12, 24, 36 ...
Prime number: an integer which has exactly two factors (1 and the number itself). Note: 1 is not a prime number.

HCF, LCM N4

Highest **C**ommon **F**actor (HCF)
➔ Factors of 6 are 1, 2, 3, 6
Factors of 9 are 1, 3, 9
HCF of 6 and 9 is 3
Lowest **C**ommon **M**ultiple (LCM)
➔ Multiples of 6 are 6, 12, 18, 24, ...
Multiples of 9 are 9, 18, 27, 36, ...
LCM of 6 and 9 is 18

Prime factors N4

Write a number as a product of its prime factors; use indices for repeated factors:
➔ $720 = 5 \times 3^2 \times 2^4$

Powers and roots N6, N7

Special indices: for any value a:

$$a^0 = 1$$

$$a^{-n} = \frac{1}{a^n}$$

➔ $3^{-4} = \frac{1}{3^4} = \frac{1}{81}$

Calculating with fractions N8

Adding or subtracting fractions; use a common denominator...
➔ $\frac{4}{5} - \frac{1}{3} = \frac{12}{15} - \frac{5}{15} = \frac{7}{15}$
Multiplying fractions; multiply numerators and denominators...
➔ $\frac{4}{7} \times \frac{2}{3} = \frac{8}{21}$
Dividing fractions; "flip" the second fraction, then multiply...
➔ $\frac{2}{7} \div \frac{5}{6} = \frac{2}{7} \times \frac{6}{5} = \frac{12}{35}$

Surds N8

Look for the biggest square number factor of the number:
➔ $\sqrt{80} = \sqrt{16 \times 5} = 4\sqrt{5}$

Standard form N9

Standard form numbers are of the form $a \times 10^n$ where $1 \le a < 10$ and n is an integer.

Standard units N13

1 tonne = 1000 kilograms
1 kilogram = 1000 grams

1 kilometre = 1000 metres
1 metre = 100 centimetres
= 1000 millimetres
1 centimetre = 10 millimetres

1 day = 24 hours
1 hour = 60 minutes = 3600 seconds
1 minute = 60 seconds

Fractions, decimals N10

Fraction is numerator ÷ den
➔ $\frac{5}{8} = 5 \div 8 = 0.625$
Use place values to change decimals to fractions. Simplify where possible.
➔ $0.45 = \frac{45}{100} = \frac{9}{20}$
Learn the most frequently used ones:

$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{3}{4}$
0.5	0.25	0.1	0.2	0.75

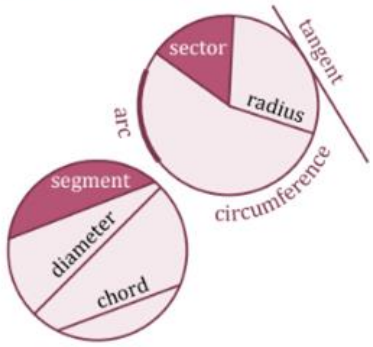
Rounding N15

Truncate the number, then use a "decider digit" to round up or down. Decimal places: use the decimal point
➔ 162.3681 to 2dp;
162.36 | 81 = 162.37 to 2dp
Significant figures: use the first non-zero digit.
➔ 162.3681 to 2sf;
16 | 2.3681 = 160 to 2sf
➔ 0.007 039 to 3sf;
0.007 03 | 9 = 0.007 04 to 3sf

Error intervals N15

Find the range of numbers that will round to a given value:
➔ $x = 5.83$ (2 decimal places)
$5.825 \le x < 5.835$
➔ $y = 46$ (2 significant figures)
$45.5 \le y < 46.5$
Note use of ≤ and <, and that the last significant figure of each is 5

Parts of a circle G9



Transformations

Reflection
- Line of reflection

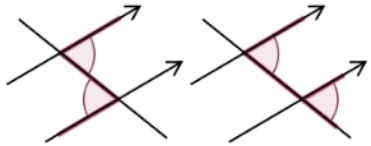
Translation
- Vector

Rotation
- Centre of rotation
- Angle of rotation
- Clockwise or anticlockwise

Enlargement
- Centre of enlargement
- Scale factor (if SF < 1 the shape will get smaller).

Angle facts

Equal angles in parallel lines: always use correct terminology...

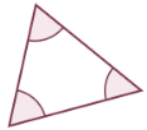


Alternate angles Corresponding angles

Angles on a straight line total 180°

Angles in a full turn total 360°

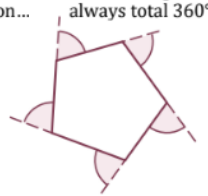
Interior angles in a triangle total 180°



Use this for the interior angles of any polygon...

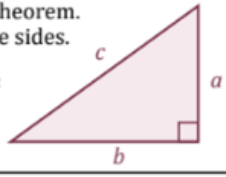
...or 180° × (n − 2)

Exterior angles always total 360°



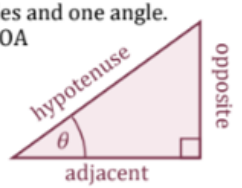
Right angled triangles G20, G22

Pythagoras Theorem.
Links all three sides.
No angles.
$a^2 + b^2 = c^2$



The longest side of any right angled triangle is the hypotenuse; check that your answer is consistent with this.

Trigonometry.
Links two sides and one angle.
SOH | CAH | TOA



$\sin\theta = \frac{\text{opp}}{\text{hyp}}$ $\cos\theta = \frac{\text{adj}}{\text{hyp}}$ $\tan\theta = \frac{\text{opp}}{\text{adj}}$

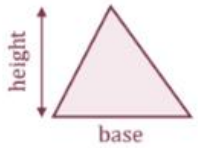
Use "2ndF" or "SHIFT" key to find a missing angle

Special values of sin, cos, tan
Learn (or be able to find without a calculator)...

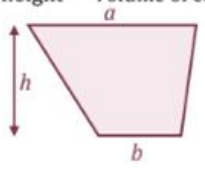
$\theta°$	$\sin\theta°$	$\cos\theta°$	$\tan\theta°$
0	0	1	1
30	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{3}}$
45	$\frac{1}{\sqrt{2}}$	$\frac{1}{\sqrt{2}}$	1
60	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$
90	1	0	

Areas and volumes G16, G17, G18, G23

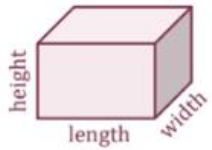
Area of triangle = $\frac{1}{2} \times$ base × height



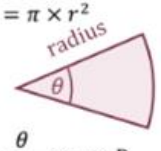
Area of trapezium = $\frac{1}{2}(a + b) \times h$



Volume of cuboid = length × width × height

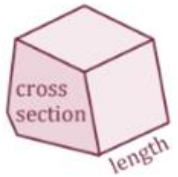


Circumference of circle = $\pi \times D$
Area of circle = $\pi \times r^2$

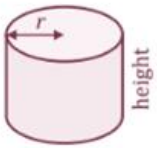


Arc length = $\frac{\theta}{360°} \times \pi \times D$

Area of sector = $\frac{\theta}{360°} \times \pi \times r^2$



Volume of prism = area of cross section × length



Volume of cylinder = $\pi r^2 \times$ height

Number · Algebra · Ratio, proportion and rates of change · Geometry & measures · Probability · Statistics

Quadratics A18

Solve a quadratic by factorising.

➔ **Solve $x^2 - 8x + 15 = 0$**

Put into brackets (taking care with any negative numbers)...

$$(x-3)(x-5)=0$$

...then either $x-3=0$ or $x-5=0$ so that $x=3$ or $x=5$.

Difference of two squares A4

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

➔ $x^2 - 25 = (x+5)(x-5)$

Simultaneous equations A19

➔ **Solve** $\begin{cases} 2x+3y=11 \\ 3x-5y=7 \end{cases}$

Multiply to match a term in x or y

$$\begin{cases} 10x+15y=55 \\ 9x-15y=21 \end{cases}$$

Add or subtract to cancel...

$$19x = 76, \text{ so } x = 4$$

Finally, substitute and solve...

$$2 \times 4 + 3y = 11, \text{ so } y = 1$$

Rearrange a formula A5

The subject of a formula is the term on its own. Use rules that "balance" the formula to change its subject

➔ **Make x the subject of**

$$2x + 3y = z$$

Here, subtract $3y$ from both sides...

$$2x = z - 3y$$

...then divide both sides by 2

$$x = \frac{z-3y}{2}$$

Laws of indices A4

For any value a:

$$a^x \times a^y = a^{x+y}$$

$$\frac{a^x}{a^y} = a^{x-y}$$

$$(a^x)^y = a^{xy}$$

➔ $\left(\frac{2pq^4}{p^3q}\right)^3 = \frac{8p^3q^{12}}{p^9q^3} = \frac{8q^9}{p^6}$ or $8q^9p^{-6}$

$y = mx + c$ A9

Equation of straight line $y = mx + c$

m is the gradient; c is the y intercept:

➔ **Find the equation of the line that joins (0 , 3) to (2 , 11)**

Find its gradient...

$$\frac{11-3}{2-0} = \frac{8}{2} = 4$$

...and its y intercept...

Passes through (0 , 3), so c = 3

Equation is $y = 4x + 3$

Parallel lines: gradients are equal;

➔ **$y = 2x + 3$ and $y = 2x - 5$ both have gradient 2 so are parallel.**

Expanding brackets A4

$$p(q+r) = pq + pr$$

➔ $5(x-2y) = 5x - 10y$

$$(x+a)(x+b) = x^2 + ax + bx + ab$$

➔ $(2x-3)(x+5)$

$$= 2x^2 - 3x + 10x - 15$$

$$= 2x^2 + 7x - 15$$

Reverse of expanding is factorising - putting an expression into brackets.

Algebraic notation A1

$$ab = a \times b$$

$$3y = y + y + y$$

$$a^2 = a \times a$$

$$a^3 = a \times a \times a$$

$$a^2b = a \times a \times b$$

$$\frac{a}{b} = a \div b$$

Equations and identities A3

An equation is true for some particular value of x

➔ **$2x + 1 = 7$ is true if $x = 3$**

...but an identity is true for every value of x

➔ $(x+a)^2 \equiv x^2 + 2ax + a^2$

(note the use of the symbol ≡)

Sequences A24, A25

Triangular numbers:

1st	2nd	3rd	4th	5th
1	3	6	10	15

Square numbers ($n^2 = n \times n$):

1^2	2^2	3^2	4^2	5^2
1	4	9	16	25

Cube numbers ($n^3 = n \times n \times n$):

1^3	2^3	3^3	4^3	5^3
1	8	27	64	125

nth term of an arithmetic (linear) sequence is $an + d$

➔ **nth term of 5, 8, 11, 14, ... is $3n+2$ (always increases by 3 first term is $3 \times 1 + 2 = 5$)**

Geometric sequence; multiply each term by a constant ratio

➔ **3, 6, 12, 24, ... (ratio is 2)**

Fibonacci sequence; make the next term by adding the previous two ...

➔ **2, 4, 6, 10, 16, 26, 42, ...**

Division using ratio R5

Use a ratio for unequal sharing

➔ **Divide £480 in the ratio 7 : 5**

7 + 5 = 12, then £480 ÷ 12 = £40

7 × £40 = £280, 5 × £40 = £200

(check: £280 + £200 = £480 ✓)

Ratio and fractions R8

Link between ratios and fractions

➔ **Boys to girls in ratio 2 : 3**

$\frac{2}{5}$ are boys, $\frac{3}{5}$ are girls.

Percentages R9

$$y \text{ percent of } x = \frac{y}{100} \times x$$

➔ **Increase £58 by 26%.**

$$\frac{26}{100} \times £58 = £15.08$$

£58 + £15.08 = £73.08

$$y \text{ as a percentage of } x = \frac{y}{x} \times 100\%$$

➔ **The population of a town increases from 3500 to 4620**

Find the percentage increase.

$$\frac{1120}{3500} \times 100\% = 32\%$$

Note: fraction $= \frac{\text{increase}}{\text{original}}$

Learn the most frequently used ones:

$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{1}{100}$
50%	25%	10%	20%	1%

Averages S4

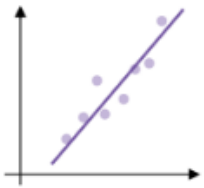
Mode: most frequently occurring

Median: put the data in numerical order, then choose the middle one

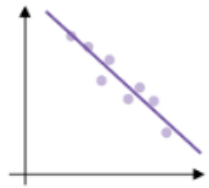
$$\text{Mean} = \frac{\text{total of items of data}}{\text{number of items of data}}$$

Correlation S6

Positive correlation



Negative correlation



Probability P8, P9

$$p = \frac{n(\text{equally likely favourable outcomes})}{n(\text{equally likely possible outcomes})}$$

$p = 0$	impossible
$0 < p < 0.5$	unlikely
$p = 0.5$	evens
$0.5 < p < 1$	likely
$p = 1$	certain

Probability rules P8, P9

Multiply for independent events

➔ **P(6 on dice and H on coin)**

$$\frac{1}{6} \times \frac{1}{2} = \frac{1}{12}$$

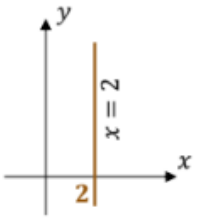
Add for mutually exclusive events

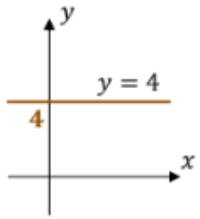
➔ **P(5 or 6 on dice)**

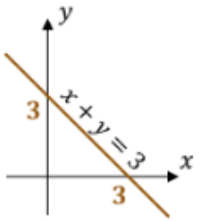
$$\frac{1}{6} + \frac{1}{6} = \frac{2}{6}$$

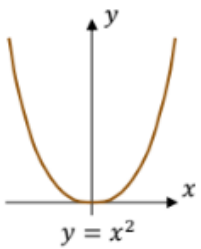
Apply these rules to tree diagrams.

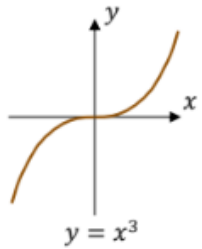
Standard graphs A12

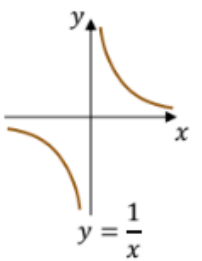












MATHEMATICS - Foundation

Number · Algebra · Ratio, proportion and rates of change · Geometry & measures · Probability · Statistics

Listing strategies N5

Product rule for counting:
➔ $4 \times 3 \times 2 \times 1 = 24$ ways to arrange the letters P, I, X and L

Powers and roots N6, N7

Special indices: for any value a:

$$a^0 = 1$$
$$a^{-n} = \frac{1}{a^n}$$
$$a^{\left(\frac{p}{q}\right)} = \sqrt[q]{a^p}$$

➔ $3^{-4} = \frac{1}{3^4} = \frac{1}{81}$

➔ $8^{\left(\frac{2}{3}\right)} = \sqrt[3]{8^2} = 4$

Surds N8

Look for the biggest square number factor of the number:
➔ $\sqrt{80} = \sqrt{16 \times 5} = 4\sqrt{5}$

Rationalise the denominator N8

Multiply the numerator and denominator by an expression that makes the denominator an integer:

➔ $\frac{4}{\sqrt{7}} = \frac{4 \times \sqrt{7}}{\sqrt{7} \times \sqrt{7}} = \frac{4\sqrt{7}}{7}$

➔ $\frac{2}{4+\sqrt{5}}$

$= \frac{2}{4+\sqrt{5}} \times \frac{4-\sqrt{5}}{4-\sqrt{5}} = \frac{2(4-\sqrt{5})}{11}$

Standard form N9

Standard form numbers are of the form $a \times 10^n$, where $1 \le a < 10$ and n is an integer.

Recurring decimals N10

Make a recurring decimal a fraction:
➔ $n = 0.2\dot{3}\dot{6}$
(two digits are in the recurring pattern, so multiply by 100)
$100n = 23.\dot{6}$
(this is the same as $23.6\dot{3}\dot{6}$)
$99n = 23.6\dot{3}\dot{6} - 0.2\dot{3}\dot{6} = 23.4$
$n = \frac{23.4}{99} = \frac{234}{990} = \frac{13}{55}$

Error intervals N15

Find the range of numbers that will round to a given value:
➔ $x = 5.83$ (2 decimal places)
$5.825 \le x < 5.835$
➔ $y = 46$ (2 significant figures)
$45.5 \le y < 46.5$
Note use of ≤ and <, and that the last significant figure of each is 5

Equations and identities A3

An equation is true for some particular value of x
➔ $2x + 1 = 7$ is true if $x = 3$
...but an identity is true for every value of x
➔ $(x + a)^2 \equiv x^2 + 2ax + a^2$
(note the use of the symbol ≡)

Transformations of curves A13

Starting with the curve $y = f(x)$:
Translate $\begin{pmatrix} 0 \\ a \end{pmatrix}$ for $y = f(x) + a$
Translate $\begin{pmatrix} -a \\ 0 \end{pmatrix}$ for $y = f(x + a)$
Reflect in x axis for $y = -f(x)$
Reflect y axis for $y = f(-x)$

Velocity - time graph A15

Gradient = acceleration (you may need to draw a tangent to the curve at a point to find the gradient);
Area under curve = distance travelled.

Laws of indices A4

For any value a:

$$a^x \times a^y = a^{x+y}$$
$$\frac{a^x}{a^y} = a^{x-y}$$
$$(a^x)^y = a^{xy}$$

➔ $\left(\frac{2pq^4}{p^3q}\right)^3 = \frac{8p^3q^{12}}{p^9q^3} = \frac{8q^9}{p^6}$ or $8q^9p^{-6}$

Difference of two squares A4

$$a^2 - b^2 = (a + b)(a - b)$$
➔ $x^2 - 25 = (x + 5)(x - 5)$

Rearrange a formula A5

The subject of a formula is the term on its own. Rearrange to
➔ Make x the subject of
$2x + ay = y - bx$
$2x + bx = y - ay$
$x(2 + b) = y - ay$
$x = \frac{y - ay}{2 + b}$

Functions A7

Combining functions:
$fg(x) = f(g(x))$
➔ If $f(x) = x + 3$ and $g(x) = x^2$
$fg(x) = x^2 + 3$
$gf(x) = (x + 3)^2$

The inverse of f is f^{-1}
➔ If $f(x) = 2x + 5$ then
$f^{-1}(x) = \frac{x - 5}{2}$

$y = mx + c$ A9

Equation of straight line $y = mx + c$
m is the gradient; c is the y intercept:
➔ Find the equation of the line that joins (0 , 3) to (2 , 11)
Find its gradient...
$\frac{11 - 3}{2 - 0} = \frac{8}{2} = 4$
...and its y intercept...
Passes through (0 , 3), so c = 3
Equation is $y = 4x + 3$

Parallel lines: gradients are equal; perpendicular lines: gradients are "negative reciprocals".
➔ $y = 2x + 3$ and $y = 2x - 5$ are parallel to each other; $y = 2x + 3$ and $y = -\frac{1}{2}x + 3$ are perpendicular

Iteration A20

You will be given the formula to use:
➔ Solve $x^3 + 6x + 4 = 0$ by using the iteration $x_{n+1} = \sqrt[3]{6x_n - 4}$
Start with $x_1 = -2.8$
$x_2 = \sqrt[3]{6 \times (-2.8) - 4} = -2.750\ldots$
$x_3 = \sqrt[3]{6 \times (-2.750\ldots) - 4} = \cdots$
Repeat until you know the solution, or you do as many as the question says.

Equation of a circle A16

$x^2 + y^2 = r^2$ is a circle with centre (0 ,0) and radius r.
➔ $x^2 + y^2 = 25$ has centre (0 , 0) and radius 5

Quadratics A11, A18

If a quadratic equation cannot be factorised, use the formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

➔ Solve $2x^2 + 3x - 7 = 0$

$x = \frac{-3-\sqrt{9-(-56)}}{2\times2} = -2.73$

or $x = \frac{-3+\sqrt{9-(-56)}}{2\times2} = 1.23$

Complete the square to find the turning point of a quadratic graph.
➔ $y = x^2 - 6x + 2$
$y = (x - 3)^2 - 9 + 2$
$y = (x - 3)^2 - 7$
Turning point is at (3 , −7)

Simultaneous equations A19

One linear, one quadratic;
➔ Solve $\begin{cases} x + 3y = 10 \\ x^2 + y^2 = 20 \end{cases}$
Rearrange the linear, and substitute into the quadratic
$x = 10 - 3y$
so $(10 - 3y)^2 + y^2 = 20$
Expand and solve the quadratic
$100 - 60y + 9y^2 + y^2 = 20$
$10y^2 - 60y + 80 = 0$
$y = 2$ or $y = 4$
Finally, substitute into the linear and solve, pairing values...
$x + 3 \times 2 = 10$ so $(x , y) = (4 , 2)$
$x + 3 \times 4 = 10$ so $(x , y) = (-2 , 4)$

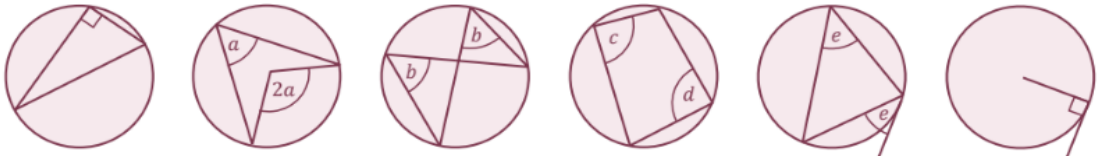
Sequences A24, A25

nth term of an arithmetic (linear) sequence is $bn + c$
➔ nth term of 5, 8, 11, 14, ... is $3n+2$ (always increases by 3 first term is $3 \times 1 + 2 = 5$)
nth term of a quadratic sequence is $an^2 + bn + c$
➔ First three terms of $n^2 + 3n - 1$ are 3, 9, 17, ...
Geometric sequence; multiply each term by a constant ratio
➔ 3, 6, 12, 24, ... (ratio is 2)
Fibonacci sequence; make the next term by adding the previous two ...
➔ 2, 4, 6, 10, 16, 26, 42, ...

Standard graphs A12

Number | Algebra | Ratio, proportion and rates of change | Geometry & measures | Probability | Statistics

Circle theorems G10



Angle in a semicircle is 90°

Angle at the centre is double the angle at the circumference

Angles in the same segment are equal

Opposite angles in a cyclic quadrilateral total 180°

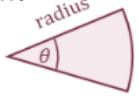
Alternate segment theorem

Tangent and radius are perpendicular

Areas and volumes G16, G17, G18, G23

Circumference of circle = $\pi \times D$

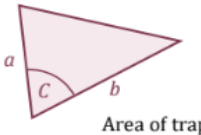
Area of circle = $\pi \times r^2$

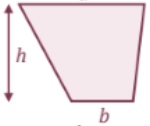


Arc length = $\frac{\theta}{360°} \times \pi \times D$

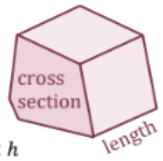
Area of sector = $\frac{\theta}{360°} \times \pi \times r^2$

Area of triangle = $\frac{1}{2}ab\sin C$

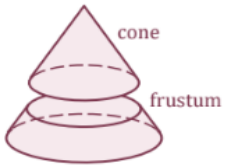




Area of trapezium = $\frac{1}{2}(a+b) \times h$



Volume of prism = area of cross section × length



Volume of cone = $\frac{1}{3}\pi r^2 h$

Volume of frustum is difference between the volumes of two cones

Percentages: multipliers R9, R16

Percentage increase or decrease; use a multiplier (powers for repetition)

➔ **Initially there were 20 000 fish in a lake. The number decreases by 15% each year. Estimate the number of fish after 6 years.**

$20\,000 \times 0.85^6 = 7500$ (2sf)

Formula for compound interest

Total accrued = $P\left(1+\frac{r}{100}\right)^n$

➔ **I invest £600 at 3% compound interest. What is my account worth after 5 years?**

$£600 \times \left(1+\frac{3}{100}\right)^5 = £695.56$

Direct & inverse proportion R10

y is directly proportional to x:
$y = kx$ for a constant k

➔ **b is directly proportional to a^2**
$a = 6$ when $b = 90$ Find b if $a = 8$
$b = ka^2$ $a = 6$ and $b = 90$ for k
$90 = k \times 6^2$ so $k = 2.5, b = 2.5a^2$
$b = 2.5 \times 8^2 = 160$

y is inversely proportional to x

$yx = k$ or $y = \frac{k}{x}$ for a constant k

Similar shapes G19

Ratios in similar shapes and solids:

• Length/perimeter	$1:n$	$a:b$
• Area	$1:n^2$	$a^2:b^2$
• Volume	$1:n^3$	$a^3:b^3$

Probability rules P8, P9

Multiply for independent events

➔ **P(6 on dice and H on coin)**

$\frac{1}{6} \times \frac{1}{2} = \frac{1}{12}$

Add for mutually exclusive events

➔ **P(5 or 6 on dice)**

$\frac{1}{6} + \frac{1}{6} = \frac{2}{6}$

Apply these rules to tree diagrams.

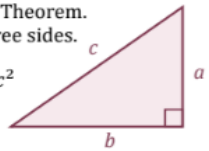
In general...
P(A or B) = P(A) + P(B) − P(A and B)
P(A and B) = P(A given B) × P(B)

Transformations G7, G8

Reflection	Rotation	Enlargement
• Line of reflection	• Centre of rotation	• Centre of enlargement
Translation	• Angle of rotation	• Scale factor (if −1 < SF < 1 the shape will get smaller).
• Vector	• Clockwise or anticlockwise	

Right angled triangles G20

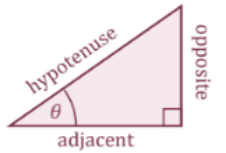
Pythagoras Theorem.
Links all three sides.
No angles.
$a^2 + b^2 = c^2$



Trigonometry.
Links two sides and one angle.
SOH | CAH | TOA

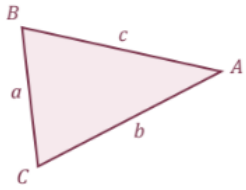
$\sin\theta = \frac{\text{opp}}{\text{hyp}}$ $\cos\theta = \frac{\text{adj}}{\text{hyp}}$ $\tan\theta = \frac{\text{opp}}{\text{adj}}$

Use "2ndF" or "SHIFT" key to find a missing angle



The longest side of any right angled triangle is the hypotenuse; check that your answer is consistent with this.

Advanced trigonometry G21, G22



A is opposite a
B is opposite b
C is opposite c

Sine Rule
Use if you are given an angle-side pair

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

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

Cosine Rule
Use if you can't use the sine rule

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

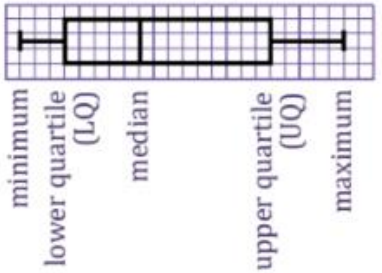
Missing angle: $\cos A = \frac{b^2 + c^2 - a^2}{2bc}$

Special values of sin, cos, tan
Learn (or be able to find without a calculator)...

$\theta°$	$\sin\theta°$	$\cos\theta°$	$\tan\theta°$
0	0	1	1
30	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{3}}$
45	$\frac{1}{\sqrt{2}}$	$\frac{1}{\sqrt{2}}$	1
60	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$
90	1	0	

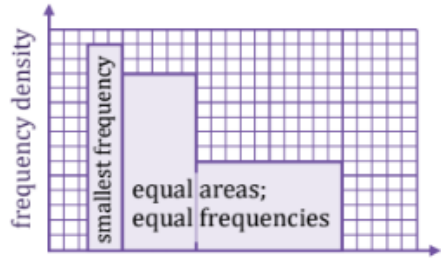
Box plots S4

Interquartile range (IQR) = UQ − LQ



Histograms S3

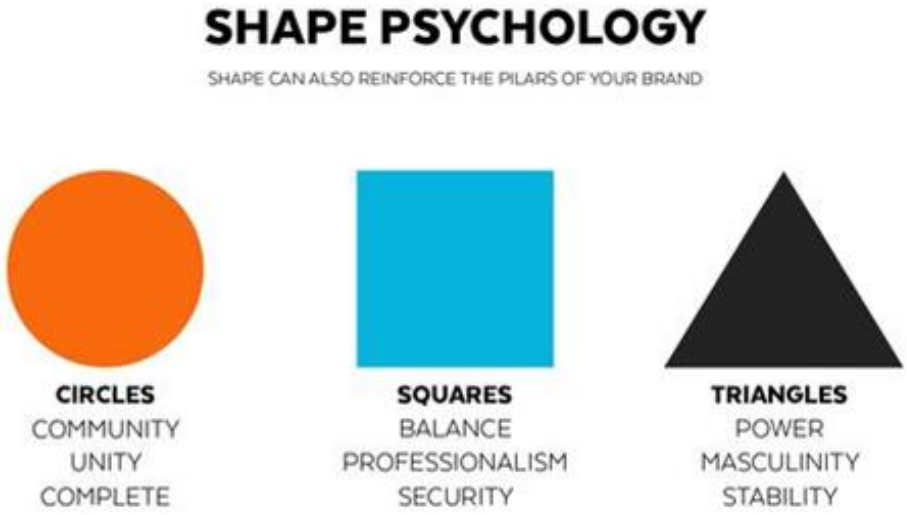
Frequency = frequency density multiplied by class width. This means that bars with the same frequency have the same area.



MATHEMATICS - Higher

Vocabulary

Emphasis
The focal point of an artwork-: the point where the artist wants the viewer's attention to be.
Variety
The differences found in a work, of art: the thickness of lines, the sizes of objects, the colors used. The differences can be related, a variation on a theme.
Unity
The whole or total effect of a work of art resulting from the way the elements have been put together. A work has unity when all its parts are linked together in some way.
Balance
The way parts of a composition are placed together to create a sense of unity.. Balance may be symmetrical with one half of a design being almost a mirror image of the other half. Or balance may be asymmetrical, with two halves that are very different.
Rhythm
The movement created by the repetition of such visual elements as lines, shapes and colors.
Contrast The use of opposites in close proximity. There can be contrast in color, shape, line or texture. Bold contrast - black and white, subtle contrast - soft colors.
Harmony
An overall agreement between all the parts of a work of art. Harmony often involves the use of similar elements with slight variations.
Proportion
The size relationship between the parts and the whole, or between one part and another. An artist uses proportion to convey a sense of space of depth, and may also use it for emphasis.



Using a circle or ring can represent a positive emotional message, love and unity, togetherness.

The square can represent stability and balance , it is a strong message and represents professional and efficient.

The triangle can mean mystery and power it can be used to represent scifi, religious or law related brands.

Vertical lines communicate commitment and strength. When use in a log it reflects goals and progress.

Horizontal lines give a sense of moving through time. It conveys futuristic and technology

Composition The layout of information or an image is important. The following principles should be followed.

Centre of interest The area that first attracts attention. A strong form or use of colour can be used to direct the eye to this part of your image.

Symmetrical Balance This provides a sense of balance suggesting all parts of the image are equal. This is created by making the image the same on both sides using symmetry.

Asymmetrical Balance A lack of balance can also be used to make a visual statement, but still provide equality to all sides of the image.

Unity Assuring your sign has a sense of harmony use similar lines, organic shapes and fonts throughout the image/sign.

Contrast Purposefully creating a sense of visual discord, disorder, in order to create an area of emphasis throughout the image.

Movement Creates a visual flow in the image or sign that guides the reader through the information.

Repetition Recurring use of certain design elements is another way to engage the viewer

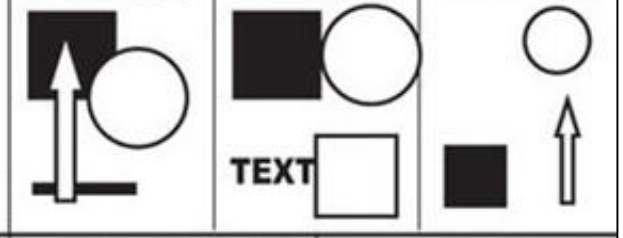
Centre of interest Symmetrical Balance Asymmetrical Balance

Unity Contrast Movement

Tips for creating good composition:

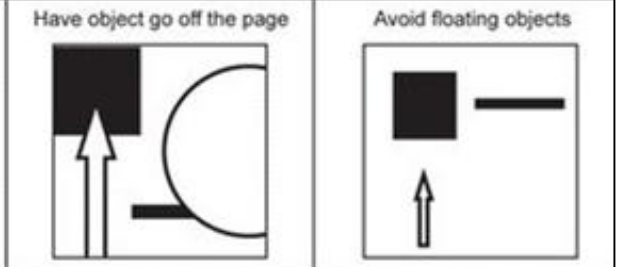
1. Overlap

Place objects slightly over one another. This will get the eye to move from one element to another. Objects should not be touching each other by edges ("no kissing allowed!"). Avoid isolation. Build a relationship between objects.



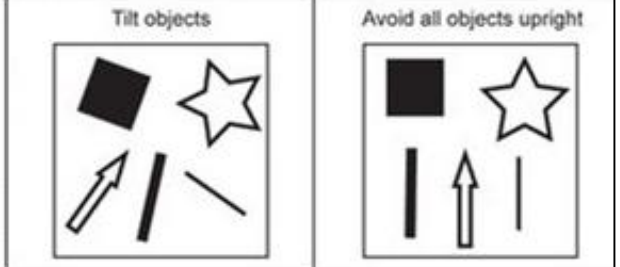
2. Crop

Consider having objects go off the edge of the page. This gets the viewer in and out of the picture. Avoid floating objects within the edges of the page.



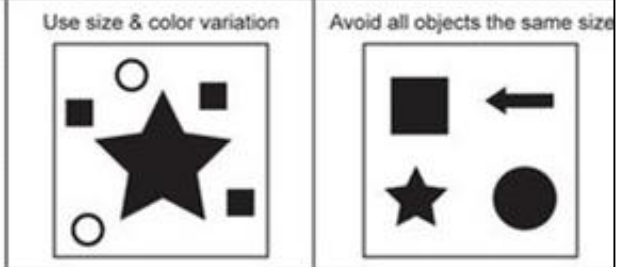
3. Rotate:

Consider placing objects at an angle. Things that are tilted create a more dynamic composition. Artwork with objects that are perfectly lined up with the edge can be boring.



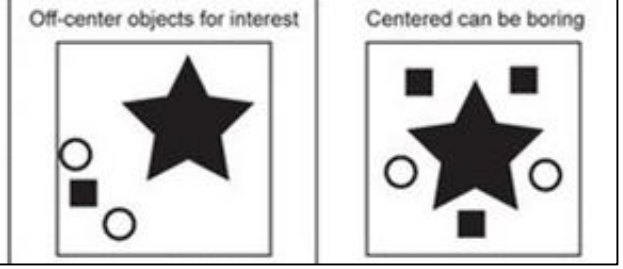
4. Focal Point

Create an area of importance. Give the viewer something to focus on. One way to achieve this is through size variation. Try not to have all elements the same size. Another way to create focus is through color dominance.



5. Off-Centering

Avoid placing objects directly in the center of the page. Think about placing objects slightly to one side. This will create a more interesting composition. Try to keep elements balanced as you do this. For example, one large object could be balanced by 3 smaller ones. (Note: this does not mean that a symmetrical design cannot be successful.)



ANALYSING ARTIST'S WORK Name, Title, Date & Image

1. INTRODUCTION
Describe the Artist. Consider the following:
- *Who created the work?*
- *When and where the work was made?*
- *What themes does the artist/photographer explore & the general style of their work?*
- *What art movement are they affiliated with?*

2. CONTEXT
Explain what influenced the Artist to create this artwork/photograph. Consider the following:
- *When was it created? Describe the period/context when/where the work was made?*
- *What was happening in the world at that time that might have influenced the artwork?*
- *How does the period/context influence the work?*
- *What else was happening when the work was made (art, life, politics) that may have influenced the artist and their work?*

3. CONTENT
Describe the photograph as though you were explaining it to someone who cannot see it.
Explain why the photographer has create the image. Consider the following:
- *What type of photograph is it?*
- *What is the photo about/what is the subject matter?*
- *What can you see (foreground, middle ground, background)?*
- *What is the most important thing in the photo?*
- *Does the Title express the Theme behind the work?*
- *Where and when was it taken (i.e., in a studio, on location, etc)?*
- *Is it a real event or is it staged?*

4. THE FORMAL ELEMENTS
- **Describe** what formal elements are in the artwork.
- **Explain** why the artist has used them.
- **Explain** how do these elements convey meaning or create an impact?

Give examples.

Line
Tone
Colour
Form
Shape
Texture
Pattern
Space

5. PROCESS
Explain how the artwork/photograph was produced.Consider the following:

Photograph
- *Is it digital or film?*
- *What techniques have been used?*
- *What settings were used?*
- *Is the image realistic or has it been manipulated in any way?*

Artwork
- *What medium/media?*
- *What techniques have been used?*
- *What size is the artwork? What (if any) impact does this have on the viewer?*

6. MOOD
Describe the mood of the artwork. Consider the following:
- *Does the work capture a mood, feeling or emotion?*
- *How would you describe the mood of the image?*
- *How has this been achieved?*

7. CONNECTIONS
- **Compare** this work to others that may be of a similar theme or made in a similar way.
- **Review** and **relate** these works to your own project. Consider the following:
  - *How does it link to your project?*
  - *What ideas does it give you?*
  - *What have you learnt from analysing this artwork/artist?*

8. Emulate (for Art)
Create your own high quality practical response to the artwork using similar media

Read through to check your work carefully before submission.

Every image has the elements of Art included within it, all Images can be analysed using the questions on the left and the use of the formal elements provide a structure to the analysis.

LINE	the path left by a moving point, e.g. a pencil or a brush dipped in paint. It can take many forms. e.g. horizontal, diagonal or curved.
TONE	means the lightness or darkness of something. This could be a shade or how dark or light a colour appears
TEXTURE	the surface quality of something, the way something feels or looks like it feels. There are two types : Actual and Visual
SHAPE	an area enclosed by a line. It could be just an outline or it could be shaded in.
PATTERN	a design that is created by repeating lines, shapes, tones or colours. can be manmade, like a design on fabric, or natural, such as the markings on animal fur.
COLOUR	There are 2 types including Primary and Secondary . By mixing any two Primary together we get a Secondary

Year 10 Acting

Component 1

This semester we will be completing your work on Component 1 One Man Two Guvnors. You must make sure that you include and understand the following information in this knowledge organiser.

Task 1: Front page: Create a collage showing all elements of Theatre Production.

Task 2: Write the roles and responsibilities of professionals (director, performer, lighting designer, Set designer, costume designer) in the industry using keywords and examples

Task 3: Create a display page (2 x A4 sides)for the pieces you are studying

Task 4: Explain the stylistic quality of the production.

Task 5: Roles and responsibilities of the performance team.

Task 6: Theme of the play.

Task 7: State the genre of the play ... then explain how this is communicated.

Task 8: Explain the purpose of the play.

Task 9: Compare and contrast the repertoire you have studied.

List of research for Component 1:

> History of Theatre
> Design elements of theatre
> Research into genres of plays
> Roles and responsibilities of theatre practitioners
> Research about OM2G's (character list, plot synopsis, genre, original performances conditions, roles in the production, design elements)
> P.E.E paragraphs explaining scenes in OM2G)

Brief Synopsis *One Man, Two Guvnors* is a fast-paced, hilarious farce that follows the mixed fortunes of Francis Henshall. Down on his luck and permanently hungry, Francis suddenly finds himself employed by two bosses. His first guvnor is Roscoe Crabbe, a revered London gangster who has, apparently, come to Brighton to claim money owed to him by his fiancee's father, Charlie Clench. However it soon becomes clear that Roscoe is, in fact, his twin sister Rachel Crabbe in disguise. Roscoe was killed by Rachel's boyfriend, Stanley Stubbers, and she wants the money to flee the country with Stanley. Unfortunately for Francis, his second boss is Stanley, who does not know that Rachel is in Brighton. Stanley is hiding from the police, waiting to be reunited with Rachel. To prevent discovery and earn money from both guvnors, Francis must keep Rachel and Stanley apart. To aid him in his quest, Francis enlists help from the audience and frequently brings unsuspecting audience members up on to the stage to do his job for him. Meanwhile, Roscoe's fiancee and Charlie's daughter, Pauline Clench, must keep Rachel's disguise a secret, risking her own future happiness with wannabe thespian, Alan Dangle. As Francis's world plunges into further mayhem and confusion, his attempts to woo Dolly, Charlie's bookkeeper, go awry and he must prove to her that he is a good, honest man. Believing Stanley to be dead, Rachel finally ditches her disguise but she is soon reunited with her lover. Normality is restored as Francis plans to take Dolly on holiday to Majorca, Pauline and Alan are reunited, and Rachel and Stanley decide to marry and turn themselves in to the police. *One Man, Two Guvnors* is a rollicking farce, which often breaks the fourth wall, as Francis enlists the aid of willing and unwilling audience members in his quest to serve two masters and finally get a good meal.

Fill the outside of the ring with theatrical skills that will help assist your writing

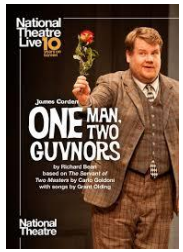
Fill this ring with ALL of your knowledge of OM2G

OM2G

Exaggeration in physicality- Lazzi's

Commedia Dell'Arte Stock Characters

One Man Two Guvnors



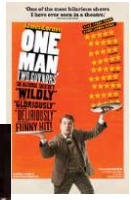
Performance characteristics:
One Man Two Guvnors is a predominantly comedy themed play which shows a range of exaggerated and melodramatic characters navigating their way to the end of the story where all their secrets are revealed. Actors use a high level of exaggeration, expression through both their vocal abilities and physicality. Characters such as Francis also tend to break the fourth wall often and address the audience regarding the trouble he has gotten himself into this time!

Staging requirements: The play was written based in the time era of the 1960's so therefore this should be conveyed through design elements such as set, costume, props and music. Companies could experiment with performing it using different types of staging exploring the use of the multiple scene changes. The decision could be made to set it in a different time and/or place, finding parallels with the theme of social class in different locations.

Original Production- One Servant to Two Masters.

Originally written in 1745 by Carlo Goldoni, the story of the classic Zanni / servant character being employed by his masters.

The play tells the story of a hungry servant who, upon realising that working for two masters could ensure him a greater supply of food, tries to do the job of two men while working desperately to conceal that fact from both employers.
The play's most famous scene takes place during a feast, when the starving Zanni attempts to serve dinner to both his masters' at the same time, without either finding out (and desperately trying to have his own dinner as well!).



Themes:
Lying
Greed
Lust
Men and women
Money
Identity
Love
Social Class

Lazzi's- What are they?
A Lazzi is defined as a improvised comedic dialogue or action. They can usually add to the plot, scene or add comedic relief in an ordinarily neutral scene.

Lazzi's are usually associated with the fifteenth century Commedia Dell'Arte! This usually helps keep the pace of a fast moving comedic play where we see the stock characters never learning from their mistakes!

Lazzi's can be split up into various subcategories such as: food, violence, acrobatic, language, props, stupidity and more!

Context: The play is set in the early 1960's Brighton-UK. We see this time era shown by many elements of production such as the characters clothing, the decoration of the set and props.
There is comment towards views of the time in regards to social class- rich and poor and equality- men and women.

Characters:
Francis Henshall
Stanley Stubbers
Rachel Crabbe
Alfie
Harry Dangle
Lloyd Boateng
Pauline Clench
Charlie Clench
Alan Dangle
Dolly

Year 10 Acting

Component 2

This semester we will be focusing on the Component 2 performance of either *A Monster Calls* or *Curious Incident.* You will need to understand the research behind the production and apply skills to this research.

A Monster Calls

Synopsis: Thirteen year old Conor O'Malley our main character is dealing with far more than other boys his age. His beloved and devoted mother is ill with cancer and he is experiencing nightmares. He has little in common with his imperious grandmother. His father has resettled thousands of miles away. But Conor finds a most unlikely ally when the Monster appears at his bedroom window one night. Ancient, wild, and relentless the Monster doesn't at first phase Conor as his nightmares are far scarier. However, this is until the Monster demands the scariest thing of all from Conor - The truth about his nightmares. The Monster guides Conor on a journey of courage, faith, and truth that powerfully fuses imagination and reality.

Characters:

- Conor O'Malley- Main character
- The Monster- Who haunts Conor
- Mother- Chronically ill
- Father- Lives far away
- Sully- School Bully
- Anton- School Bully
- Harry- School Bully
- Lily- Conor's Best Friend
- Grandma- Cold and strict
- Mrs Marl- English Teacher
- Large Ensemble

Themes: Death, isolation, grief, honesty, truth, reality

Curious Incident of the Dog in the Night-Time

Synopsis: Our main character, Christopher Boone, a fifteen year old boy who has ASD- Autism Spectrum Disorder, has found his neighbours dog dead and he has been killed. He sets out on his investigation to find the murderer of the dog Wellington, showing how somebody with ASD navigates the world around them including socially, sensory and trust. As Christopher continues his journey, despite his fathers disapproval, he uncovers more to the story than thought possible. Finding letters that alert him to the news that his mother did not die as his father first told him, but instead had moved away, he loses all trust in his father and begins his next journey to London to find his mother.

Characters:

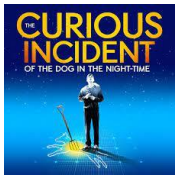
- Christopher Boone- Main character with ASD
- Ed Boone- Christophers Dad
- Siobhan- Christophers Therapist
- Judy Boone- Christophers Mum
- Mrs Shears- Next door neighbour
- Mr Shears- Judy's new partner
- Mrs Alexander- Elderly neighbour
- Uncle Terry- Christophers Uncle
- Mrs Gascoyne- Christopher's Teacher
- Mr. Thompson- Neighbour
- Mr. Wise- Neighbour
- Police Man
- Duty Sergeant
- Large Ensemble

Themes: Invisible disabilities, loss, independance, trust, adventure

Skills to work on:

- Learning your lines
- Technical skills
- Stylistic skills
- Interpretative skills
- Collaboration skills
- Physical skills
- Vocal skills
- Organisational skills
- Responding to feedback

Technical skills, stylistic skills and interpretative skills > To research the difference between these three skills and begin to create a list of skills that would go under these headings.



Tasks:

1. To write out this information into a display poster. To use colours, information and more research to create a poster that could be shown in school and that gathers your knowledge.
2. To use this research as a starting point and to research the sub-heading and find out more information about your piece. Write this down and bring it to our next lesson.
3. To take one of the scenes and to block this section. This will be to create/ write up what we are going to do with the scene and how we are going to interpret this for an audience.
4. To research your character and find out more information about your character's' development and background.
5. To choose a skill/ keyword and write a strength or area for improvement about the lesson for that week.

Year 10 Acting

Component 1 & 2 keyword support

It is important that you are working on understanding each of the terms in this performing arts glossary. This will support you in Component 1 and 2.

Keywords

Drama key words glossary…

- **Actions/Intentions:** The action verbs the actor uses to fulfill the Objective/Driving Question. i.e. to possess.
- **Activity:** A specific physical task that may or may not be connected to an action, such as a character loading a gun or packing a suitcase.
- **Ad-Lib:** Spoken words (sometimes witty comments) said out loud that are not in the script. They can also be given "off the cuff" when another actor forgets a line.
- **Apron:** The area of the stage in front of the proscenium arch.
- **Arena:** A type of stage where the audience is seated on three sides (also referred to as Thrust).
- **Blocking:** To set the movements of actors on a stage or set. Also, any given movement that enhances the scene, such as a specific character gesture.
- **Characterisation:** The actor using their craft to explore and develop the specific qualities of a character.
- **Cultural:** Relating to the ideas, customs, and social behaviour of a society.
- **Dialogue:** The written words spoken by the actors/characters.
- **Direct address:** Where an actor directly speaks to/ addresses and audience.
- **Dramaturge:** A profession in theatre that deals mainly with the research and development of plays. The dramaturge often assists the director in the preparation of a production.
- **Duologue:** a play or part of a play with speaking roles for only two actors.
- **Emotion:** The agitation of feelings such as: sadness, power, fear, love, hate and joy.
- **Endowment:** To give physical or emotional attributes to your character, to create more reality and meaning to further the needs of the story. Objects can also be endowed with physical, emotional or historical attributes: shaving without a blade, removing wet clothing when it's not wet, drinking water as if it's vodka.
- **Facial expressions:** A facial expression conveys an emotion that tells us about the character and the way they react to the situation. It may also tell us something about that situation, eg if the character is very shocked when something happens. A facial expression can also convey the character's true feelings.
- **Fourth wall:** The imaginary wall which separates the actors from the audience, and the audience from the stage. The actor uses it to create the reality in the scene, and keep one's mind in the world of the film or play.
- **Given circumstances:** The background and current circumstances of a character, ranging from who you are, where you are, and why you are doing it. The costumes, sets and lighting—all the circumstances that are given to the actor to take into account as they create their role
- **Historical:** of or concerning history or past events.
- **Improvisation:** Setting out to do a scene with no pre-planned or written idea. A process leading to spontaneous discovery that allows the actor to find real, organic impulses within themselves.
- **Intention:** Another word for an acting objective, or action, that an actor pursues while onstage.
- **Levels:** Levels can be used to suggest status - meaning the power or authority one character has over another. It's important to consider what the use of levels suggests when staging a scene. Levels can also be used to suggest various locations..
- **Magic if/What if?:** Created by Stanislavsky, the actor tries to answer the question, "If this were real, how would I react?"
- **Monologue:** An uninterrupted speech by a character in a performance. The monologue may be to another character or the audience.
- **Motivation:** The Why? The reason a character pursues a particular objective or super objective.
- **Naturalism:** A naturalistic style of theatre used to make the acting and scenes seem real and relatable to an audience.
- **Objective:** A character's pursuit of a specific goal in a scene. Also referred to as the intention or driving question.
- **Pace:** The speed at which you pick up your cue and deliver the next line of your dialogue. Pace can also be the speed that creates a style for the piece.
- **Physical gesture:** A specific movement or physical action of a character that expresses the psychology, feelings and desires incorporated into one gesture. It is often used by the actor to awaken the essence of his character.
- **Physical Theatre:** Physical theatre is used to describe any mode of performance that pursues storytelling or drama through primarily and secondarily physical and mental means. ... Work has inter-disciplinary origins - it crosses between music, dance, visual art as well as theatre.
- **Physicalisation:** To express with the body. Showing as opposed to telling. Externals of a character, such as how they eat, walk and talk.
- **Political:** relating to the government or public affairs of a country.
- **Projection:** Generally, the ability to be heard by the audience.
- **Representational:** Represents "realism." Characters in their real lives that are not aware the audience is there.
- **Semiotics:** the study of signs and symbols and their use or interpretation.
- **Social:** relating to society or its organization.
- **Sound FX:** any sound artificially produced, reproduced from a recording, etc, to create a theatrical effect.

Component 1 Support:

P.E.E paragraph

Point- To make a point in a paragraph is the specific argument or statement that you want to make.

Evidence- You must then provide evidence to show that your point is true and give facts. This might be a quote from a scene, a moment in the play, something the character says or research from the director.

Explanation- You will then need to explain why you have chosen this point and evidence and how you have explored it through theory and practically.

Point:

- In my opinion…
- The writer uses…
- Similarly…
- In contrast…
- One way the writer creates atmosphere is through…
- The writer presents their character as…
- The author is conveying the message that…
- It appears that…
- The writer explores/ emphasises/ depicts/ demonstrates…

Evidence:

- An example of this is…
- We see this in chapter/ line…
- This idea is demonstrated…
- This is evident when the author uses…
- When the character declares…
- For example…
- For instance…
- We see this when…
- This is highlighted in…
- The phrase/ word/ line…
- The writer describes this…
- This is highlighted in…

Explain:

- The shows/ suggests/ indicates…
- This demonstrates the writer's intention to…
- This is significant because…
- The writer uses this technique to…
- The context of this key fact is that…
- The adjective/ verb/ noun shows…
- This creates the image/ ideas that…
- This idea clearly links to…

ACTING

AO1 EXPLORE

DEVELOP

DEVELOP IDEAS

INVESTIGATE & RESEARCH OTHER ARTISTS WORK

ANALYSE

ANNOTATE

Sketchbooks should show your thoughts, ideas, sketches, annotations, development and research of other artists.

ANNOTATIONS

As a general rule, always try to say:

- **WHAT** you have looked at
- **WHO** made it
- **WHEN** it was made
- **WHY** it is inspiring to you
- **HOW** it will effect your own work

When talking about your own work, try to say:

- **WHAT** you have done
- **HOW** have you done it
- **WHAT** inspired you
- **WHAT** else did you try
- **WHY** is it successful
- **IS** there anything you would change

ALWAYS TRY TO BE POSITIVE!

AO4 OUTCOME

PRESENT

FINAL IDEAS

DEVELOPED AS PLANNED

CLEARLY RESPONDS TO ARTISTS EXPLORED

CONNECTION

CONCLUSION

AO2 REVIEW

REFINE

EXPERIMENT

EXPLORE DIFFERENT IDEAS AND MEDIA

A RANGE OF TECHNIQUES & PROCESSESS

SELECT

IMPROVE

Artist References: Peter Randall Page, Aurora Robson, Dale Chihuly, Eduardo Paolozzi, Jim Dine, Hannah Hunter

AO3 EVIDENCE

RECORD

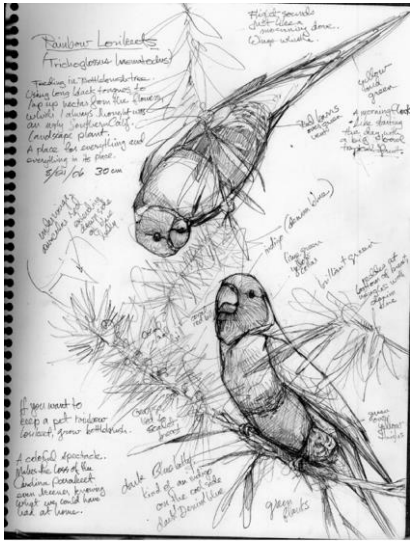
PRESENT IDEAS

PRIMARY OBSERVATION

DRAWING, PAINTING, PRINTING, PHOTGRAPHY, WRITING, PHOTPGRAPY...

ANNOTATE

DIFFERENT MEDIA



Extended learning: Homework tasks will be set regularly by your class teacher. These tasks should take you on average 40 minutes to complete and you will have a week to complete each task. All homework tasks will relate directly to your coursework portfolio and are important part of your project work.

1. Data units

Bit (b)	The smallest unit of data. 0 or 1
Nibble (N)	4 bits
Byte (B)	8 bits (note the difference between b and B)
Kilobyte (KB)	1000 bytes. Note KB is different from Kb
Megabyte (MB)	1000 KB
Gigabyte (GB)	1000 MB
Terabyte (TB)	1000 GB
Petabyte (PB)	1000 TB

2. Conversions

- Binary to Denary
- Denary to Binary
- Hexadecimal to Denary
- Denary to Hexadecimal
- Binary to Hexadecimal
- Hexadecimal to Binary
- Left Binary Shift
- Right Binary Shift

3. Operations

Binary addition	You should arrange the two binary numbers above each other so that the columns line up. Start on the rightmost digit and add them. If there are any carries, write them down next to the next left column.
Overflow	If the answer to the left column results in a carry, this is known as an overflow and it causes an overflow error. This can cause problems if a computer program hasn't been written to handle overflows.
Left Binary Shift	Make the number longer, and therefore bigger. Each place it shifts will double the value. A binary left shift of one place (<<1) will double the value, a binary left shift of two places (<<2) will quadruple (multiply by 4).
Right Binary Shift	Make the number shorter, and smaller. The right most digit is "lost", so we forget about it. A binary right shift of one place (written as >>1) halves the number, and a binary right shift of two places (>>2) will quarter it.

4. Characters

Individual Characters	Each character is assigned an individual binary code to represent it. The number of bits depends on the 'encoding' used
Character Set	The name given to a collection of characters matching to binary codes. There are many examples.
Choice of Character Set	A character set encoded with more bits allows more characters. This is useful for accents, symbols, emojis, other languages (e.g. Chinese)

5. Examples of Character Sets

ASCII	7-bits to represent characters allowing 128 characters to be represented
Unicode	16 / 24 / 32 bits. Covers many modern and historic languages, as well as lots of symbols which are used in maths and other specialist areas. Has more characters than ASCII but needs more bits per character.

6. Images

Bitmap	A means of representing an image digitally. The image is broken into a grid, with each element of the grid (a pixel) being of one colour only.
Pixel	The smallest element of a bitmap image. A "PICture ELement" in its grid.
Colour Depth	The number of bits used to represent each pixel in a bitmap image. An 8 bit image can show 2^8 or 256 colours.
Resolution	In a bitmap image resolution is measured in PPI (Pixels per inch), sometimes called DPI (dots per inch). Higher resolution means better picture quality
Metadata	Data to tell the computer how to decode the image. Includes size in pixels (width x height), colour depth, location where image was taken, etc.
Image size	The size of an image is width x height x colour depth (+10% for metadata)
Factors	Greater colour depth and/or greater resolution will make the file size bigger, and improve the quality of the image; and vice versa

7. Sound

Analogue / Digital	Analogue sound waves must be converted into digital sound waves by taking a sample of the sound at set intervals. This is because computers can only work with digital 'numbers', and not analogue 'sound'
Sample rate	Number of times analogue signal is sampled per second. Measured in Hertz
Bit depth	Number of bits used per sample. Sometimes known as sample resolution
File size	Sample rate x bit depth x seconds
Factors	Larger sample rate and/or bit depth will make the file size bigger and improve the playback quality; and vice versa. Also, making the duration of the recording longer will make the file size bigger, and vice versa

8. Compression

Compression	Compression is when a file is encoded so it uses fewer bits than the original file format
Lossless compression	Gets rid of unnecessary data to re-present data without losing any information. This process is reversible
Lossy compression	Gets rid of the least essential data. This is an irreversible process: once data is lost it can't be recovered

1. Types of Networks

Network	A set of connected computers and other devices (e.g. printers, phones, HomeKit devices) for the purpose of sharing resources
LAN	Local Area Network. Covers a small geographical area (a home, a school, etc.) The infrastructure is often owned by the individual / organisation
WAN	Wide Area Network. Covers a large geographical area. WANs are made up of LANs joined together. The infrastructure is often owned by a Telecoms or other company, rather than an individual.
Advantages to using a LAN	• Resources (files, etc.) and devices (printers, etc.) can be easily shared across the network • Computers can be configured with the same 'image' so you have the same programs and access to your data from any computer (like in school) • You can control devices (e.g. HomeKit)
Disadvantages to using a LAN	• Security. Malware can spread across a network • Complexity of setting up and maintaining

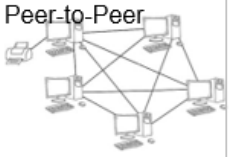
2. Factors affecting performance of a network

Latency	Latency is the term used describe the time it takes data to travel from one designated point to another on the network. You can get bottlenecks in parts of your network, either because of a faulty switch, or due to the design of your network. These will increase latency, slowing the network.
Bandwidth	The maximum amount of data transmitted over an internet or LAN connection in a given amount of time.
Transmission Media	WiFi generally has less bandwidth than wired connections. Wired connections (ethernet) can be different speeds (10Mbps, 100Mbps, Gigabit). Switches and routers also have maximum speeds
Concurrent Users	The more users there are on a network the more data is likely being transmitted. This means it can take longer as you have to wait your turn for your packets to travel across the network

6. Star and Mesh Topologies

Star Network	Cheaper than mesh network. Less cabling. Easy to add devices BUT total reliance on central node. If this fails then the whole network fails		Mesh Network	Full or partial. More cabling than star. Costs more to install. Harder to add a device. Harder to maintain BUT it has no Single Point of Failure	

3. Network Types

Client-Server 	The network relies on a central server and all the clients (devices) request services from the server such as print services, file services etc. The server is additional hardware needed for this type of network. All files can be stored and backed-up centrally on a server which means workers can access files from any computer on the network and the computers can also be updated centrally.
Peer-to-Peer 	All computers have equal status and any computer can act as a client and a server—even at the same time. All computers can request and provide network services. For example, any computer can use a resource physically connected to a different computer. There is no need to buy a dedicated server

4. Required Hardware

NIC	Every computer or networkable device has a Network Interface Card (NIC). It allows connection to other devices on the network. It can allow wired connections, wireless connections, or both
Transmission Media	What connects the computer/devices to each other. Either Wired (such as Copper cables or fibre optic cables) or Wireless signals
Switch	A device on the network (e.g. inside one LAN) that receives signals from a computer/device and transmits the signal to its intended recipient
Router	A device used to connect different networks together. For example a home LAN to the internet, or a fibre optic cable to a home WiFi network
WAP	A Wireless Access Point is a device that receives and transmits wireless signals on the network. Often connected to rest of the network by cables

5. The Internet

The Internet	The Internet is a global collection of interconnected networks
DNS	The Domain Name Server is a large directory allowing the Internet Service Provider (ISP) to look up the correct IP address for the desired website
Hosting	If you don't own your own servers and host your website yourself, you can use a company to do it for you. They will monitor and maintain their servers, which they are renting you space on
The Cloud	Data can be stored 'in the cloud'. This means on servers (in server farms) run by big companies. The data can be accessed from anywhere
Web Servers and Clients	Servers provide services (e.g. Web server → Web pages, File server → file storage/retrieval). Clients request / use services from a server

1. Modes of Connection

Wired (e.g. Ethernet)	Ethernet is a set of standards (protocols) for how data is transmitted over a wired local area network. It is the most common set of protocols. Data is transmitted in 'frames' which contain data 'packets'.
Wireless (e.g. Wi-Fi)	Wi-Fi is a means of allowing computers, smartphones, or other devices to connect to the Internet or communicate with one another wirelessly within a particular area. It has a typical range of about 90m outdoors and 45m indoors. It takes quite a lot of power (relatively) and has a high bandwidth (but less than a wired connection)
Wi-Fi advantages and disadvantages	• Users can move around freely • Easier to set up and less expensive than wired • Speeds are slower than wired networks • Relies on signal strength to the wireless access point (WAP) • Signal can be obstructed by walls/ceilings and is vulnerable to electrical interference. • Less secure than wired networks
Bluetooth	Bluetooth is a standard for the short-range wireless interconnection of mobile phones, computers, and other electronic devices. It has a range of about 10m, takes very little power, and has a relatively low bandwidth

2. Encryption

Encryption	Data is translated into a code so that only authorised users, or users with the key can decrypt it.
Why is it needed?	Network traffic can be intercepted. Wireless traffic is particularly vulnerable as it is broadcast in all directions. Encryption ensures that data cannot be understood by unauthorized users even if it is intercepted, so it stays secure.

3. IP and MAC Addresses

MAC address	Every device on a network has a Network Interface Card (NIC). Every NIC (in the world) has a unique Media Access Control (MAC) address. Switches use MAC addresses to route frames (packets of data) on a LAN. MAC addresses are static (cannot be changed).
MAC	12 hexadecimal digits, usually grouped in pairs. e.g. **E0-25-D4-3C-A5-71**
IP address	IP Addressing is used by Routers to route frames on a WAN. Every device on the internet has a unique IP (Internet Protocol) address which is assigned to the device by a server. Two main standards: IPv4 and IPv6, which allows for far more addresses than IPv4. IP addresses are dynamic, they can change if the device moves onto a different network.
IPv4	4 blocks of denary between 0 and 255, separated by full stops. e.g. **192.168.0.1**
IPv6	8 blocks of 4 hexadecimal digits, separated by colons. e.g. **6164:6120:6C6F:7665:6C61:6365:2043:4B4B**

4. Standards

Why we need standards	Standards provide rules that make sure different manufacturers create products that work together – both hardware and software. Standards exist for every aspect of networking, including Ethernet, Wi-Fi, Bluetooth, domain names, hardware and more. An example is the IEEE 802.11 standard for Wi-Fi, which ensures that networks use the same range of frequencies and the same protocols.

5. Common Protocols

Protocol	A set of rules defining the format by which communication takes place.
TCP/IP	Transmission Control Protocol/Internet Protocol. Used to communicate over LANs and WANs
HTTP / HTTPS	Hypertext Transfer Protocol (secure). Used for webpage requests
FTP / FTPS	File Transfer Protocol (secure). Used for file transfers
POP	Post Office Protocol. Used for receiving e-mail. Downloads e-mail from the server to your device and deletes it from the server
IMAP	Internet Message Access Protocol. Used for receiving e-mail. Keeps e-mails on server. This allows your device to stay in sync with the server
POP vs IMAP	POP you have your mail on one device since it is deleted from the server. IMAP each device syncs to server so your mail can be on multiple devices
SMTP	Simple Mail Transfer Protocol. Transfers outgoing emails from one server to another / from an email client to a server

6. Layers

Concept	The concept of layering is to divide the complex task of networking into smaller, simpler tasks that work with each other.
Responsibility	The hardware and/or software (protocols) for each layer has a defined responsibility. Each layer provides a service to the layer above it
Advantages	Reduces the complexity of the problem into manageable sub-problems. Devices and software are manufactured to operate at a particular layer. Changes to one layer do not affect hardware/software in other layers.

1. Forms of Attack

Malware	Software written in order to infect computers and commit crimes e.g. fraud or identify theft. Malware exploits vulnerabilities in software
Types of Malware	Malware is term that covers (among other things) viruses, trojans, worms, ransomware, spyware and adware
Social Engineering	Commonly involves tricking users into revealing sensitive information, such as passwords or PIN numbers. Relies on human interaction (social skills). For example, "Phishing" is an online fraud technique used by criminals. It is designed to get you to give away personal information such as usernames, passwords, bank details, credit card details… Achieved by disguising as a trustworthy source in an electronic communication, e.g. an email or fake website.
Brute Force Attack	A trial and error method used to decode encrypted data (such as passwords). Uses every combination until it hits upon the correct one.
DOS Attack	Denial of Service attack. Floods a server with useless traffic causing the server to become overloaded and unavailable
DDOS Attack	Distributed Denial of Service Attack. Using multiple computers (zombies) in a Botnet to undertake a DOS attack
Data Interception and Theft	Stealing information from an unknowing victim's computer in order to get confidential information, or to compromise their privacy. E.g. to sniff usernames and passwords
SQL Injection	A technique used to view or change data in a database by inserting additional code into a text input box, creating a different SQL command

2. Threats posed to Networks

Malware	• Files are deleted, become corrupt or are encrypted. • Computers crash, reboot spontaneously and slow down. • Internet connections become slow. • Keyboard inputs are logged and sent to hackers.
Social Engineering	Many system vulnerabilities are caused by people being careless: • Not installing operating system updates. • Not keeping anti-malware up to date. • Not locking doors to computer rooms. • Not logging off or locking their computer. • Leaving printouts on desks. • Writing passwords down on sticky notes attached to computers. • Sharing passwords. • Losing memory sticks / laptops. • Not applying security to wireless networks. • Not encrypting data.
Phishing	• Accessing a victim's account to withdraw money, or purchase merchandise and services. • Open bank accounts, credit cards, cashing illegitimate cheques. • Gain access to high value corporate data. • Financial services can blacklist the company
Brute Force Attack	• Theft of data. • Access to corporate systems.
(D)DOS Attack	• Loss of access to a service for customers • Lost revenue • Lower productivity • Damage to reputation
Data Interception and Theft	• Usernames and passwords compromised • Disclosure / theft of corporate data
SQL Injection	• Contents of databases can be output, revealing private data. • Data in the database can be amended or deleted. • New rogue records can be added to the database.

3. Identifying and Preventing Vulnerabilities

Malware	• Security software (Spam filter, Anti-virus, Anti-spyware, Anti-spam) • Enabling OS and security software updates. • Staff training • Backup files regularly onto removable media.
Social Engineering	• Strong security software. • Staff training: awareness of spotting fake emails and websites. • Staff training: not disclosing personal or corporate information. • Staff training: disabling browser pop-ups.
Brute Force Attack	• Network lockout policy, Using progressive delays. • Staff training
(D)DOS Attack	• Strong firewall and packet filtering • Properly configuring servers and auditing and monitoring systems
Data Interception and Theft	• Encryption and using virtual networks • Staff training and computer use policies
SQL Injection	• Validation on text boxes • Database permissions

R081 Pre-production Skills

Learning Outcome 1: Understand the purpose and content of pre-production

Mood Boards

Definition

The purpose of a mood board is to assist in the design of a media product by collecting a wide range of materials (images, fonts, colours, etc.) that give an overall feel for what is needed. A mood board therefore provides a starting point which can be used for discussion with the client and can also be used to keep the project on track by referring back to it. It is **not** a representation of what the final product will look like.

Example

The above mood board shows examples of images, styles and colours that may be used in a graphic.

Mind Map/ Spider Diagram

Definition

These can be used to quickly generate different ideas or to show links between different concepts. Mind maps will have a central theme with branches springing from it connecting different sub nodes. They are used at the start of the design process.

Example

This example has a central theme springing different ideas. Each idea springing from the central theme is called a 'node'.

Storyboards

Definition

Storyboards are used for moving images (animation/film) to help plan what will happen throughout the course of a scene. A storyboard will show images of what is happening in the scene and can also be annotated with a description of the scene and how long it lasts for. Story boards will help people to visualise the camera angles that will be used as well as different aspect of lighting, special effects/sounds and props/costumes. More importantly a storyboard will show how the different elements of a scene fit together. This can be shared with the client before production begins so that changes can be suggested and agreed. It can also be shared with the cast and crew as a guide to what they should be engaged with at a particular time. Storyboards may also help to build up an idea of the budget that may be required.

Example

The above storyboard shows each sections place in the scene, duration and denotes what will be happening along with a pictorial representation.

Visualisation Diagram

Definition

Visualisation diagrams are used to plan the layout of a static image in a visual manner. This will give an indication to the client of how the final document might look. This will enable them to suggest changes before the image goes into production which will save time in the long run.

Example

The visualisation diagram above gives an accurate portrayal of what the final graphic might look like. In this case the graphic is a DVD cover.

Scripts

Definition

Scripts perform a number of different functions including; identifying the place where an action is to take place, identifying which different characters will be in a particular scene, providing stage directions (movements), and stating what dialogue will be used in a particular scene. Scripts will also contain comments about the particular mood for a scene which the actors can use to take cues from.

Example

MICHELLE
That's more like, um... Ethics is how you use the morals... that you learn from a story?

JIM weighs the answer, tries to be encouraging.

JIM
Okay. But we've still missing something key here. What are we missing?

TRACY
(hand still raised)
I know.

JIM
(finally)
Tracy.

TRACY
Ethics are...

FREEZE FRAME on Tracy, her hand lowering, her mouth agape.

The script above shows the dialogue between the two characters, as well as setting the scene for what the characters are thinking and their actions.

R081 Pre-production Skills

Learning Outcome 2: Be able to plan pre-production

Client Brief / Target Audience

Definition

Interpreting client briefs – A client brief will explain what the client's needs are for a specific product. It will also normally outline who the target audience is for the product that is to be designed as well as any specific design elements that the client may have. It is then the job of the designer to interpret this to develop success criteria through which the product can be developed.

The importance of target audience – The target audience is the group of people who the end product will be designed for. The client could request that the product be developed for people of a certain age, gender, occupation or with specific interests. The type of person who the product is being developed for will have a huge impact on how it is designed influencing colours, images, complexity, etc. Without having a really good understanding of the target audience it is unlikely that a designer will be able to create an effective solution to the client's needs.

Health and Safety Considerations

There are a number of different health and safety concerns that could arise in the media industry including; loud noises, machinery, lighting, weather, heavy lifting, trip hazards, working with water and electricity. Methods of reducing these risks needs to be considered before work starts!

Legislation

Copyright - gives the creator of an original work the intellectual property right to decide how the work can(not) be used. The creator is protected by the law so that any breach of copyright could lead to people who have used the work without permission being sued. This could lead to them having to pay compensation to the copyright holder and for businesses would have a negative impact on their reputation. If the creator of an original work feels they would like others to be able to use it free of charge then they can register it under a creative commons licence to enable people to do this so long as they acknowledge the original creator and any limitations as to use.

Trademarks – a trademark is a method used by businesses to make their work recognisable. This could be in the form of an image (logo), word, phrase, symbol or design. The symbol ® is used for a registered trade mark and ™ for an unregistered trade mark.

Data protection – this legislation makes it the responsibility of organisations to seek permission to hold personal information about people (e.g. names, addresses, phone number, etc.), be transparent about how they use the information and ensure that it is kept secure. As such they need to ensure that they follow these rules:

1. Always have permission from the person whose data you are storing.
2. Only keep the amount of data that you have a reason to keep.
3. Only keep the information for as long as it is required.
4. Ensure that any information held is kept up to date.
5. Ensure that the information is stored in a secure location and that all possible steps are taken to avoid theft, deletion or modification of data.
6. Do not share the information with other organisations without permission.
7. Never share data with organisations in other countries that do not have data protection legislation.

Breach of these rules can lead to legal action being taken against the company and damage caused to its reputation.

Privacy – In UK law the right to privacy is protected under the Human Rights Act 1998. This means that a person has the right to have their private and family life respected, and as such not to be subjected to an invasion of privacy in their home or to have their correspondence tampered with (post, emails, telephone, etc.)

Defamation – this is where a false statement has been made about a person that could cause damage to their reputation.

Certification and Classification

U – This rating is aimed at children of 4 years and older. As such to meet this requirement media must ensure that there is no language which may be considered discriminatory (unless disapproved of) or offensive. There should be no nudity of a sexual nature and violence will be very mild. Drug used should not be present unless in the form of an educational message.

PG – As for U except mild violence may be permitted as long as it is not prolonged and is in context. Frightening sequences where characters are in danger should not be prolonged and sexual activity can only be implied.

12 – Misuse of drugs must be infrequent and should not be glamorised. Media should not promote dangerous acts that could be imitated. Nudity should be discreet and seldom. Horror images may be shown however these should not form the main basis of the work. There may be moderate violence but this should not lead the viewer to dwell on the detail.

15 – Discriminatory language may be used (racist, homophobic, etc.) however this cannot be endorsed by the film. Drug use may be shown but this should not be glamorised. Dangerous situations can be shown however these should not be easy to imitate. Strong language may be used infrequently and in context. There are no constraints on nudity in a non-sexual nature. Strong violence may be shown but the image should not focus on pain or injury.

18 – These works are deemed as being suitable only for adults who are free to choose their own entertainment.

R081 Pre-production Skills

Learning Outcome 3: Understand the purpose and content of pre-production

Creating Pre-production Documents

Mind mapping – There are multiple steps which can be used in order to create an effective mind map:

1. You need to ensure that you start with a central idea. This should be in the centre of the page so that it draws your attention. You can also include an image that represents the mind map's topic, this will help to strengthen the connection you have to the main theme.
2. Add branches to the mind map – the main branches forming from the central idea should each follow a specific theme, which can then be explored in more depth by adding more branches from them giving more detail.
3. Ensure that key words are used on separate branches as this will help to spark more associations.
4. Colour code the different branches of the mind map to help personalise it further and add more visual stimulation.

Visualisation diagrams – when creating these it is important that you remember who the audience is as this will affect the amount of detail that needs to be included. Remember this should give the client a clear idea of what the final product will look like. Add annotations or labels where required to enhance their understanding. Also if required give an indication of scale.

Storyboards – A storyboard is a series of diagrams that shows a sequence of displays. A storyboard should contain the number of scenes, scene content, timings, camera shots (e.g. close up, mid, long), camera angles (e.g. over the shoulder, low angle, aerial), camera movement (e.g. pan, tilt, zoom or using a track and dolly), lighting (e.g. types, direction), sound (e.g. dialogue, sound effects, ambient sound, music), locations (e.g. indoor studio or other room, outdoors).

Scripts - Scripts perform a number of different functions including; identifying the place where an action is to take place, identifying which different characters will be in a particular scene, providing stage directions (movements), and stating what dialogue will be used in a particular scene. Scripts will also contain comments about the particular mood for a scene which the actors can use to take ques from.

File Formats

Depending on the different type of document being created a different file format will need to be selected. The table below outlines the different file formats available for different types of media:

File	Use	Description
MPG	Video Files	• Compressed file formats (Lossy) • Smaller file sizes • Faster loading online (speed) • Compression lowers quality
MOV		
MP4		
SWF	Animation	• Compressed file formats • Small file sizes • Fast loading online (speed) • Can be animations, games and video
FLV		• Flash video format • Not compressed • Opens in 'Flash' software • Editable
JPEG	Image Files	• Lossless compression; photography
GIF		• Small file sizes/ Online / web buttons
PNG		• Lossless compression; supports transparency; photography
TIFF		• Large file sizes / Posters / high quality printing
PDF		• Un-editable/ Documents
WAV	Audio Files	• Uncompressed / high quality / Windows only
AIFF		• Uncompressed / high quality / Mac only
MP3		• Compressed / small file sizes / good for devices

Naming Conventions

Ensure that all files are given an appropriate name so that they could be identified by a third party. Where there are different versions of a file version control should be implemented by adding the version of the document to the end of the file name e.g. _V0.1 would indicate that it is the first version of the file.

R081 Pre-production Skills

Learning Outcome 4: Be able to review pre-production documents

Reviewing a Pre-production Document

Introduction

In order to review a pre-production document it is important to ensure that you are consistently referring back to the brief / client's requirements - Review and compare your work to the original brief – have you done what was asked? How? Think about the following:

- Format – Has the client specified the type of file format or layout required? If not how have you interpreted what is needed to deliver on this?
- Style – Has the client requested a specific style? Or do you need to analyse the target audience to develop a suitable house style? How have you achieved this?
- Clarity – Is the documentation understandable? Look back at the documentation and think that if you were the client, would you be able to understand the plans that have been drawn up in sufficient detail in order to make an assessment of whether they are correct or not. Clarity in the design phase will save a lot of time and effort in the long run as fewer things will need to be corrected before final approval.
- Suitability of content for the client and target audience – this could be in terms of the content that has been included in the design or the level of language that has been used e.g. is it too simplistic or complex. Pitching this right is a real skill that needs to be developed over time.

Analysing Positives and Negatives

When thinking about what went well in the project, and what could potentially be improved upon, make sure that you refer back to the project brief and comment on the following:

- Format
- Style
- Clarity
- Suitability of content for the client and target audience
- Colour scheme
- Content

Writing a Conclusion

When writing a conclusion in order to be successful you need to summarise in brief how well you feel you met the requirements of the overall brief. Also assess what you have learnt from the process of the project and explain how this could be taken forward into future projects that you may undertake. You should also give some consideration to the future of the project that you have undertaken. How could it be further improved or extended upon? For example. You should write about your role in the project management process e.g. how well do you feel you managed your time/ resources? How well did you act on advice or feedback from the client?

Finishing Touches

In order to make sure that the final pre-production documents are professional you should always take care to do the following:

- Use technical language & terminology correctly and to a level that will be understood by the target audience.
- Focus on correct spelling, grammar and punctuation.

Btec Dance

Physical Skills

Alignment Correct placement of body parts in relation to each other.

Balance A steady or held position achieved by an even distribution of weight.

Control The ability to start and stop movement, change direction and hold a shape efficiently.

Coordination The efficient combination of body parts.

Extension Lengthening one or more muscles or limbs.

Flexibility The range of movement in the joints (involving muscles, tendons and ligaments).

Posture The way the body is held.

Stamina Ability to maintain physical and mental energy over periods of time.

Strength Muscular power.

Examples of how to improve alignment and balance in a retire in turn out. For SMART targets find **examples of exercises and tasks** you can do to improve physical skills.

Terminology

Actions What a dancer does eg travelling, turning, elevation, gesture, stillness, use of body parts, floor-work and the transference of weight.

Choreographic approach The way in which a choreographer makes the dance.

Choreographic devices Methods used to develop and vary material.

Choreographic intention The aim of the dance; what the choreographer aims to communicate.

Choreographic processes Activities involved in creating dance such as improvisation, selection and development.

Choreography The art of creating dance.

Constituent features Characteristics of choreography such as style, stimulus, subject matter, number/gender of dancers, action content, choreographic principles, form and structure, physical and aural settings.

Btec Dance

How to: Improve Alignment

https://www.youtube.com/watch?v=Lon1p_pUxZ8

https://www.fitpro.com/blog/index.php/dance-alignment-perfect-posture/

https://www.yogajournal.com/poses/better-posture-101

https://www.youtube.com/watch?v=ZchX0gS_Iw8&t=27s

https://www.youtube.com/watch?v=LzPCgU-eea4

https://www.youtube.com/watch?v=9zu9x_HSh_g

https://www.youtube.com/watch?v=L6ovGVCqh2o

How to: Improve Strength

https://www.youtube.com/watch?v=dC0g024RfAs

https://pureenergybcs.com/blog/2016/8/16/5-exercises-you-can-do-at-home-to-be-a-better-dancer

https://www.varsity.com/news/dance-team-strength-conditioning/

https://www.youtube.com/watch?v=m4LWCV_cbjM

https://www.youtube.com/watch?v=LSBFlBqkgtg

https://www.youtube.com/watch?v=OwcdvlJb0L8

Keywords you need to know for this component:

Stylistic Qualities: the particular way and choreographer/performer has used techniques, methods and features in their work.

Stimulus: What the dance is based on, the starting point for the choreography

Style: Type of dance genre eg.Ballet/Tap/Jazz

Social Context: A dance work that refers to the society or culture in which it is made and that reflects the dynamics within that society or culture. Such things as lifestyle, socio-economic status, employment, race may influence or be reflected in the dance work.

Contextual Influences: cover a range of aspects that can influence the ways in which a dance was choreographed, and the ways in which it is received by an audience.

Contextual influences can include aspects such as:

- the historical period the dance was choreographed in
- the kind of society the choreographer lived in
- the political climate prevalent at the time
- the cultural influences the choreographer/dancer was subject to
- the way the features of the dance reflects a particular time or place
- how the dance has been influenced by the events of the choreographers life
- how our reading of the dance might be influenced by our own contextual factors, ideas and beliefs

Arabesque: The gesture leg is extended behind the dancer's body at 90° or higher

Attitude: The hip of the gesture leg is at 90°, the knee is bent, and the foot is pointed

Chaînés: "Linked like a chain". A series of small turning steps with the feet in first position relevé

Coupé: "To cut". A small intermediary step, used as a link between steps, such as jeté, pas de bourré, etc., using the cou-depied position.

Demi: Half. As in demi-plié.

Dèveloppé: A large, relatively slow leg gesture. The gesture limb begins from first or fifth position, passes through passé, to extend at 90° or higher to the front (en avant), side (a la seconde), or back (en arrière - arabesque).

Pirouetté: "Whirl or spin". A controlled turn on one leg in relevé.

Plié: A bend of the knees while the torso is held upright

Relevé: A rise or spring onto the toes (demi- or full pointe) from plié.

Retiré: A static position in which the hip of the gesturing leg is externally rotated and abducted, the knee is flexed, and the foot is pointed and touching the knee of the stance limb.

Design brief analysis and key terms

Analysing a brief

When design a product you need to what information you are being given in order to find a solution to the engineered problem.

Look for info on what….

Physical requirements - what does it do, hold, cover carry?
Aesthetics - how it looks
Size - does it have maximum/minimum size, is it replacing something?
Function - what does it do/control?
Performance requirements - How can you measure its success, does it work well?

Features of an engineered product

Dimensions - Size
Tolerance - How much bigger or smaller can a product be and still fit/work?
Surface finish - measure in micrometres (µm). How it might look or wear or resistant to corrosion/rust water.
Physical form - 2D 3D flat curved. Is it long joined to something, sharp edges etc.

Key terms and definitions for analysing a brief

Form - why it is shaped as it is?

Function - what its function is – whether it works.

User requirements - what attributes would persuade users to choose the product and why?

Performance requirements - What would the product be required to do to achieve optimum performance.

Material and component requirements - what would each part of the products material need to achieve to perform correctly.

Ease of manufacture - How easy can the product be manufactured?

Ease of maintenance - Does the product require routine servicing, if so how can this be performed?

Legal and safety requirements - Are there any legal standards the product should meet?

Aesthetic Properties - How does the material look?

Mechanical Properties - Does the material move?

Electrical Properties - Does the material require a current to pass through it?

Raw Material and Processing - How is the material made?

Environmental Impact - How does the material affect the environment?

Reusability - Can the material be recycled?

Prototypes

A test model either virtually on computer or a model.

Why?

To find faults and mistakes, to test one example therefore preventing expensive mistakes. Several prototypes can be made to develop a design making improvements on each one.

How?

Functional tests - Checking everything works,moves, fits
Ergonomic tests - Checking easy to use, controls can be reached
Destructive tests - Will it break, how much can it take, load,pressure.

Key terms and definitions

Third angle projection - Three views of an object
PPE - Personal protective equipment
Scale - The relation between the real size of something and a model or drawing
Isometric drawing - 3D drawing 30 degrees from the horizontal.

Types of work instructions
Flow charts
Schematics and diagrams
Job cards
Production plans
Reason
Make sure processes carried out correctly
Reducing likelihood of mistakes(step by step process
Making sure correct tools used.
Improving a production plan
Simplify the task.
Remove unnecessary stages, number of tools and machines.
Standardised components

Materials recap
Ferrous Metals - Contain Iron, eg stainless steel
Non Ferrous metals - No Iron, such as bronze or brass or a mixture of metal(alloy) often mixed to make it stronger.
Thermosetting polymers - heated, formed once cannot be reformed. Useful where a lot of heat is applied eg. Kettle.
Thermoforming polymers - heated and reformed over and over. Eg Acrylic.
ABS - Acrylonitrile Butadiene Styrene

Recording of Data
For the result of engineering investigation, recording of data is required.
Consider accuracy & Reliability.
Examples. Graphs and charts.

Manufacturing processes

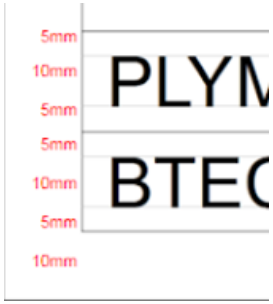
Cutting processes
Drilling - Holes, either all the way through or flat bottomed.
Sawing - Mechanical or manual cutting of material
Filing - removing sharp edges or shaping round edges.
Shaping processes
Turning - Producing a range of shapes and diameters of round bar
Milling - removing material to create slots or parallel lines, grooves, recessess.
Forming processes
Casting - sand casting or die casting in a die (mould).
Forging - drop forging, upset forging, forcing heated metal into shape through shaping machinery.
Extruding - forcing soft polymer through a die.
Moulding - Vacuum forming or injection moulding.
Joining and fabrication processes
Fastening - mechanical join between two components eg screws, nuts, bolts.
Bonding - glue and adhesives.
Soldering - melting solder to join electric components to a circuit board.
Brazing - Joining different metals together using heat.

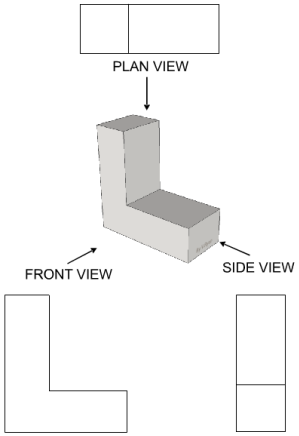
Layout out of an Engineering drawing

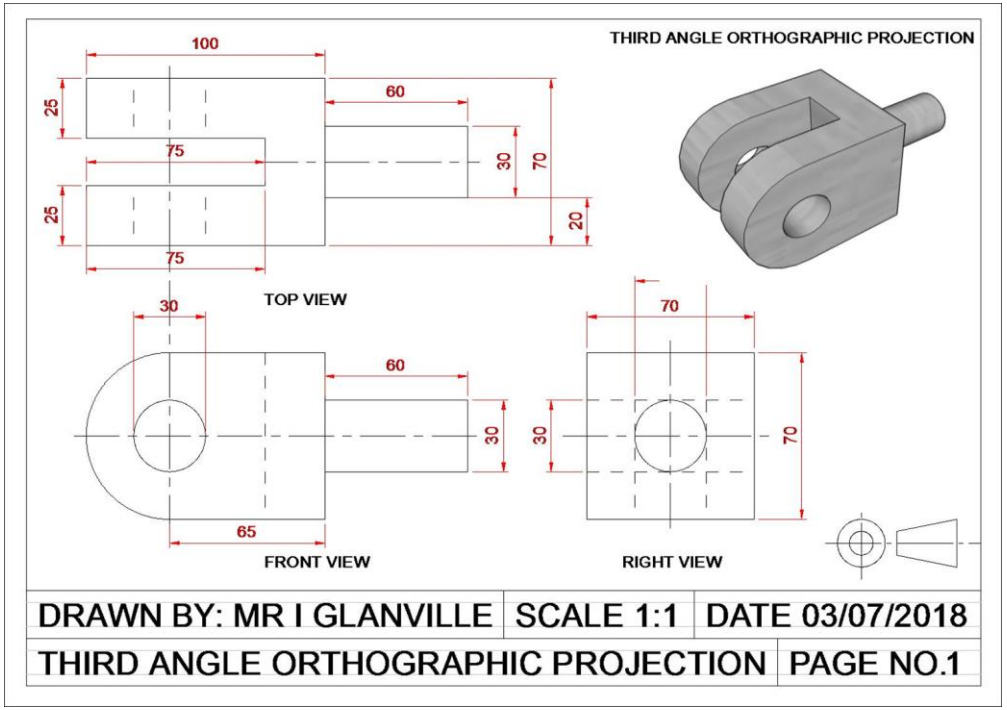
Before drawing an engineered component a suitable border and title block is required. The drawing border and title block has the following Dimensions

.

5mm space
10mm text line
5mm space
10mm border







Information required can include, name of person completing the drawing, what the drawing is, the name of the company, a date and perhaps a number if it is a series of drawings.

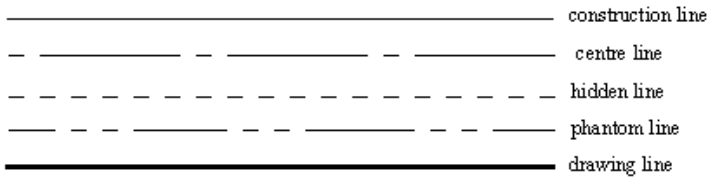
Types of lines

A **construction line** is a really light line. It is a line that can be removed for the final drawing, it may be a part of a circle that was draw or a line that was used to lay the drawing out correctly.

A **centre line** shows the centre of an object or components that is equal in size on either side.

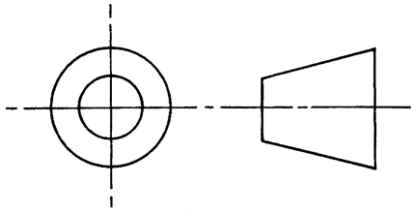
A **hidden line** shows a space, void or part of an object that can not be seen from the view that has been drawn. Although it cannot be seen it still needs to be represented and is show as a dashed line.

A **dimension line** shows the size or length of part of the component or object



Third angle orthographic projection

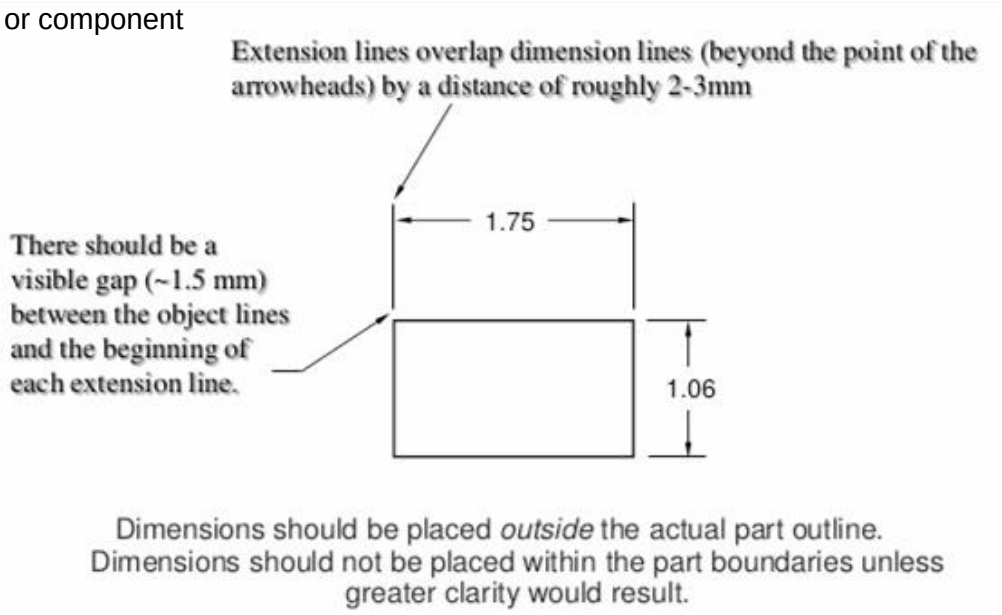
The standard symbol that you will find on a drawing arranged in a third angle projection looks a traffic cone.
This will help remind you how to set out the drawing



This means the first drawing you will see is the top view, then the side view.

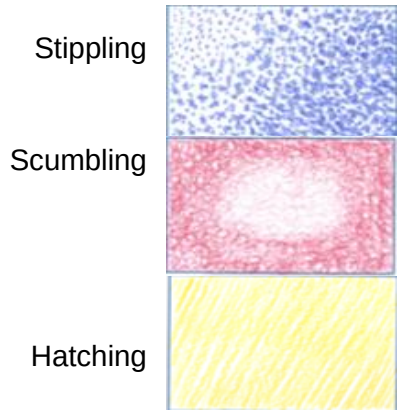
Representing dimension lines on a drawing

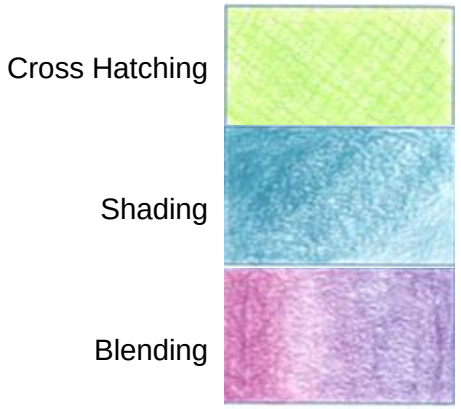
Dimension lines show the size or measurements of an engineered product or component



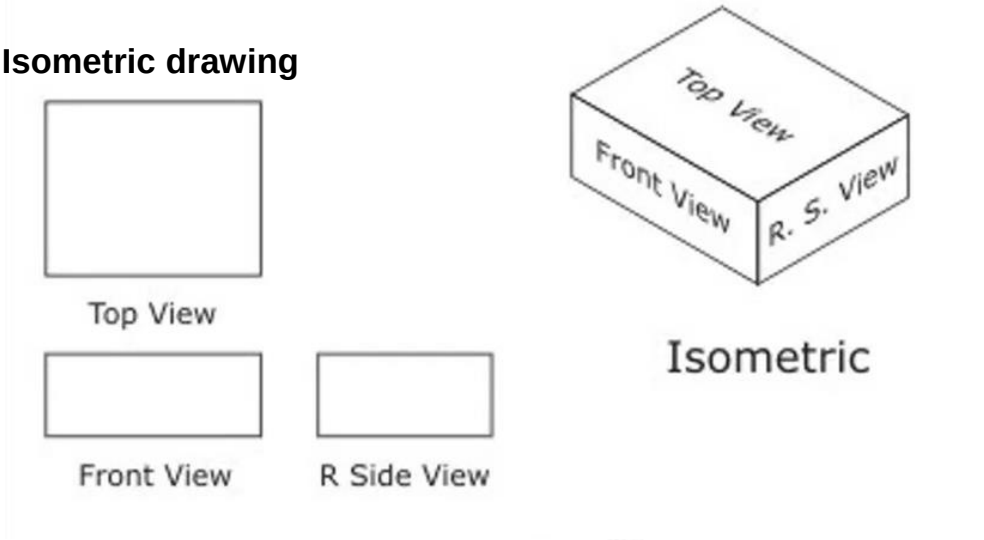
Types of rendering

Shading or rendering a three dimensional isometric drawing will give the drawings a realistic feel and show materiality.(what it is made of).

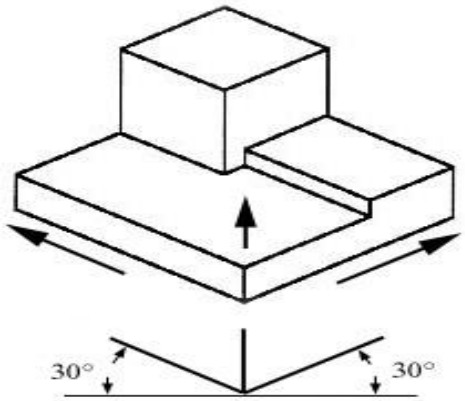




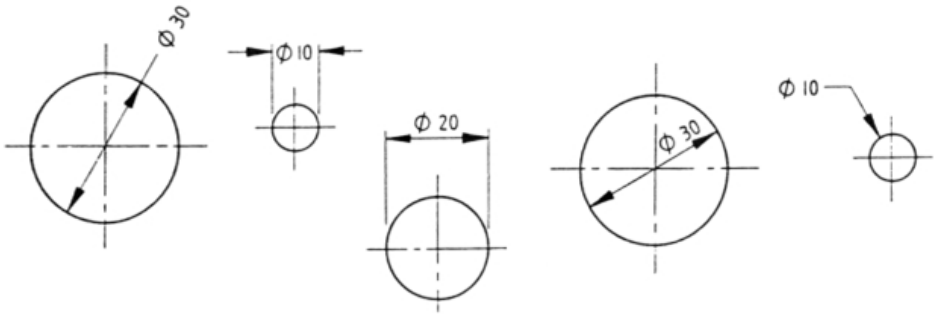
Isometric drawing



As well as a third angle orthographic projection, an engineering drawing can include an isometric projection which uses **vertical lines** and lines drawn at **30°** to **horizontal.**



Representing dimension lines on circles



All of the above are acceptable when showing the dimensions, diameter or radius of a circle

Engineering sectors	Engineered products
Aerospace	Engines, wings, rotor blades, landing gears, **fuselages**, navigation systems.
Automotive	Engines, suspension, braking systems, fuel injection, engine management, cruise control.
Communications	Satellite dishes, smartphones, wireless routers, transmission masts, set top boxes.
Electrical/electronic	Drones, televisions, games consoles, wireless speaker/ headphones, smartphones.
Mechanical	Gears, shafts, bearings, couplings, hydraulics, pneumatics.
Environmental	Photovoltaic cells, wind turbines, wave power, recycling equipment.
Transport	Traffic control systems, road and railway bridges, airport runways, shipping containers.
Rail	Rail vehicles, track construction, overhead electrical lines, third rail systems, signalling systems.
Marine	Ships, boats, submarines, yachts.

Types of Engineering sectors

Engineering Disciplines
The generally accepted four main engineering disciplines are:

● Electrical engineering, including electronic engineering – this includes the study and application of electrical, electronic and electromagnetic principles and processes – from electricity power stations, to printed circuit boards in mobile phones, and electromagnetic door bells.

● Civil engineering – this includes the design, planning and construction of roads, bridges, buildings and other structures.

● Chemical engineering – this includes processes used to alter the properties of raw materials to produce petrol, plastics and oil.

● Mechanical engineering – this includes the production by and operation of machinery, such as lathes and milling machines

There are also subdisciplines of these main disciplines. Automotive engineering, for example, is a subdiscipline of mechanical engineering

Engineering interconnections

● Mechanical engineers who make various car parts using machine tools.
● Electrical engineers who design and maintain factory electrical switchgear, including transformers to convert 11 kV supply voltage to 440 volts so the factory machines can work.
● Electronics engineers who design the engine management systems that control a car's engine functionality.
● Computer engineers who support all other disciplines, looking a er computer hardware and writing the many so ware programs, such as those used to control production processes and purchasing stock levels.
● Maintenance engineers who maintain and service machines and repair equipment breakdowns.

Large/global company	SME/small jobbing company
Household-name products.	Lesser/unknown products and parts.
Produces standard range of engineered products – larger products, higher outputs.	Produces more varied engineered products – smaller products, lower outputs.
Final product may be produced on a different continent.	Final product is the engineered part produced locally.
Employees are generally involved in a small part of a process only – less job satisfaction.	Employees are often required to work on more than one part of a process – greater job satisfaction.
Multiple locations – offices and factories.	Often one location
Global – different time zones	Same time zone
Red tape/bureaucracy – decisions through many layers of management.	Rapid decision-making
Bigger benefits, e.g. higher wages	Smaller benefits, e.g. lower wages
Good prospects, but harder to be noticed/ more competition.	Good prospects, quicker progress, less competition, but progression might be limited.

Table 1.4: Some of the differences between large companies and SMEs

Career progression routes

Apprentice
Operator
Technician
Technical Professional
Management

Job roles in engineering organizations

Maintenance Technician - Periodic inspection checks of equipment (daily, weekly, monthly, etc.), looking to see if there are any oil or water leaks and listening for any unusual noises coming from the equipment.

Machine Operators - Machine operators operate machinery, such as drills and lathes, which is used in the production of engineered product parts and components. This includes computer numerical control (CNC) machines.

Design engineers develop an initial idea for a product by using their knowledge of scienti c principles and undertaking mathematical calculations, and producing sketches and engineering drawings.
Design Engineer -

Manufacturing engineers use their engineering skills and knowledge to improve manufacturing processes, ensuring that a product can be manufactured e ciently and safely, and that the nal engineered product can be made cost-effectively.

Engineering sectors	Engineered products
Aerospace	Engines, wings, rotor blades, landing gears, **fuselages**, navigation systems.
Automotive	Engines, suspension, braking systems, fuel injection, engine management, cruise control.
Communications	Satellite dishes, smartphones, wireless routers, transmission masts, set top boxes.
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Environmental	Photovoltaic cells, wind turbines, wave power, recycling equipment.
Transport	Traffic control systems, road and railway bridges, airport runways, shipping containers.
Rail	Rail vehicles, track construction, overhead electrical lines, third rail systems, signalling systems.
Marine	Ships, boats, submarines, yachts.

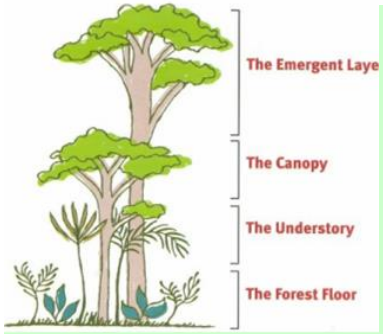
Table 1.1: Engineered products made in the main sectors

ENGINEERING

Ecosystem - Key terms

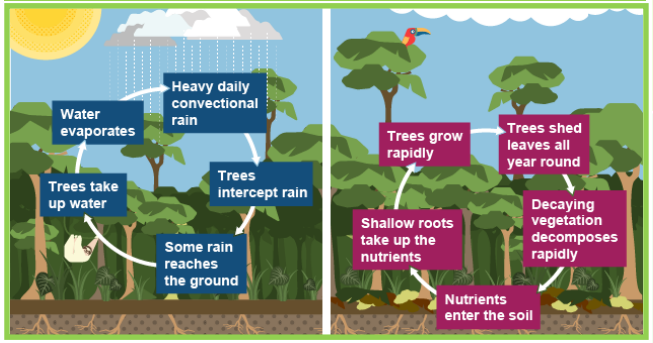
Key term	Definition
Ecosystem	A community of plants and animals that interact with one another and their physical environment.
Abiotic	Relating to non living things.
Biotic	Relating to living things.
Producer	An organism or plant that is able to absorb energy from the sun through photosynthesis.
Primary consumer	Creature that eats plant matter. Also known as a herbivore.
Secondary consumer	Creature that eats other animals. Also known as a carnivore.
Decomposer	An organism that breaks down dead plant and animal matter.
Food chain	The connections between different organisms that rely on one another as their food source.
Food web	A complex hierarchy of plants and animals relying on each other for food.
Biome	A large global ecosystem with flora and fauna adapting to their environment.

Tropical Rainforest - Vegetation

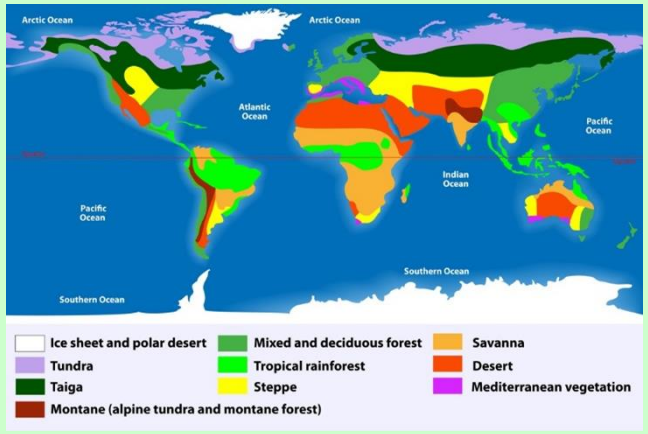


- Competition for light causes trees to grow fast. They are tall and straight. Buttress roots support these tall trees.
- Plants on the forest floor are shade tolerant and able to cope in the darker conditions.
- Epiphytes grow high up on the branches of trees to gain access to the light.
- Lianas wrap themselves around other trees to gain access to light.
- Plants have drip tips.

Water and Nutrient Cycle



Distribution of Biomes



Biome	Key Characteristics
Tropical Rainforests	•Along equator (Asia, Africa / South America). •6% of earth's surface. •25°C – 30°C and over 250 mm rain per month.
Tropical Grasslands (Savanna)	•Between equator and tropics. •20 – 30°C and between 500 - 1500 mm of rain per year. •Wet and dry seasons.
Deserts	•Tropics (Sahara and Australia). •Over 30°C and less than 300 mm per year rain. •20% of land's surface.
Deciduous forests	•Higher latitudes (W Europe, N America, New Zealand). •5 – 20°C and between 500 – 1500 mm rain per year. •4 distinct seasons. •Lose leaves in the winter to cope with the cold.
Coniferous forest (Taiga)	•60°N (Scandinavia / Canada). •Cone bearing evergreen trees. •No sunlight for part of the year.
Tundra	•Above 60°N (Arctic Circle). •Less than 10°C and less than 500mm per year rain. •Cold, icy and dry means 2 month growing season.

Effects of deforestation in Malaysia

Economic development

•Mining, farming and energy lead to jobs •Companies pay taxes to government. •Hydro-electricity provide cheap energy • Minerals like gold are valuable
•Pollution of water sources • Tourist numbers decrease • Medical plants go extinct

Soil erosion

•Land left unprotected from heavy rain leads to landslides and flooding.
•Nutrients are washed away decreasing nutrients in the soil. •Rivers silt up.

Contribution to climate change

•Trees cut down change the water cycle and make it drier. •Rainforests are the lungs of the earth and so when deforested there is more carbon dioxide in the air and less oxygen. •Burning also releases carbon dioxide into the air (Greenhouse effect).

Others

•Loss of biodiversity. •Loss of indigenous tribes). •Tribal people moving to towns and cities and have drugs and alcohol issues. •Loss of indigenous knowledge. •Conflicts between developers and indigenous people.

Causes of deforestation in Malaysia

Commercial farming	Largest exporter of Palm oil. During 1970s, large areas of palm oil were converted to plantations. Owners get tax incentives
Logging	World's largest exporter of tropical wood since 1980s. Clear felling takes place (All trees cut down). Only recently selective logging has happened
Mineral extraction	The removal of mineral resources from the earth. Gold, Bauxite, Oil and gas. Pollutes rivers and air. Trees above the mines and quarries are removed.
Subsistence farming	A type of agriculture producing food and materials for the benefit only of the farmer and his family or community. Small scale, often slash and burn.
Hydro - electricity	Dams have been built and large areas of rainforest destroyed by flooding.
Population pressure	Poor urban people were encouraged to move to the countryside from rapidly growing cities. Between 1956 – 1980s, 15000 hectares of rainforest was felled (cut down) for settlers
Roads	Roads constructed to provide access to new mining areas, settlements and energy projects

Protecting Tropical Rainforests

- Selective logging. Only fell fully grown trees. Mark sustainable trees for sale.
- Conservation & education. WWF (NGO) educate and train conservation workers. Buy threatened areas.
- Ecotourism. Minimises damage to the environment and benefits locals. This creates incentive to protect the forest.
- International agreements. International Tropical Trade Agreement restricts trade in hard woods.
- Debt reduction. Debts have been reduced in return for agreement that rainforests will not be deforested. This is called 'debt-for-nature swapping

The Living World

AQA

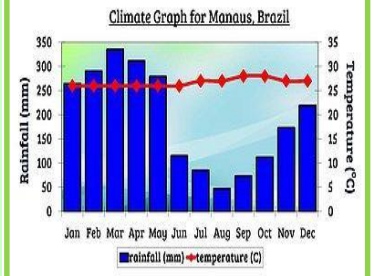
Tropical Rainforest - Animals

- Jaguars have spotted fur. This camouflages them in the dappled shade of the forest floor.
- Parrots have strong, sharp beaks to help them crack open nuts.

- Spider monkeys have a prehensile tail that allows them to cling to branches. Sharp nails allow them to peel bark.
- Poison dart frogs are a bright colour to warn predators away.

Rainforest Climate

Temperatures are high all year (around 28°C).
Rainfall is around 250mm per month.



GEOGRAPHY

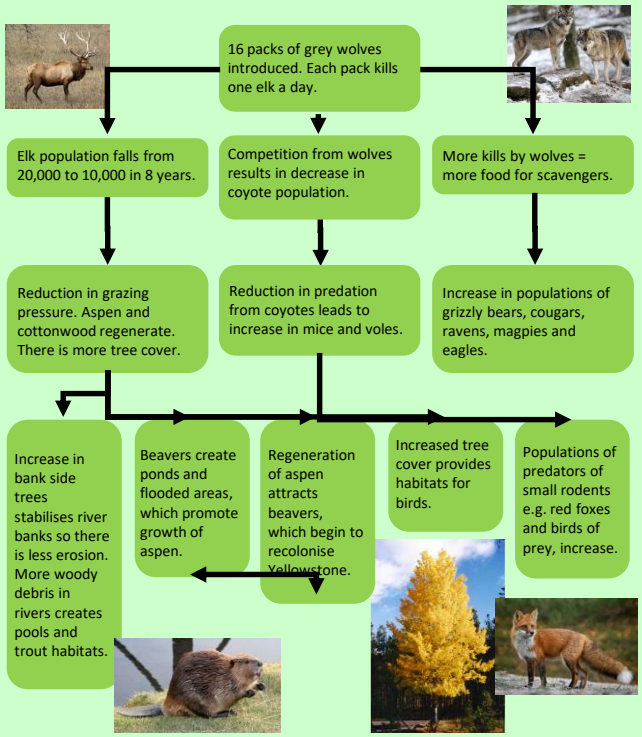
Trophic levels

Trophic Level	Source of Energy	Examples
Producers	Solar energy	Green plants, photosynthetic protists and bacteria
Herbivores	Producers	Grasshoppers, water fleas, antelope, termites
Primary Carnivores	Herbivores	Wolves, spiders, some snakes, warblers
Secondary Carnivores	Primary carnivores	Killer whales, tuna, falcons
Omnivores	Several trophic levels	Humans, rats, opossums, bears, racoons, crabs
Detritivores and Decomposers	Wastes and dead bodies of other organisms	Fungi, many bacteria, earthworms, vultures

At each (trophic) level of the food chain the number of individuals declines. This is because not all individuals in any trophic level are consumed (eaten). This means not all energy is passed up to the next trophic level.

Changes within ecosystems

If any component within an ecosystem is changed it will have a knock on effect on the rest of the ecosystem.
An example of where this happened was in Yellowstone National Park in the USA when they reintroduced wolves in 1995.



Ecosystem - A question of scale

Ecosystems can be any size.
- Local e.g a pond or under a dead log. Also called a habitat.
- Regional e.g. the upland moorland of the Pennines in the north of England.
- Global e.g. tropical rainforest. Also called biomes.

A small scale ecosystem – Haldon Forest

Haldon Forest is a woodland area south west of Exeter, Devon. Haldon Forest consists of different zones or layers from the bottom to the top of the ecosystem:

1. **Forest floor** – a zone of roots, soil and leaf-litter beneath the trees. Here decomposers such as fungi, bacteria, woodlice, and earthworms feed off last year's leaves and return nutrients to the soil in the form of an organic substance called humus.
2. **Shrub layer** of holly and hazel at five metres, overlying a field layer of grasses, brambles, ferns and flowering plants; 34 butterfly species live in the forest and are supported by this layer.
3. **Canopy**. Haldon consists of a large number of deciduous and coniferous tree species including oak, elm, beech and pine.
4. Many mammals (including dormice) and bird consumer species are supported.

Hot deserts

To be defined as a Hot Desert, there must be:
-Less than 250mm of rain a year.
- Diurnal temperatures ranging from 50°C during the day to 0°C at night.

NOT hot desserts

Desert - Challenges

Extreme Temperatures Temperatures are over 40 degrees during the day and drop below freezing at night.

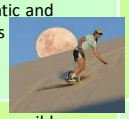
Inaccessibility – The Sahara is huge making travel difficult and expensive.

Water Supply - low rainfall makes water for drinking, washing and agriculture difficult to supply.

Desertification - Causes

Desertification is where land is gradually turned into desert, usually on the edge of a desert. It is caused by overgrazing by cattle or trees being cut down for firewood.
Population growth is a key factor. Climate change will lead to more droughts that kill vegetation and cause the problem to spread.
In the area to the south of the **Sahara**, known as the **Sahel** heavy rainstorms can wash away the exposed soil in a couple of hours.

Desert - Opportunities

Specific Detail
Mineral resources - mineral resources from the earth can be used by industry or sold for export.
Thar desert produces gypsum (used in construction) feldspar (used to make ceramics) phosphorite (used in fertiliser) and kaolin (used in paper)
Energy- oil is trapped in huge aquifers deep underground. It is an extremely valuable resource.
Thar has large oil and coal deposits. It laso makes use of wind and solar energy as forms of renewable energy. The Jaisalmer wind park (2001) is India's largest wind farm.
Solar energy - with 12 hours of cloudless sunshine every day, deserts are ideal locations for this form of electricity generation.
The Bhaleri solar plant produces energy which can be used in water treatment. This can therefore allow a higher yield from farming, improving income, and also improves peoples' health.
Tourism – deserts are remote, romantic and exotic locations for tourists. 
You can see the amazing landscape of the Thar desert along with going on safari on a Camel or could go on a 4x4 adventure. In Dubai, you can also go on dune buggies.
Farming - only possible where there is access to water through irrigation.
Most farming in the Thar is subsistence farming however with the Gandhi canal being completed in 1958, more crops can be grown improving incomes.

Desertification - Solutions

Irrigation - Water from aquifers used to grow crops / vegetation.

National Parks - Conserve areas at risk, protect wildlife.

Afforestation - Green wall being planted across the Sahel.

Crop rotation - Keeps nutrients in the soil by avoiding monoculture.

Appropriate Technology - Use of suitable crops, magic stones, terraces.

Case Study – The THAR desert – NW India / SE Pakistan

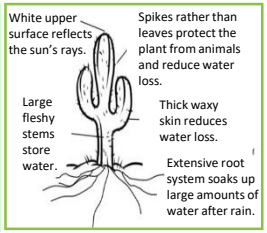
Opportunities •Commercial Farming using water from Gandhi canal. •Mineral extraction e.g. gypsum, feldspar, kaolin. •Energy. The Bhaleri Project produces energy for water treatment. •Tourists from Pakistan visit to have a safari on camels along with a desert festival.

Challenges •Temperatures reach up to 50°C. •Lack of roads meant limited access. •Water is limited and is found in a few rivers (River Luni) •Over-extraction leads to conflict.

Desert plants

High temperatures should lead to rapid growth but this is not possible due to the lack of moisture. Vegetation is sparse and usually confined to water holes.

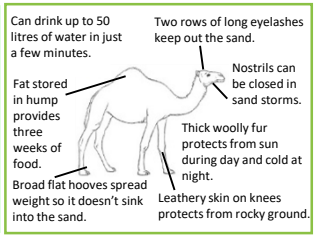
Lack of rainfall is the main limit on plant growth. Plants have thin leaves or spines to reduce water loss and long roots to reach deep underground water. The Cactus is a common desert plant.



Desert Animals

The limited number of producers means the number of consumers is also low.

Animals need to be able to tolerate the range of temperatures in the desert. Many do this by staying underground during the day. They also need to find ways to cope with the limited availability of water. Some gain enough water from their food. Others extract water from air.



GEOGRAPHY

1. Life-Stages

During a person's life they will progress through a number of life stages. Looking at development as a number of stages, and understanding their characteristics, helps health and social care workers to understand how people usually develop at each life stage and recognise developmental problems or delays.

2. The Life Stages

Infancy	0 - 2	Still dependent on parents but growing quickly and developing physical skills
Early Childhood	3 - 8	Becoming increasing independant, improving through progresses and learning how to develop friendships
Adolescence	9 - 18	Experiencing puberty, which brings physical and emotional changes
Early Adulthood	19 - 45	Leaving home, making own choices about career and may start to have a family
Middle Adulthood	46 - 65	Having more time to travel and take up hobbies as children may be leaving the home, beginning the aging progress
Later Adulthood	65+	The aging process continues, which may affect memory and mobility

3. Growth and Development

Growth	Development
Describes increased body size such as height and weight Growth is not smooth and individuals have rapid periods of growth during childhood and adolescence	Involves gaining new skills, and abilities such as riding a bike. Development takes place in four areas, Physical, Intellectual, Emotional and Social Development continues throughout life, in early stages development is at a fast rate, however slows down when we reach later adulthood

4. Areas of Development

Although when we discuss a specific area of development changing, it is important to remember that these four areas are make up the whole person. So when one area develops, it will impact another. Example: Without good communication skills (intellectual development), it is difficult to build relationships (social development)

P. Physical	I. Intellectual
Describes growth patterns and changes in the mobility of the large and small muscles in the body that happen throughout life. Example: An infant can begin to walk around 13 months and can pick up small objects. By 3 years, they can pedal and draw shapes.	Describes how people develop their thinking skills, memory and language. Example: Being able to learn and, remember recall information, such as a maths equation.
E. Emotional	**S. Social**
Describes how people develop their identify and cope with feelings. Example: Developing confidence to try new things such as dressing a certain way. It is also about being able to cope with change and deal with new situations.	Describes how people develop friendships and relationships. Example: Being able to communication, build a friendship and spend time with people you have things in common with.

5. Types of Physical Development

Fine Motor Skill	Gross Motor Skill
The skills acquired (needed) to control and coordinate small muscles, such as fingers, hands and toes to complete small movements such as using a knife and fork or picking up lego	The skills acquired (needed) to control and coordinate large muscles - such as arms, torso and legs to complete larger movements such as running or swimming.

6. Early Stages of Development

Top to Toe

Development starts from the head down. Infants start by gaining control of their head before their back muscles and legs

Inner to Outer

Control starts from the body and moves out to the limbs, toes and fingers. Infants can control movements in their whole arm to reach out before they can use their finger muscles to hold an object

Same Pattern at Different Rates

All infants and children pass through the same stages but they may do so at different ages.

For example: some infants may walk at 11 months, though others might not walk until they are 14 months.

7. Intellectual Development

Creative Thinking/Abstract	Memory/Recall
Involves our imagination and ability to think about and imagine things that have not been seen.	Involves storing information, connecting information to what we already know and recalling information to use at a later date.
Language Development	**Problem Solving**
Involves being able to think through and express ideas.	Involves using the brain to use logic to think through problems, come up with new ideas and predict what might happen.

8. Stages of Play

Solitary Play
Birth to 2, they play alone but like to have parents close by

Parallel Play
From 2 - 3, children enjoy playing next to other children but are absorbed in their own game

Cooperative Play
From 3 years upwards, children start to play with other children, they have now developed social skills so they can share and talk to each other

HEALTH & SOCIAL CARE

9. Physical Development

Life Stage	Expected Physical Changes
Infancy	Walk around 13 months By 18 months they can feed self with a spoon
Early Childhood	Ride a two wheeled bike around 6 - 7 years Can make detailed models using construction blacks at the age of 5 years
Adolescence	Rapid growth spurts Go through puberty. Females - hips/breast enlarge, start menstrual cycle. Males - voice lowers, increase muscle mass and testes produce sperm
Early Adulthood	Peak of physical fitness and height Women are most fertile End of life stage - weight gain, grey hair and strength loss
Middle Adulthood	Hair loss, grey hair and weight gain Women start the menopause (stop producing eggs so are no longer able to reproduce)
Later Adulthood	Mobility (use of gross motor skills) will decline as muscles become weaker and joints become stiffer Dexterity (fine motor skills) will also decline, hand to complete small tasks

10. Intellectual Development

Life Stage	Expected Physical Changes
Infancy	Learn through their senses, touch, sight, taste and hearing Experiences and interactions with adults help infants to build connections in their brain so that by the time they are 12 months old their brain has doubled in size
Early Childhood	At 3 - 4 years, they are more inquisitive and ask many questions They can sort through simple problems like sorting objects into shapes and colours By 5 - 6 years their memory is well developed which helps them talk about the past
Adolescence	Can use abstract thought now and can also think locally about an issue or problem May find it difficult to understand the consequences of their actions Are able to understand situations from another person's point of view
Early Adulthood and Middle Adulthood	People will have gained great amounts of knowledge by this time They can apply this knowledge to their personal or working life They use their knowledge and understanding to develop new ways of thinking
Later Adulthood	Continue to learn, often by taking up new hobbie They retain their level of intelligence, however speed of thinking will decline Decline in memory

11. Emotional Development

Life Stage	Expected Physical Changes
Infancy	Attachments are formed with their significant caregiver who makes them feel safe and loved. This will impact their ability to deal with their emotions later in life By the age of 6 months they may cry when given to another person
Early Childhood	By the age of 3 years, they can easily cope with their feelings Start to develop their self-image Giving them attention and showing interest can help boost their self-esteem
Adolescence	Still dependant on their parents but enjoying more freedom May feel insecure due to puberty and press from exams May have low self-esteem due to the pressures of peers and social media
Early Adulthood and Middle Adulthood	May feel more secure due to relationships, their job or their income May have a higher self-esteem due to their abilities or their status in work or in a relationship
Later Adulthood	They may no longer be working and family may have moved out, so they may feel that they are no longer needed, this can have a negative impact on self esteem Low self-image due to the physical changes which happen during this age

12. Social Development

Life Stage	Expected Physical Changes
Infancy	From birth to 2 years, infants are still very dependant on their relationship with their parents. Play consists of solitary play
Early Childhood	By the age of 3 years, close friendships start to be developed They will develop friendships by the age of 4 years old When they attend nursery/primary school, they will develop more formal relationships
Adolescence	Create many informal and formal relationships Peers can influence the development of friendships which may impact certain behaviours
Early Adulthood	Are independant and makes their own decisions about relationships May create a family of their own and developing emotional/social ties with partner and children
Middle Adulthood	Individual are more likely to maintain family relationships Social circle maybe expanded due to travel and hobbies
Later Adulthood	Social life can change because they experience death of a partner or friends May also find it difficult to go out and meet up with friends and family

13. Category of Factors	Factors that are included
Physical Factors	➔ Genetic Inheritance ➔ Disease and Illness ➔ Lifestyle Choices (diet, exercises, alcohol, drugs and smoking) ➔ Appearance
Social and Cultural Factors	➔ Community involvement ➔ Gender roles ➔ Education ➔ Personal relationships ➔ Social Isolation ➔ Role Models
Economic Factors	➔ Income/Wealth ➔ Material possessions

14. Impacts of Genetic Disorders	
Physical	A person's physical build can affect physical abilities. Inherited diseases may affect strength and stamina needed to take part in exercise
Intellectual	Some genetic inherited diseases may result in missed schooling, or have a direct impact on learning
Emotional	Physical appearance affects how individuals see themselves (self-image), and how others respond to them impacts on their confidence and wellbeing
Social	Physical characteristics or disease may affect opportunities or confidence in building relationships and becoming independent
Explain how a genetic condition could impact a child's intellectual development	*Having a genetic condition such as cystic fibrosis may mean that you have to **often miss school due to many routine appointments or surgical procedures**. By **not attending school and learning new skills and knowledge** will have a significant negative impact on their intellectual development.*

15. Impacts of Disease and Illness	
Physical	May affect the rate of growth in infancy/childhood. May impact the process of puberty. In later life, illness may cause tiredness and/or mobility, this can make it difficult to take part in physical activity.
Intellectual	Students may miss school. Memory and concentration may be affected, which impacts on decision making.
Emotional	May cause worry and stress. Individuals may develop negative self-esteem. Can result in a loss of independence. May result in isolation in older adults.
Social	It can restrict opportunities to; socialise with others and build new relationships
Explain how an illness could impact an individual's physical health and development	*Majority of illnesses can make us feel tired and week due to the body working work to fight the illness. However this will limit the amount of physical activity we are able to participate in, meaning we will have a negative impact on our overall fitness level (physical development).*

16. Impacts of Lifestyles Choices		
Diet	➔ A healthy diet leads to: ➔ Healthy hair, skins, nails and teeth ➔ Positive self-image ➔ Energy and stamina ➔ Good health	➔ An unhealthy diet leads to: ➔ Being overweight or underweight ➔ A lack of energy ➔ Ill health ➔ Negative self image

Evaluate how diet could impact an individual's emotional wellbeing (4 marks) **Evaluate means you must look at both the positive and the negative**	*Firstly, if you eat healthy (eating the right amount of calories and nutrients), you are more likely to be a sensible weight. Being at a healthy weight will have a positive impact on your self-image as you will be confident having the correct weight for your age, height and activity level. However if you consume a poor diet, this may lead to negative emotional wellbeing. Eating too much sugar causes a sugar spike and then a sugar dip which leaves an individual low of energy which then influences the individuals mood because they are tired and irritable.*

HEALTH & SOCIAL CARE

16 continued. Impacts of Lifestyles Choices

Exercise	➔ Helps children develop their muscles, balance and gain coordination ➔ Regular exercise helps to maintain dexterity (fine motor skills) and mobility ➔ Helps regulate weight or help with weight loss ➔ Produces the happy hormone

Explain how exercise can have a positive impact an in individuals weight (physical development)
To lose access weight, the body need to burn energy/calories. When we move, we are burning calories and this will have a positive impact on an individual weight if they are overweight.

Alcohol	➔ Drinking too much: ➔ Weight gain ➔ Making poor decisions ➔ Liver/kidney damage ➔ Break down of relationships/families	➔ Drinking limited/good quality: ➔ Relieve stress ➔ Helps social interaction ➔ Can have benefits towards lowering the risk of stroke and heart disease
Illegal Drugs	➔ Illegal drugs can only have a negative affect on: ➔ Memory and decision making ➔ May lower self- esteem ➔ May affect relationships ➔ Could cause infertility ➔ However the correct use of prescription drugs is important for maintaining health and development for those with health conditions.	
Smoking	➔ Respiratory problems for the smoker ➔ Respiratory problems for others in the surrounding areas (passive smoking) ➔ Lung and heart disease ➔ If pregnant women choose to smoke, this could affect the growth of the unborn child.	

Explain how smoking can have a negative impact on your social development
By law you have to smoke outside, so when you are gathered with your friends at a party or an an organised event, you will have to leave the social environment to smoke outside. This could have a negative impact on relationships as it may seem that smoking is more important than spending time together.

17. Impacts of Social and Cultural Factors

Community Involvement	Communities are extremely important for people to meet and interact. They share similar interests and common values. Communities can be built around different things, such as living in a local area, belonging to a religion or training/playing in a specific sport. Being part of a community can impact you positively by: ➔ Having a sense of belonging (emotional development) ➔ Building and maintaining relationships (social development) However, individuals who are not part of a community may be impacted negatively by the following: ➔ Feelings of isolation ➔ Difficulties in building relationships ➔ May chose negative lifestyle choices such as drinking/drugs	
Culture or Religion	**Positive Impacts:** ➔ Feeling safe and secure from sharing sharing values and beliefs as others ➔ Good self-image through feeling accepted into a group	**Negative Impacts:** ➔ Could be discriminated by others who do not understand certain religions or cultures ➔ Feeling excluded from certain activities hosted by their peers, due to religion/culture traditions such as Muslims do not drink alcohol due to their Islamic faith
Education	**Positive Impacts:** ➔ Keeps you physically fit due to compulsory PE lessons ➔ Learn new knowledge and skills through your lessons ➔ Build friendships and relationships with your peers and teachers	**Negative Impacts:** ➔ Bullied for physical or personality attributes ➔ Emotional stress from pressures of assessments and exams ➔ Large classes may distract your learning in certain subjects

Evaluate how education experiences could impact your future self (4 marks)
If you had a positive experience in school which resulted you gaining qualifications, this will have a positive impact on future employment. Most jobs require you to have qualifications, so this will increase your chances of getting employment.
However in school you may be been bullied and this could have a future impact on your emotional wellbeing. You may suffer with anxiety, depression or low self-esteem. This could have negative impacts in a variety of different areas of your life, such as building relationships or being successful in job interviews.

18. Impacts of Economic Factors

- Income is simply the money which is bought into your household
- So this income could be from a variety of sources, such as wages from your job, benefits, inheritance or money from profit of a business or shares
- Income is used to pay for things within the house such as mortgage/rent, electric/gas bills, TV/licence, internet, food,etc
- Income is also used to pay for material possessions such as car, phone, clothes, make up etc
- Income also allows you to live a certain lifestyle, it can pay for gym memberships, or social events with friends, holidays, or music concerts
- Having a good income which allows the individual to provide for themself/family, can give a feeling on contentment and security
- Being able to pay for everything which an individual needs to be healthy, can reduce the risk of illnesses
- However individuals on low income can experience high levels of stress, as they struggle to pay for everything
- They may also feel guilty and have a low self-esteem due to being unable to provide for their family
- Many older people rely on their state pension (which can be quite low), so this may lead to cutting on on fuel use (heating/water), cutting down on food shopping or traveling and social activities

Material Possessions	Material possessions is sometimes referred to items we have but are not necessarily needed for our basic growth and development. A car would be considered as a material possession as we don't NEED a car, as we could walk or use public transport, however some people have a good income and can afford this luxury. There are very many positives to owning material possessions, however it has been argued that they can also have many negatives. Such as a mobile phone. Yes we can use it to keep in contact with friends and family and we can even use it to learning new knowledge from the internet. However, the subject of having a mobile phone, may lead to bullying if someone doesn't have the newest version or even have a phone at all. It can also be the gateway for online bullying.	
Examples of Material Possessions	➔ Car/Motorbike ➔ Fashionable clothes/shoes/handbags/wallets ➔ Washing machine/Tumble Dryer/Dishwasher ➔ TV/DVD Players ➔ Game Consoles ➔ Computer/Laptops/Ipad/Tablets/Mobile Phones ➔ Internet	➔ Jewellery/Watches ➔ HairDryer/Straighteners ➔ Hygiene products/Deodorant/Hair Gel/Shampoo/Conditioner ➔ Books/Magazine Subscriptions ➔ Musical Instruments ➔ Sports/Fitness Equipment ➔ Camera/Printers
Income	**High Income means you could have the following:** ➔ Large/warm/safe house ➔ Holidays ➔ Technically such as mobile phones, laptops ➔ Car ➔ Clothes and shoes ➔ Opportunities to visit places ➔ Options to eat out in restaurants/take outs ➔ Gym memberships ➔ Buy healthier/more expensive foods ➔ Access to more health care facilities	**Low income could mean you struggle with the following:** ➔ Paying household bills ➔ Need for public transport ➔ Smaller/poor conditioned house ➔ Limited social experiences ➔ Isolation from friends ➔ Higher levels of anxiety/worry/stress ➔ Buying cheaper foods which are less nutritious ➔ Less healthy lifestyle choices such as smoking, drinking ➔ Limit certain facilities such as phone contracts or internet

Explain how having a higher income could impact the children in the household's development (4 marks)

Having a higher income allows for the parents to supply their children with education resources such as books, revision guides and even additional tutoring. This will all the child to have all the extra resources needed to progress in their learning. Also by having a higher impact, the parents can afford for mobile phones and paying for social events such as birthday parties, cinema or clothes shopping. This could have a positive impact on the child's social development as they are able to keep in contact with their friends, or gather socially to interact and have fun (maintaining relationship).

19. Education

Area of Development	Positive Impacts	Negative Impacts
Physical	Increase fitness through PE lessons	Physically be injured during high risk subjects such as enginergering, PE or drama
	Development of specific fine motor skills through handwriting, typing, sewing, chopping etc	
	Better cardiovascular system due to walking to and from school	Can cause you to feel physically tired due to the time spent in school
Intellectual	Learn new information from studying GCSE options	Leaning too much can cause you to lack concentration in certain subjects
	Learn how to problem solve in subjects such as maths which can be applied in everyday life	Lack of enjoyment or engagement in a subject may impact of learning new information
	Learn to think abstractly in subjects such as art or dance which can help with imagination and creativity	
Emotional	Feel safe and secure	Could develop a low confidence due to failing or not achieving compared to peers
	Gain reassurance from teachers on your abilities	Experience high levels of stress due to the demands of exams
	Have emotional support and guidance from pastoral/teachers	Feelings of low self-esteem due to bullying
Social	Create friendships with people with similar interests	Peer pressure from friends may lead to negative behaviours
	Learn how to interact with different types of people and how to adjust communication skills	May become socially isolated due to a friendship breakdown
	Learn how to behave/respect authority	

20. Income

Area of Development	Positive Impacts	Negative Impacts
Physical	Afford good nutritious foods to minimise risk of illness	Having poor income may mean you have to eat a lot of processed foods which could have an impact on weight
	Can pay for a gym membership to keep you health	Unable to pay for heating/water/gas which could increase your chances of getting poorly especially respiratory conditions
Intellectual	Can afford resources to help with school such as textbooks, computer and the internet	Unable to afford to go in university to gain additional qualifications
	Pay for holidays to see and experience new cultures	Having a low income may mean children are disadvantaged in school as they do not have the resources needed to excel in their learning
Emotional	Sense of pride and achievement in living independently	May feel like a failure being unable to provide for yourself or family
	Feel safe and secure knowing that you have a house to live in and that you can provide for your family	Experience high levels of stress due to the demands of paying bills which can lead to mental health conditions such as depression
Social	Can afford to participate in social events and gatherings	Lack of friends due to being unable to meet the expectations of peers due to clothes, make up or branded items
	Have a house to host social gatherings or money to pay for petrol or transport to meet friends and family	Unable to travel to see friends or pay for outings such as going to the cinema

Year 10:
History Around Us

Box A: Key words and definitions

1. Cistercian- monastic order founded at Buckland Abbey.
2. Lay brothers- provided unpaid labour at the Abbey.
3. Dormitories- where the monks slept.
4. Chapter House-where a chapter of St Benedictine was read daily.
5. Cloisters- covered passageway around the open courtyard.
6. Nave- the central part of the church.
7. Transept- cross shaped church that projected from the nave.
8. Great Barn- here the crops/wool was stored.
9. Infirmary- where the monks gave medical care.

Box B: Key Time periods of Buckland Abbey

1. Cistercian monastery- 1273 until 1540
2. Tudor Home- 1570s until 1603
3. Drake family home- from 1580
4. Owned by the National Trust since 1946

Box C: Location

1. Buckland Abbey is located in Buckland Monachorum, near Yelverton, Devon.
2. It is 9 miles from the sea and Plymouth.
3. It is in a valley by the river Tavy, close to woodland, farmland and Dartmoor.
4. It was a remote location, offering peace and seclusion.

Box D: Key People

1. Amicia- Countess of Devon, Founder of the Cistercian monastery
2. Henry VIII- ordered the dissolution of the monasteries
3. Sir Richard Grenville the Younger- Tudor gentleman who bought the monastery and began the conversion to a Tudor home.
4. Sir Francis Drake- Elizabethan sea captain, slave trader and privateer who bought Buckland Abbey from Grenville in 1580.
5. Samuel Pepys Cockerell- architect who oversaw the Georgian renovations.

Box E: Buckland Abbey as a Cistercian monastery

1. The Abbey was founded in 1273 by Amicia, Countess of Devon. She wanted to set up a monastery so that the monks would pray for the souls of her family and her royal friends. Amicia gave Buckland 20,000 acres of land, mainly in West Devon.
2. The Cistercian order of monks, which she chose for Buckland Abbey, was particularly strict. They preferred to live in remote places, away from all distractions. They lived according to the rules of St. Benedict. They believed in worship, prayer and meditation. They emphasised manual work.
3. The monastery needed a large income in order to support the monks' lives of prayer and meditation.
4. The centre of the life of the monastery was the church, where the monks met for seven services a day.
5. The church was a cross-shaped building with a low tower. Then there were all the other buildings of the Abbey – dormitory, cloisters, refectory, chapter-house, etc.
6. There was a huge barn to store the supplies which the Abbey farms sent to the monastery and a guest-house, where visitors could stay.
7. Cistercian abbeys had lots of servants and labourers, called lay-brothers; they would have had their own accommodation.

Box F: Typicality of site compare to Fountains Abbey- this means how does it compare, how typical is Buckland.

1. Buckland Abbey was modest in size- the Great Barn was larger than the Abbey.
2. Both followed the rules of St. Benedict. Fountains Abbey largest cistercian monastery in ruins in England.
3. Fountains Abbey was founded earlier in the 12th century; Buckland Abbey in the 13th century.
4. Both monasteries had a Tithe barn, stables, abbot's house, infirmary, refectory, dormitory, chapter house, cloisters and church.
5. At Buckland there was a monastic house but it also had farms and granges.
6. The monks focused on sheep farming and wool production. This was the same as Fountains Abbey but they also had lead mining, quarrying of stone and horse breeding.
7. Both sites were local employers and had lay brothers working there.
8. After the dissolution, Buckland became a Tudor home and Fountain's was left in ruins.
9. Both are now owned by the National Trust and can be visited.

Box G: Buckland Abbey- diversity of the site: everyday activities.

1. Working on the land- Sheep and arable farming. Wool was produced and sold.
2. Caring for the sick.
3. Working in the outbuildings- bakers; stone masonry; butchery; carpentry.

Box H: From a monastery to a Tudor home:

1. The monastery was dissolved (closed) in 1539 by the orders of Henry VIII and the last 12 monks were pensioned off.
2. In 1541 Buckland Abbey was bought by Sir Richard Grenville for £233.
3. By 1576 the Grenvilles had carried out the massive job of turning the Abbey into a private house.
4. Many buildings were pulled down e.g. the dormitories and cloisters to make the abbey function more like a home.
5. The actual abbey church was converted into a house by putting in two new floors; a new kitchen wing was added.
6. Fireplaces were added to the rooms, which meant chimneys were built.
7. Rectangular windows and Tudor mouldings and furnishings were added.
8. Grenville sold Buckland in 1580 to Sir Francis Drake for £3,400. He lived here for the rest of his life, while he was an MP and Mayor of Plymouth. From here he went to play a leading part in the Armada campaign of 1588.

Box I: What evidence is there that Buckland was a former monastery?

1. Carving above the entrance is believed to be Amicia.
2. Surviving Buckland Book which recorded all visits to the abbey.
3. The survival of the Great barn.
4. The abbey tower and its original roofline is visible on the southern face of the tower.
5. The south and west front shows architectural features of the transepts that were removed.
6. Arch windows that look over the chancel.
7. The west front of the abbey reveals the Cistercian architecture- plain and severe. Traces of the original windows can be made out with simple light openings and simple mouldings.
8. Stone corbels on the first floor are traces of where the church originally was.
9. There is a survival of the monastic church- a carved corbel figure of the ox of St. Luke in the north-east corner.
10. There is a small medieval spiral staircase (now blocked) which originally led into the roof space of the church.
11. There is a section of medieval wall where the northern cloister was.

Year 10:
History Around Us

Box J: Georgian Improvements:

1. The descendants of Sir Francis Drake continued to live at Buckland Abbey. it was their home and their farm.
2. However, in 1740 the Abbey was in decay and in need of repair.
3. The architect responsible for the changes was Samuel Pepys Cockerell. It was believed that £7,000 was spent on improvements.
4. The Georgian dining-room was fitted out from 1770. Panelling and a dado was added with the doors surmounted by a convex moulding.
5. A staircase was built which rises through 4 floors.
6. In 1815, Buckland Abbey was advertised to let/rent out.
7. Whilst still owned by descendents of Drake, the house suffered a fire in 1938 which led to repairs and renovations.

Box L: Local and National Importance:

1. Buckland Abbey has since its days as a monastery been a locally important site. It was a local employer and would serve the local community e.g. as an infirmary.
2. The wool that was produced at Buckland was so important that in 1347, the King Edward III demanded financial aid from the greater monasteries in his war against France. It was noted that the wool crop from Buckland was so valuable that the abbey ranked second in the list of Devon houses to be asked.
3. National figures e.g. Grenville and Drake bought and lived in the abbey and spent money converting it into a fine house.
4. Drake is a nationally important figure, who was knighted by Queen Elizabeth I. He was considered the hero of the Spanish Armada, who defeated the attempted Spanish invasion of 1588. A sea captain who circumnavigated the world and who also served as a Mayor and MP for Plymouth.

Box K: National Trust ownership:

1. In 1946 the house and other buildings were presented to the National Trust from the descendents of Drake. The National Trust is a conservation organisation that protects sites of historic importance.
2. The Trust and the City of Plymouth furnished the House and opened it to the public in 1951.
3. The National Trust has continued to improve its facilities for visitors. E.g. adding a reception area, shop, tea room and restaurant by converting buildings.

Box A: Key words and definitions

1. Democratic republic - Country without king or queen. People vote for leaders.
2. Constitution - Set of written rules for the country.
3. President - Leader of United States. Elected every 4 years.
4. Congress - Similar to UK parliament
5. States - Smaller political units which form the United States.
6. Federal power -States had own government.
7. Representatives - Politicians from each state which helped make laws for whole country.
8. Territory - Area with few people. No state government and controlled by Congress.
9. Supreme Court - Highest court in USA
10. Sucede - Leave a union.
11. Segregated - Separate for black and white people.

Box B: Growth of USA (1789 - 1838)

1. USA became independent from Britain in 1783.
2. USA was a democratic republic. Only white, male, property-owning Americans could vote.
3. USA made of smaller states with a governor in charge. Could make own laws but not if they went against Constitution.
4. Each state sent representatives to Congress where they would help make new laws for whole country.
5. The President could suggest laws but Congress had to agree them.
6. 13 states in 1790. Other land lived in by natives or claimed by European powers.
7. There were 26 states by 1838, particularly in the northwest. This was due to expansion of slavery, buying land from France, and fighting with natives then taking their lands.

The Making of America 1789 - 1900

Box C: Growth of Deep South (1793 - 1838)

1. Cotton was key to wealth. 42% of all exports in the South by 1820. Factories in the North bought and made it into cloth.
2. Many Presidents were from the South and did not stop growth.
3. Eli Whitney invented the cotton gin in 1793. It could separate fibres more quickly and process it 50% faster. More slaves were needed to pick raw material.
4. Slaveholders from the original 13 states opened new plantations in the Deep South with loans from banks who would make a profit from the interest charged.
5. Children of slaves automatically became slaves themselves.
6. Slaves could not vote but it was decided that each was worth 3/5th of a vote in 1787. This gave the white Americans in the South a third more electoral votes in Congress than the North. The interests of slaveholders were maintained until 1861.
7. Many in North felt the South was too powerful. Worried new state joining USA (slave or free) would upset balance of power. A handful of abolitionists believed slavery was morally wrong.
8. Missouri Compromise created in 1820 to solve concerns.Virtual line across middle of country. Any state joining USA below that line could vote whether to be slave or free.

Box D: Removal of Eastern tribes (1830 - 38)

1. The 'Five Civilised Tribes' in south-east tried to adapt and live alongside white Americans.
2. Cherokee used same political structure as USA, set up capital city, used money, had a written language, set up schools and churches.
3. President Jackson persuaded Congress to pass the Indian Removal Act (1830) and set up Indian Territory in Oklahoma.
4. Many tribes were unhappy with this.
5. Government used range of tactics to remove Eastern tribes between 1830 - 1838. This included warfare, treaties, use of concentration camps and forced removal to Indian Territory.
6. 4000 Cherokee died in 'Trail of Tears' forced-march..

Box F: Journey to Oregon and California

1. Large number of whites travelled up to 3000 miles from 1840s. Most travelled over land using wagons to carry belongings. 20 miles per day.
2. Push and pull reasons for moving West: Banking system collapse in 1837, explorers began to map safe routes, California taken from Mexico by USA in 1848, Manifest Destiny, belief in converting natives to Christianity and advertising campaigns.
3. Bought supplies at meeting place then travelled with company (group) across trails and Rocky Mountains. Natives often helped at rivers.

Box H: California Gold Rush (1848)

1. Discovery of gold in California led to a rush of settlers from 1848. Over 50,000 whites headed west to 'strike it rich'.
2. Natives forced from land to set up mining camps.
3. Mining settlements were heavily male dominated, often full of gambling dens and saloons. Robberies and murders more common than in other places. Women worked as prostitutes or did domestic chores e.g. cooking and laundry.
4. A lot of money made but often not through gold-mining. Small-business owners sold shovels, sifting pans, maps and supplies.
5. California applied to become a state in 1849. Declared free (without slavery) in 1850. Threw delicate balance of free / slave states into crisis.
6. San Francisco grew to be a city and busy trading port by 1850.
7. Huge numbers of Chinese went to find riches by 1851.
8. Crushing mills needed to extract gold from rock after 1852.
9. Huge impact on Plains. Miners travelled across natives' hunting ground. Government forced to sign Fort Laramie Treaty. Law brought in which allowed natives to be sold into slave labour.
10. Mining caused environmental destruction in California, clogging rivers with silt and putting harmful chemicals into water supply.
11. Led to demands to connect country up fully with railroad.

Box E: Lives and culture of Plains Indians (natives)

1. Plains were vast and dangerous grassland. White Americans thought they were inhabitable before 1840s. Few resources e.g. water or wood. Extreme temperatures.
2. Sioux tribe divided into 3 groups: Lakota, Dakota and Nakota.
3. Moved permanently from near Minnesota to Plains in 1830s when other natives filled up their homelands to escape white expansion.
4. Lakota were skilled with horses and followed buffalo herds. They, had guns from white traders from 1830.
5. Similarities and differences in the culture of the different tribes. Main features were: nomadic lifestyle, led by powerful warrior, buffalo used for food and homes (tipis), belief in Great Spirit and land could not be bought nor sold.

Box G: Mormon settlement of Utah

1. Religious group set up in 1800s.Practiced polygamy (marrying many wives).
2. Brigham Young chose Utah to build Salt Lake City in late 1840s.
3. Planned from beginning with irrigation ditches and Mormon Church decided how much land each family got.
4. Nobody owned water. Modelled on streets of Paris. Temple at centre.

Box I: Pike's Peak Gold Rush (1858 - 59)

1. Land occupied by Cheyenne Indians. Over 100, 000 arrived by 1859.
2. Farms established to feed those in mining towns e.g. Denver
3. Settlement in Kansas showed Plains were not deserts and encouraged settlers.
4. Settlement of Kansas broke treaties made between USA and natives in 1850s.They began to fight back. By 1860, war inevitable.

Box P: Reversal of Radical Reconstruction (1870 onwards)

1. Radical reconstruction was not popular in South. Many white business owners in North became rich from building railways or factories in South. Nicknamed carpetbaggers.
2. Freedman's Bureau shut down in 1872.
3. Many black Americans worked on plantations as sharecroppers.
4. 1873: Supreme Court said that voting rights at state level were choice of the state.
5. 1875: Supreme Court said not role of government to stop black Americans being bullied out of voting booths.
6. 1877: Withdrew soldiers stationed in South after war.

Box O: Radical Reconstruction (1866 - 1870)

1. Many Republican politicians were extremely angry at Johnson and forced through own changes.
2. Freedman's Bureau re-established in February 1866.
3. Congress brought in Civil Rights Bill in March 1866 to protect rights of all black Americans.
4. Congress proposed the 14th Amendment in April 1866, which said anyone born in USA was a citizen regardless of skin colour. Became law in July 1868.
5. Ex-Confederate governments were taken over by North between March and July 1867. People who fought against the Union were banned from voting. Military sent to South to protect rights of black Americans.
6. 15th Amendment passed in March 1870, giving all black Americans the right to vote. More than 2000 black Americans were voted into political office by November 1870;

Box J: Causes of Civil War

1. People in South saw cities and industry of North as too modern and ungodly.
2. By 1850, population of North was growing rapidly and gaining more political power.
3. 1850 Compromise (law stating free states had to return escaped slaves to their owner) gave power back to slaveholders in South. In return, California became a free state. Many arguments over whether slavery should be allowed as USA grew.
4. Kansas-Nebraska Act (1854) overrode Missouri Compromise and allowed states to decide if wanting to be free or slave.
5. In 1857, Supreme Court said slaves had no rights and government could not ban slavery in territories.
6. Republican Party created in 1854. Anti-slavery.Worried slaveholders in South.

The Making of America 1789 - 1900

Box N: Reconstruction (1865 - 66)

1. Lincoln persuaded Congress to make Emancipation Proclamation the 13th Amendment in January 1865.
2. Set up Freedman's Bureau, which gave land confiscated from plantation owners to ex-slaves.
3. Lincoln shot dead in April 1865 and replaced by Andrew Jackson.
4. Jackson believed his most important job was to bring country back together. Forgave thousands of Confederate soldiers. Returned land to plantation owners. South allowed to re-establish own state governments and bring in Black Codes. Stopped work of Freedman's Bureau.Did little to stop Ku Klux Klan.

Box K: Trigger of Civil War

1. Abraham Lincoln elected President in 1860. Lots of support in North but almost none in South.
2. South Carolina voted to secede in November 1860 as a protest for him becoming President.
3. By 1861, six other states also seceded and formed the Confederacy. Elected own President, Jefferson Davis.
4. Lincoln said the Confederacy and its President was illegal in April 1861. Davis ordered his gunboats to attack a Union fort, Fort Sumter in South Carolina.
5. Lincoln declared war in April 1861. Four more states joined Confederacy by June 1861.

Box L: Civil War (1861 - 1865)

1. Fought between North and South.
2. North called themselves Union.
3. South called themselves Confederacy.
4. 750, 000 people died.

Box M: Experience of Black people during Civil War

1. In North: Lived in poorer areas with higher rents, segregated education, could get jobs but not in charge of whites, of equal pay or professional e.g. doctor, lawyer etc.
2. In South: Most were slaves. If not, could not get jobs. Lived in plantation houses. Disease spread easily. Illegal to learn reading and writing.
3. 1861 - 62:Union refused to end slavery throughout whole of USA but South Carolina was a free state. Ex-slaves began setting up regiments. A lot of opposition to these and they often did hard labour for Union army. Volunteers taught ex-slaves how to read and write.
4. 1863 - 65: Lincoln declared the Emancipation Declaration on 1st January 1863. Freed all slaves across USA upon Union winning war. Thousands of ex-slave men joined the Union army and often did worse jobs. Ex-slave women supported as nurses / cooks. Most black workers in North did not volunteer.
5. Race riots happened across Northern cities where whites were forced to join the army and blamed black people for this..

Dry Heat Methods

Method	Explanation	Advantage	Disadvantage	Example
Baking	Food is cooked in the oven using dry hot air.	More than one item can be cooked at once; good colour and texture; exterior is browned and adds flavour.	Specific cooking times needed; needs to be baked at correct temperature.	cakes, puddings, bread, biscuits
Roasting	Food is cooked using dry air in the hot oven. Basting with fat prevents the food drying out.	Good flavour; crisp texture; other products can be cooked at the same time.	Can be time-consuming; meat can get chewy and hard if cooked at too high a temperature.	joints of meat
Grilling	Food is cooked by radiant heat – grill is either above or below the food.	Healthy – fat drains off quickly.	Can easily burn if left too long.	sausages, bacon, cheese on toast
Toasting	Dry radiant heat is applied – brief exposure to heat from an oven.	Toasting lowers Glycemic Index; flavours can be enhanced.	Needs monitoring to avoid burning.	bread, nuts, seeds, spices

Frying Methods

Method	Explanation	Advantage	Disadvantage	Example
Shallow Frying	Food is cooked in a shallow amount of hot fat.	Quick; uses minimal fat.	Will cook small pieces of food only; high safety risk – splashes can cause injury and fire.	chicken, steak, sausages, vegetables
Deep Frying	Food is plunged into very hot fat.	Gives a golden appearance and crunch; very quick.	High safety risk due to overheating causing fire; Very unhealthy – foods absorb fat.	chips, , chicken pieces, fish
Stir Frying	Small pieces of vegetable and meat are cooked quickly in a small amount of hot oil.	Quick cooking method; vegetables remain crunchy.	Food needs to be kept moving to cook through; heavy preparation needed before cooking.	thin strips of meat, fish and vegetables

Moist Heat Method

Method	Explanation	Advantage	Disadvantage	Example
Boiling	Food is cooked in boiling water.	Quick; Healthy; No added fat; Good for starchy foods.	Water soluble vitamins can be lost; food can get soft; not suitable for meat.	potatoes, rice, pasta
Simmering	Food is cooking in a lightly bubbling stock, water or juice.	Good for tender pieces of food Quick.	Water soluble vitamins can be lost; tender foods can fall apart.	meat, fish, eggs, fruits, vegetables
Poaching	Food is cooked in a small amount of simmering liquid – usually water or milk.	Food is cooked gently; Quick; Healthy.	Water soluble vitamins can be lost; food can fall apart.	fish, eggs, meat
Stewing	Food is cooked slowly in a liquid to develop flavours.	Tough meat is tenderised; Water soluble vitamins are absorbed into the sauce.	Needs planning – can take 2-3 hours.	stew, casserole, fish, meats, pulses, vegetables
Braising	Meat has been seared and added to vegetables in a liquid to be cooked in the oven.	Meat is tenderised; Good flavour; Water soluble vitamins are absorbed into the sauce.	Must have a well fitted lid; can take 1-2 hours.	meat, beans, vegetables
Pressure Cooking	Cooked under pressure in a pressure cooker – temperature of liquid rises quickly from 100-120°C	Food cooks quickly; Meat is tenderised; Water soluble vitamins are not easily lost.	Easy to overcook the food.	meat, vegetables, soup, rice, steamed puddings
Steaming	Food cooked in the steam of boiling water.	Healthy; Water soluble vitamins are not lost; Food easy to digest.	Steamer needs supervision and filling up; can take longer than boiling.	meat, fish, vegetables
Blanching	Food plunged into boiling water, then removed and put into cold water.	Healthy; Can prepare vegetables for freezing; Protects the loss of colour.	Vitamins and minerals can be lost.	leafy vegetables
Sous Vide	Food is vacuum-packed and heated in water.	Flavour, aroma and nutrients are preserved.	Water bath machine is expensive; food does not brown.	meat, fish

Macronutrients

Macronutrients are needed in large amounts to make the body function properly.

Protein:

These are made up of ***essential amino-acids*** and ***non-essential amino-acids***. (Our bodies can make non-essential amino acids, but we need to get essential amino acids from our food).

Source

HBV – these have all the essential amino acids
- Meat, fish, dairy, eggs (animal sources)
- Tofu

LBV – these are missing at least one essential amino acid
- Seeds, nuts, beans, pulses, cereals, Quorn (plant sources)

Function

Growth
Repair
maintenance

Not enough	Too much
Kwashiorkor Oedema Anaemia Slow growth in children	Excess protein can be converted to energy. If unused turns to fat.

Dietary Reference Values

Age	Amount
1-3	15g
4-6	20g
7-10	28g
11-14	42g
15-18	55g
19-50	55g
50+	53g

Complementary actions

Combining 2 or more LBV proteins helps get a balance of essential amino acids.
e.g. beans on toast.

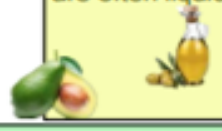
Fats, oils and lipids:

Too much fat is bad for you, but so is not enough.

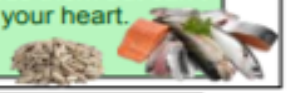
Source

Saturated Fats
(From Animal sources. They are also called unhealthy fats. They are generally solid at room temperature)
Sausages / Bacon / Lard / Dairy

Unsaturated Fats
(These are healthier. They are often liquid at room temperature.)
Monounsaturated fats – olive oil / avocados
Polyunsaturated fats – sunflower oil / seeds



Omega-3. These are Polyunsaturated and called "healthy" fats as your body needs them but can't make them. They are good for your heart.
– Oily fish / Nuts / Seeds



Function

Energy
Warmth
Protection of organs
Source of fat soluble vitamins
Hormone production

Dietary Reference Values

DRI	Men	Women
Total fat	95g	70g
Sat fat	30g	20g

Too much	Not enough
Obesity **Heart disease** **Type 2 diabetes** **Stroke** **Cancer**	Vitamin deficiency (fat soluble) Unprotected organs

Carbohydrates

There are 2 kinds, simple or complex.

Source

Simple - these are sugars (monosaccharides, disaccharides)
Cakes, jam, soft drinks

Complex - these are starches (polysaccharides)
Bread, potatoes

Function

Simple
Quick burst of energy

Complex
Longer lasting energy

Free sugars
These give you no nutritional benefit other than energy.

Dietary advice

- Reduce the amount of sugar that we eat, no more than 5% of our diet.
- Complex Carbohydrates should make up half of the energy we eat.
- Wholegrain cereals are a good source of fibre

Not enough	Too much
Can make blood sugar level drop • hunger, • dizziness, • Tiredness • Lack of energy Our body will use protein for energy (leads to loss of muscle)	• Excess is turned into fat • Can cause obesity • Too much sugar leads to dental problems • Can lead to type 2 diabetes

Vitamins

They all have different functions, but generally
- Help the body release energy
- Prevent some diseases
- Keep the body healthy
- Repair cells

Fat soluble vitamins: vitamin A, and vitamin D

- Don't need to be eaten every day as the body can store them in the liver and fatty tissues.
- Too many in our diet can cause us harm

Water soluble vitamins: B vitamins: vitamin C

- Not stored in the body so need to be eaten
- To maximise the intake and prevent loss, steam instead of boil the food, or use the water in gravy
- Excess vitamins are eliminated in the urine

	Source	Function	Deficiency
B1 Thiamin	Bread / Pasta / rice / peas / eggs / liver	Energy release	Tiredness
B2 Riboflavin	Milk / eggs / leafy greens	Energy release / repair	Tiredness / dry skin
B3 Niacin	Wheat / nuts / meat / fish	Energy release / skin	Tiredness
B9 Folic Acid	Liver / peas / leafy greens	Growth / healthy babies / red blood cells	Anaemia / tiredness
B12 Cobalamin	Milk / eggs / meat / fish	Red blood cells	Tiredness / nerve damage
C	Citrus / tomatoes / green veg	Immune system / absorbs iron	

Minerals

Minerals help chemical reactions in our body.

	Source	Function	Deficiency
Calcium	Dairy, green leafy veg, bread	Strong bones	Weak bones, rickets and osteoporosis
Iron	Meat, green leafy veg	Red bold cells	Anaemia
Potassium	Fruit and veg	Heart health	Bad for your heart
Magnesium	Green leafy veg	Release energy and bone health	Nausea

Water

Keeps us hydrated.

Source

Drinks, fruit and vegetables, soup.

Function

- Normal physical and cognitive functions,
- Normal regulation of the body's temperature.
- Gets rid of waste substances in the body.

Deficiency

- Even mild dehydration can lead to headaches, irritability and loss of concentration.
- Groups at risk include children, old people and active people.

Trace Elements

Trace elements help chemical reactions in our body.

	Source	Function	Deficiency
Fluoride	Fish, toothpaste	Strengthens teeth	Weak teeth
Iodine	Seafood and dairy	Hormone development	Complications in unborn babies

Fibre

Fibre is also known as "roughage" or "non-soluble polysaccharides (NSP)".

Insoluble fibre

Source

Wholegrain, whole wheat and wholemeal cereals

Function

- Insoluble fibre goes through the body and collects rubbish and waste before pushing it out as poo.
- This acts like a sponge by expanding to hold water and waste
- Helps keep poo soft
- Prevents constipation

Soluble Fibre

Source

Peas, beans, lentils, apples and citrus fruit

Function

- Lowers cholesterol, helping reduce the risk of heart disease.
- Helps to control the level of blood sugar by slowing down the release of food from the stomach (good for diabetics

Deficiency

Constipation, bowel cancer

RDA

30g per day

Life Stages

Toddlers

Eatwell guide doesn't apply
High calcium
Small meals
Variety of different fooods

Young Children

- Protein for growth and development
- Given small, attractive portions of food
- Introduce to new foods gradually
- Avoid fatty and sugary food
- Calcium and Vit. D for bones and teeth

Teenagers

- Should be given protein for growth and development
- Risk of obesity and poor skin - Eat 5-a-day to help Good supply of iron (esp. for girls during period)
- Avoid fatty or sugary food
- Try to develop good habits

Early and middle Adulthood

Follow eatwell guide
Men need more calories
Women need more iron
Calcium and vitamin for strong bones

Elderly

- Should be given protein to repair worn out body cells
- Need a good supply of calcium and vitamin D for healthy bones
- Good supply of iron to keep the body healthy
- Need more fat in the winter to stay warm
- Fresh fruit and vegetables for vitamins and minerals
- May struggle to cut (arthritis) or chew food (false teeth) and digestive problems.

Special Dietary Needs

Allergy: an adverse reaction by the body to certain substances

Intolerance: condition that makes people avoid certain food because of the effects on their body

Allergic reaction: the way someone responds to certain food.
- For example: a rash/swelling/anaphylactic shock

Type 2 Diabetes	Starchy food/high in sugar
Low fat diet	Foods naturally high in fat Foods cooked in a lot of fat
Low salt diet	Processed food Smoked meat Chinese food with MSG
Nut allergy	Avoid nuts, blended cooking oil, margarine with nut oils and often seeds
Lactose intolerance	Avoid milk, cheese, yogurt, processed food
Gluten intolerance (coeliac)	Avoid Wheat, wholemeal, bran, pasta, rye, beer.
Iron deficiency anaemia	High iron food – red meat, dark green leafy vegetables
Calcium deficiency	High calcium food – dairy High Vit. D food – tuna, salmon
Dental Caries	Limit sugary food
Cardiovascular disease and obesity	Correct portion size Reduce Saturated fats Fruit and veg to replace fatty food

Specific Lifestyle Choices

Religious/cultural

Muslims

- do not eat pork
- Meat must be halal
- No alcohol or shellfish

Hindus

- Do not eat beef (a cow is considered sacred)
- Many are vegan, although some do eat meat

Jews

- No pork or shellfish
- No milk and meat together
- Meat must be kosher

Vegetarians - Ethical or moral choices

- Dishes with vegetables generally healthy
- Need protein from other sources
- Risk of iron, B1, B9 and B12 deficiency
- Protein from Quorn/tofu

	Eat	Avoid
Pescatarian	Fish/animal products (eggs and dairy)	Meat
Lacto-ovo vegetarian	Animal products (eggs and dairy)	Meat, fish
Lacto-vegetarian	Dairy	Meat, eggs, fish
Vegan		Animal products

Physical Activity

People may have high energy needs if they are physically active, such as sports people or people who are on their feet a lot.

We use the eatwell guide to get a balance of healthier and more sustainable food. It shows how much we should eat from each group.

We also follow the 8 government healthy eating guidelines:

1. Base your meals on starchy food

Most of the food on your plate should consist of starchy foods

These supply important energy and give important minerals and dietary fibre.

Whole grain and whole wheat versions are best

How?

Have a side of starchy food like potato, rice, pasta or bread.

2. Eat lots of fruit and veg

We should eat at least five a day.

How?

Choose from fresh, frozen, tinned, dried or juiced.

Add vegetables to meals
Add vegetables or fruit to cakes and desserts

3. Eat more fish

Fish is a good source of protein, contains vitamins, minerals and omega 3.

How?
Aim for at least two portions of fish a week

4. Eat less saturated fat and sugar

Too much fat is bad for you and causes dietary health problems
(heart disease, obesity, stroke)

How?

- Cut visible fat from the meat
- Choose lean cuts of meat
- Offer low fat spreads

Too much sugar caused type 2 diabetes, heart disease, obesity and dental problems

How?

- Use sugar substitutes for puddings, cakes and biscuits
- Offer fresh fruit alternatives
- Use less processed foods – especially sauces

5. Eat less salt

Eat no mare than 5g a day.

Too much salt causes high blood pressure, strokes and dehydration

It is highly addictive!

How?

- Cook dishes using fresh ingredients
- Don't add salt at the table
- Don't add salt to the cooking water

6. Get active

If you eat more energy than your body needs, it is turned into fat. If you don't eat enough energy your body cannot function properly.

Being overweight can lead to heart disease, high blood pressure or diabetes.

Being underweight also affects your health and leads to bulimia or anorexia.

How?

- Only eat as much food as you need
- Exercise for 30 minutes a few times a week.

7. Drink plenty of water

Our bodies are 2/3s water. It is vital to drink enough water to stay hydrated.

Even mild dehydration can lead to headaches, irritability and loss of concentration.

How?

- Drink loads of water
- Fruit, soup and other drinks also count

8. Eat breakfast

Breakfast is the most important meal of the day as it gives energy for the day..

It should be made up of complex carbohydrates for a slow release of energy and stop us snacking.

Component 1 - Exploring Music Products and Styles

Each year, the music industry produces a wide range of products such as recordings, compositions, live performances, music for film, TV and computer games. Have you ever wondered how these products are created? Through Music industry products you will consider the impact of the music for the purpose and intended audience it was created for.

Types of music product: o live performance o audio recording o composition for media, such as film, TV, adverts and computer games o original song or composition o Digital Audio workstation (DAW) project.

What Styles of Music are there?

- Popular music styles
- world music and fusion
- music for media
- western classical styles of music
- jazz and blues

Through Component 1 you will understand through practical work how music from a variety of styles is performed, created and produced in order to produce their own products.

Key objective:

To understand stylistic features and characteristic of a genre of music and how it develops.

- **Popular music styles -** a minimum of one from each of the following groups:
  - **group 1**: 50s and 60s, e.g. rock 'n' roll, British invasion, folk revival, Motown and soul, psychedelic
  - **group 2**: 70s and 80s, e.g. heavy metal, prog, punk, disco, reggae, synth pop, hip-hop, post punk, hardcore
  - **group 3**: 90s to present, e.g. grunge, Britpop, rave, techno, house/techno, drum and bass, nu-metal, pop punk, dubstep, reggaeton, grime, trap.

other music styles - a minimum of one style from two of the following groups:

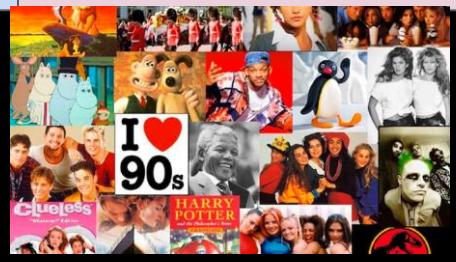
- **group 4**: world music and fusion, e.g. samba, bhangra, African drumming, gamelan
- **group 5**: music for media (film, TV or computer games), e.g. jingles, theme tunes, soundscapes, ambient music, Foley, diegetic, non-diegetic, motifs and leitmotifs, thematic development
- **group 6**: western classical styles of music, e.g. baroque, classical, romantic, orchestral, leitmotif, minimalism, serialism
- **group 7**: jazz and blues, e.g. delta blues, trad jazz, bebop, swing/big band, modal jazz.

World Music

Bhangra Music

Gamelan Music

African Drumming



1960's and 70's Pop music

BTEC: Component 1

In North America and Europe the decade was particularly revolutionary in terms of popular music, as it saw the evolution of rock. At the beginning of the 1960s, pop and rock and roll trends of the 1950s continued; nevertheless, the rock and roll of the decade before started to merge into a more international, eclectic variant known as rock. In the early-1960s, rock and roll in its purest form was gradually overtaken by pop rock, beat, psychedelic rock, blues rock, and folk rock, which had grown in popularity.

1960's Iconic Groups

The Beatles were an English rock band formed in Liverpool in 1960. with a line-up comprising John Lennon, Paul McCartney, George Harrison and Ringo Starr, they are regarded as the most influential band of all time. The group were integral to the evolution of pop music into an art form and to the development of the counterculture of the 1960s.

The Rolling Stones are an English rock band formed in London in 1962. The first stable line up consisted of bandleader Brian Jones (guitar, harmonica, keyboards), Mick Jagger (lead vocals) Keith Richards (guitar, vocals), Bill Wyman (bass), Charlie Watts (drums) and Ian Steward (piano). The group were at the forefront of British invasion bands.

The who are an English rock band formed in London in 1964. Their classic line-up consisted of lead singer Roger Daltrey, guitarist and singer Pete Townshend, bass guitarist John Entwistle and drummer Keith Moon. They are considered one of the most influential rock bands of the 20th Century, selling over 100 million records worldwide.

Component 1 - Exploring Music Products and Styles

1960's British Invasion

Beat Music - Beat music, British beat, or Merseybeat (after bands from Liverpool and nearby areas beside the River Mersey) is a popular music genre of rock and roll that developed in the United Kingdom in the early 1960s

Listen to this piece by The Searchers - what are the main features of the Music?

https://youtu.be/7rXhXLsNvL8

Love Potion No. 9 - The Searchers

- Instrumentation - 2 x Guitar, Bass,
Drums, Vocals
- 4/4 Time signature
- Up beat tempo
- Catchy Tune
- Simple
- Accented Guitar Chords
- Drum fills

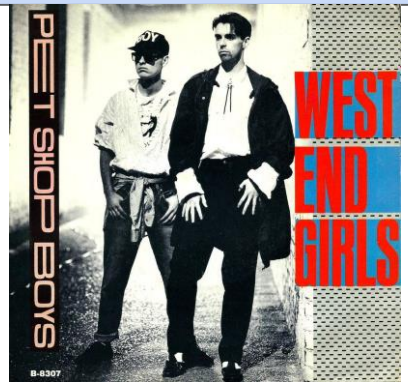
1960's British Invasion- Beat Music

Main Features
Strong beat, using the backbeat common to rock and roll and rhythm and
blues, but often with a driving emphasis on all the beats of 4/4 bar.
The chord playing of the rhythm guitar was broken up into a series of separate
strokes, often one chord per bar
very simple on the beat bass playing
simple guitar-dominated line-ups, with vocal harmonies and catchy tunes.
The most common instrumentation of beat groups featured lead, rhythm and
bass guitars plus drums
Beat groups often sang both verses and choruses in close harmony, resembling
doo wop, with nonsense syllables in the backing vocals

1980's Synth Pop

Synth-pop was defined by its primary use of synthesizers, drum machines and sequencers, sometimes using them to replace all other instruments.

Many synth-pop musicians had limited musical skills, relying on the technology to produce or reproduce the music. The result was often minimalist, with grooves that were "typically woven together from simple repeated riffs often with no harmonic 'progression' to speak of".



1980's Iconic Groups

The Pet Shop Boys Formed in London in 1981 by vocalist Tennant (then a writer for the music magazine Smash Hits) and keyboardist Lowe, the Pet Shop Boys arrived at a clever pairing of ironic, coolly delivered lyrics and catchy synthesizer-based dance music, underlain by emotional tension. They incorporated the sounds of disco, the frenetic style known as Hi-NRG, house, and techno.

Depeche Mode are an English electronic music band formed in Basildon, Essex, in 1980. The band currently consists of Dave Gahan (lead vocals and co-songwriting) and Martin Gore (keyboards, guitar, co-lead vocals and main songwriting). Depeche Mode were called "the quintessential eighties techno-pop band" by Rolling Stone.

Kraftwerk are a German experimental group widely regarded as the godfathers of electronic pop music. The original members were Ralf Hütter and Florian Schneider. The foundation for Kraftwerk's music was the sounds of everyday life, a concept first fully realized on the 22-minute title track of the Autobahn album (1974).

1960s and 70s Pop music

BTEC: Component 1

In North America and Europe the decade was particularly revolutionary in terms of popular music, as it saw the evolution of rock. At the beginning of the 1960s, pop and rock and roll trends of the 1950s continued; nevertheless, the rock and roll of the decade before started to merge into a more international, eclectic variant known as rock. In the early-1960s, rock and roll in its purest form was gradually overtaken by pop rock, beat, psychedelic rock, blues rock, and folk rock, which had grown in popularity.

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GCSE PHOTOGRAPHY YEAR 1

IF YOU NEED HELP WITH YOUR WORK COMTACT MRS TURNER- TURNERP@PLYMPTON.ACADEMY

COURSEWORK UNIT 1

INTRO TO PHOTOGRAPHY

EXPLORING A RANGE OF LANDSCAPE AND ARCHITECTURAL PHOTOGRAPHY

KNOWLEDGE ORGANISER- YEAR 10

1	Mode dial	2	Release-mode selector	3	Information button
4	Exposure compensation button/Aperture button/Flash compensation button	5	Shutter-release button	6	Power switch
7	AF-assist illuminator/ Self-timer lamp/ Red-eye reduction lamp	8	Accessory shoe (for optional flash units)	9	Flash mode button/ Flash compensation button
10	Microphone	11	Function button	12	Lens release button
13	Playback button	14	Menu button	15	Thumbnail button/Playback zoom out button/Help button
16	Playback zoom in button	17	Information edit button	18	Viewfinder eyepiece
19	Diopter adjustment control	20	AE-L/AF-L button/Protect button	21	Command dial
22	Live View switch	23	Movie-record button	24	Multi selector
25	OK button	26	Delete button	27	Speaker
28	Monitor				

PHOTO COLLAGE

MEDIA EXPERIMENTS

VAN GOGH

FAY GODWIN

VICTORIA SIEMER

SANDRA MEECH

DON'T FORGET TO USE THE 10 RULES OF COMPOSITION

SKETCHBOOK PRIORITIES:

PRESENTATION- CLEAR EASY TO READ

SHOOTS- 30 OF YOUR OWN IMAGES, THE BEST 4 PRESENTED AND WRITTEN UP

CONTACT SHEETS- STUCK IN AND ANNOTATED

PHOTOGRAPHER STUDIES- ANNOTATED, PERSONAL LINKED TO METAMORPHOSIS

SHOOT PLANS- DETAILED AND WRITTEN IN FULL SENTENCES

IDEAS PAGES- CLEAR LINK TO PHOTOGRAPHERS AND PERSONALISED IDEAS

IMAGES- CUT WITH TRIMMER STRAIGHT EDGES, NEATLY GLUED IN

ANNOTATION-USE THE ANNOTATION WINDOW AND SENTENCE STARTERS TO HELP

MERVE OZSLAN

CHARLIE WAITE

PAUL EIS

USEFUL WEBSITES:

WWW.DAZEDDIGITAL.COM

WWW.TRENDLAND.COM

WWW.STUDENTARTGUIDE.COM

WWW.THISISCOLOSSAL.COM

WWW.ART2DAY.CO.UK

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COURSEWORK UNIT 1

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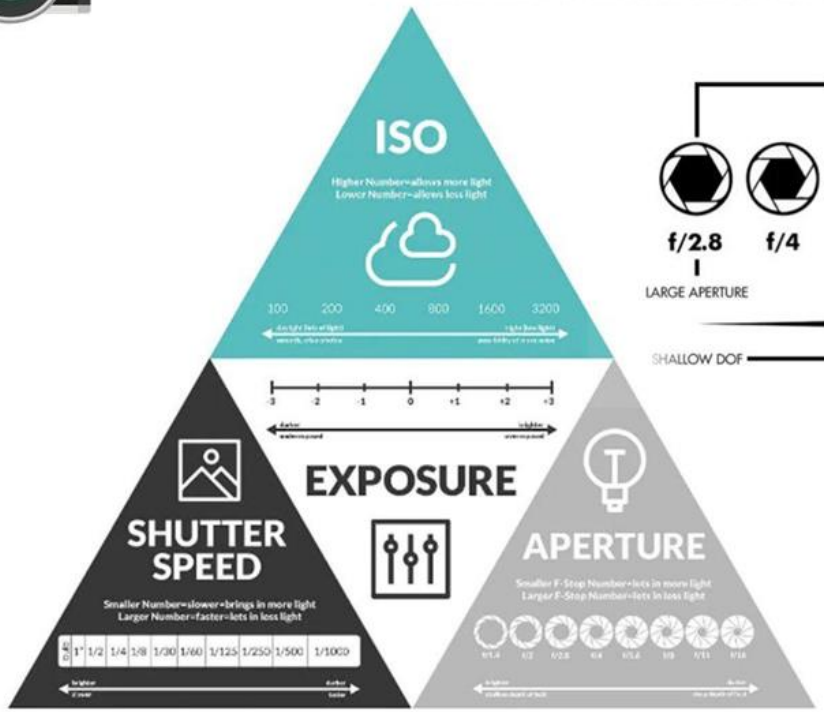

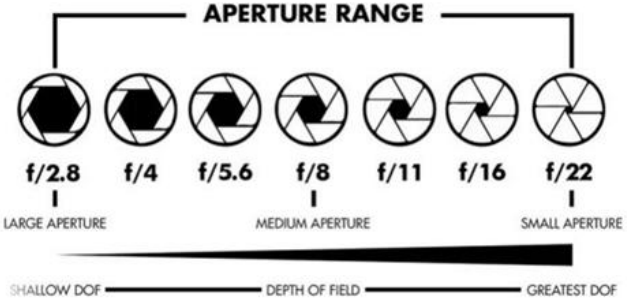

DON'T FORGET TO USE THE 10 RULES OF COMPOSITION

HOMEWORK/ DEVELOPMENT TASKS:

- *COMPLETE AN ADDITIONAL IDENTITY SHOOT LINKED TO A NEW PHOTOGRAPHER INCLUDE CONTACT SHEETS AND YOUR 4 BEST IMAGES IN YOUR SKETCHBOOK.
- *PICK AN IMAGE FROM ONE OF THE NAMED PHOTOGRAPHERS AND PRACTICE YOUR ANNOTATION.
- *CREATE REVISION CARDS FOR THE PARTS OF THE CAMERA.
- *TAKE YOUR PHOTOGRAPHY BOOK HOME AND COMPLETE UNFINISHED TASKS.
- *FIND A NEW IDENTITY PHOTOGRAPHER AND CREATE A COLLAGE OF THEIR IMAGES.
- *MINDMAP IDEAS AND KEYWORDS FOR THE IMAGES ON THE KNOWLEDGE ORGANISER.

IDENTITY

START TO THINK ABOUT HOW YOU CAN REPRESENT YOUR IDENTITY. SAVE THINGS THAT INSPIRE YOU AND LINK THEM TO YOUR WORK.

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USEFUL WEBSITES:

WWW.DAZEDDIGITAL.COM
WWW.TRENDLAND.COM
WWW.STUDENTARTGUIDE.COM
WWW.THISISCOLOSSAL.COM
WWW.ART2DAY.CO.UK

OPINION	NOUN	CONNECTIVE	REASON 1	CONNECTIVE	REASON 2
En mi colegio estudio… *(At school I study…)* **Mi asignatura favorita es** *(my favourite subject is)* **Me encanta** *(I love)* **Me gusta** *(I like)* **Me da igual** *(I don't care about)* **No me gusta** *(I don't like)* **No soporto** (I can't stand) **Odio** *(I hate)*	**el dibujo** *(art)* **el diseño** *(design)* **el español** *(Spanish)* **el francés** *(French)* **el inglés** *(English)* **el teatro** *(drama)* **la cocina** *(catering)* **la geografía** *(geography)* **la historia** *(history)* **la informática** *(computing)* **la música** *(music)*	**porque** *(because)* **ya que** *(since)* **dado que** *(given that)* **pero** *(but)* **aunque** *(although)* **sin embargo** *(however)* **NO SOLO** *(NOT ONLY)*	**es interesante** *(it's interesting)* **es útil para el futuro** *(it's useful for the future)* **es fácil** *(it's easy)* **se me da bien** *(I'm good at it)* **saco buenas notas** *(I get good grades)* **es demasiado difícil** *(it's too hard)* **se me da mal** *(I'm bad at it)* **no es útil** *(it's not useful)*	**y** (and) **y también** (and also) **SINO** *(BUT)* *ONLY USE WITH 'NO SOLO'*	**aprendo mucho en clase** *(I learn a lot in class)* **me gusta el profesor.** *(I like the teacher - male)* **me gusta la profesora.** *(I like the teacher - female)* **tengo amigos en clase.** *(I have friends in class)* **no aprendo nada en clase.** *(I don't learn anything in class)* **no me gusta el profesor.** *(I don't like the teacher – m.)* **no me gusta la profesora.** *(I don't like the teacher – f.)*
Mis asignaturas favoritas son *(my favourite subjects are)* **Me encantan** *(I love)* **Me gustan** *(I like)* **Me dan igual** *(I don't care about)* **No me gustan** *(I don't like)* **Odio** *(I hate)*	**los idiomas** *(languages)* **las empresariales** *(business studies)* **las ciencias** *(science)* **las matemáticas** *(maths)*		**son divertidos/as** *(they are fun)* **son interesantes** *(they are interesting)* **son útiles para el futuro** *(they are useful for the future)* **son fáciles** *(they are easy)* **se me dan bien** *(I'm good at them)* **son demasiado difíciles** *(they are too hard)* **son aburridos/as** *(they are boring)* **se me dan mal** *(I'm bad at them)*		

TIME PHRASE	OPINION	NOUN	CONNECTIVE	REASON
Ahora *(Now)* **Hoy en día** *(Nowadays)* **Actualmente** *(Currently)*	**mi profesor(a) favorito/a es el/la de…** *(my favourite teacher is the … one)* **me encanta mi profesor(a) de…** *(I love my ... teacher)* **me gusta mi profesor(a) de…** *(I like my ... teacher)* **prefiero a mi profesor(a) de...** *(I prefer my ... teacher)*	**dibujo** *(art)* **diseño** *(design)* **español** *(Spanish)* **francés** *(French)* **inglés** *(English)* **teatro** *(drama)* **cocina** *(catering)* **geografía** *(geography)* **historia** *(history)* **informática** *(computing)* **música** *(music)* **idiomas** *(languages)* **empresariales** *(business studies)* **ciencias** *(science)* **matemáticas** *(maths)*	**porque** *(because)* **ya que** *(since)* **dado que** *(given that)*	**es divertido/a.** *(s/he is fun)* **es gracioso/a.** *(s/he is funny)* **es simpático/a.** *(s/he is kind)* **me ayuda mucho.** *(s/he helps me a lot)* **explica las cosas muy bien.** *(s/he explains things very well)* **nos hace reír.** *(s/he makes us laugh)* **aprendo mucho en la clase.** *(I learn a lot in the class)* **le apasiona su asignatura.** *(s/he is passionate about his/her subject)*
	odio a mi profesor(a) de… *(I hate my ... teacher)* **mi peor profesor(a) es el/la de…** *(My worst teacher is the … one)* **no me gusta nada mi profesor(a) de…** *(I don't like my ... teacher at all)* **no soporto a mi profesor(a) de...** *(I can't stand my ... teacher)* **… y tampoco me gusta mi profe de…** *(... and I don't like my … teacher either)*			**es aburrido/a.** *(s/he is boring)* **es pesado/a.** *(s/he is annoying)* **es antipático/a.** *(s/he is mean)* **explica las cosas muy mal.** *(s/he explains things very badly)* **no aprendo nada en la clase.** *(I learn nothing in the class)* **no le gustan los niños** *(s/he doesn't like kids)* **nos da demasiados deberes.** *(s/he gives us too much homework)* **nunca me ayuda.** *(s/he never helps me)*
Antes *(before)* **Hace unos años** *(a few years ago)*	**me encantaba mi profesor(a) de…** *(I loved my ... teacher)* **me gustaba mi profesor(a) de…** *(I liked my ... teacher)* **odiaba a mi profesor(a) de…** *(I hated my ... teacher)*			**era divertido/a.** *(s/he was fun)* **era pesado/a.** *(s/he was annoying)* **me ayudaba.** *(s/he helped me)* **aprendía mucho/nada en la clase.** *(I learned a lot/nothing in the class)*

¿Qué hay en tu insti? *(What is there in your school?)*

VERB	NOUN	CONNECTIVE	VERB	COMPARATIVE	REASON	CONNECTIVE	NOUN
En mi cole hay *(In my school there is/are)* **En mi insti hay** *(In my school there is/are)* **Mi cole tiene** *(My school has)* **Mi insti tiene** *(My school has)*	**un patio** *(a playground)* **un gimnasio** *(a gym)* **un comedor** *(a canteen)* **un campo de deportes** *(a sports field)* **una sala de informática** *(a computer suite)*	**que** *(that)*	**es** *(is)* **son** *(are)*	**más** *(more)* **menos** *(less)*	**grande** *(big)* **impresionante** *(impressive)* **pequeño/a** *(small)* **antiguo/a** *(old)* **moderno/a** *(modern)* **ruidoso/a** *(noisy)* **tranquilo/a** *(quiet)* **limpio/a** *(clean)* **sucio/a** *(dirty)*	**que** *(than)*	**el patio.** *(the playground)* **el gimnasio.** *(the gym)* **el comedor.** *(the canteen)* **el campo de deportes.** *(the sports field)* **la sala de informática.** *(the computer suite)*
Antes había *(Before there was / were)* **Antes tenía** *(Before it had)*	**unos laboratorios** *(some science labs)* **muchos pasillos** *(lots of corridors)* **muchas aulas** *(lots of classrooms)*	**pero** *(but)*	**era** *(was)* **eran** *(were)*	**tan** *(as)*	**grandes** *(big)* **impresionantes** *(impressive)* **pequeños/as** *(small)* **antiguos/as** *(old)* **modernos/as** *(modern)* **ruidosos/as** *(noisy)* **tranquilos/as** *(quiet)* **limpios/as** *(clean)* **sucios/as** *(dirty)*	**como** *(as)*	**los laboratorios.** *(the science labs)* **los pasillos.** *(the corridors)* **las aulas.** *(the classrooms)*

¿Cómo es tu día escolar? *(What is your school day like?)*

VERB	TIME	CONNECTIVE	VERB	NOUN	TIME	SEQUENCER	NOUN
Llego al insti *(I arrive to school)* **Las clases empiezan** *(Lessons start)*	**a las ocho en punto** *(at eight o'clock)* **a las ocho y diez** *(at ten past eight)* **a las ocho y cuarto** *(at quarter past eight)* **a las ocho y veinte** *(at twenty past eight)* **a las ocho y media** *(at half past eight)* **a las nueve menos veinte** *(at twenty to nine)*	**y** *(and)* **luego** *(then)*	**tengo** *(I have)* **tenemos** *(we have)*	**el recreo** *(break)* **la comida** *(lunch)*	**a las once en punto.** *(at eleven o'clock)* **a las once y cuarto.** *(at quarter past eleven)* **a las doce menos veinte.** *(at twenty to twelve)* **a las doce y media.** *(at half past twelve)* **a la una menos cuarto.** *(at quarter to one)* **a la una.** *(at one)* **a las tres en punto.** *(at three o'clock)*	**Después de clase hay** *(After lessons there is/are)*	**ayuda con deberes.** *(help with homework)* **actividades deportivas** *(sports activities)* **clases de repaso.** *(revision lessons)* **clubs extraescolares.** *(extra-curricular clubs)* **ensayos.** *(rehearsals)* **partidos de deporte.** *(sports matches)* **prática de música.** *(music practice)*
			terminan las clases *(lessons end)*				

¿Cómo es tu uniforme? *(What is your uniforme like?)*

VERB		NOUN	ADJECTIVE	CONN'VE	NOUN	OPINION	REASON
Llevo *(I wear)*		**un jersey** *(a jumper)* **un vestido** *(a dress)* **una camisa** *(a shirt)* **una chaqueta** *(a blazer)* **una corbata** *(a tie)* **una falda** *(a skirt)*	**negro/a** *(black)* **blanco/a** *(white)* **rojo/a** *(red)* **amarillo/a** *(yellow)* **morado/a** *(purple)* **verde** *(green)* **azul** *(blue)* **gris** *(grey*	**con** *(with)* **y** *(and)*	**un jersey.** **un vestido.** **una camisa.** **una chaqueta.** **una corbata.** **una falda.**	**Me chifla mi uniforme** *(I'm crazy about my uniform)* **Me gusta mi uniforme** *(I like my uniform)* **Odio mi uniforme** *(I hate my uniform)* **No soporto mi uniforme** *(I can't stand my uniform)*	**porque es muy elegante.** *(because it's very smart)* **porque es cómodo.** *(because it's comfortable)* **porque es feísimo.** *(because it's really ugly)* **porque es demasiado incómodo.** *(because it's too uncomfy)*
Tengo que *(I have to)* **Tenemos que llevar** *(We have to)* **Hay que llevar** *(You have to)* **Se debe llevar** *(You must)*	**llevar** *(wear)*	**calcetines** *(socks)* **pantalones** *(trousers)* **zapatos** *(shoes)*	**negros** **blancos** **rojos** **amarillos** **morados** **verdes** **azules** **grises**		**calcetines.** **pantalones.** **zapatos.**	**Personalmente, pienso que** *(Personally, I think that)* **Personalmente, diría que** *(Personally, I'd say that)* **Desde mi punto de vista,** *(From my point of view)*	**es muy elegante.** *(it's very smart)* **es cómodo.** *(it's comfortable)* **es feísimo.** *(it's really ugly)* **es demasiado incómodo.** *(it's too uncomfy)*

BTEC REVISION NOTES

TOP TIPS

EXPLAIN – GIVE A REASON FOR SOMETHING

DISCUSS – WRITE ABOUT SOMETHING FROM DIFFERENT POINTS OF VIEW LIKE WRITING ABOUT THE ADVANTAGES AND DISADVANTAGES

NAME/GIVE – GIVE A SHORT ANSWER

DESCRIBE – WRITE ABOUT WHAT SOMETHING IS LIKE

CALCULATE – YOU WILL NEED TO DO SOME MATHS TO WORK OUT YOUR ANSWER AND SHOW HOW YOU DID IT

INTERPRET – YOU NEED TO USE THE INFORMATION GIVEN TO WORK OUT THE ANSWER

PHYSICAL FITNESS

Cardiovascular (Circulatory) System move blood around the body and is made up of

1. Blood vessels
2. The heard
3. Blood

Respiratory system moves air into and out of the body. It is made of

1. The lungs
2. The airways

The two systems together make up the The **Cardiorespiratory** System

The **oxygen** we breathe and the **nutrients** we eat are transported around the body in the blood. Our cells used them to make **energy**. The **cardiorespiratory** system also allows the body to breath out waste products like **carbon dioxide.**

PHYSICAL FITNESS

AEROBIC ENDURANCE – The ability of the cardiorespiratory system to work efficiently, supplying nutrients and oxygen to working muscles during sustained (long lasting) physical activity.

MUSCULAR ENDURANCE – The ability of the muscular system to work efficiently and continue to contract over a period of time against a light to moderate load. E.g a tennis player holding their racket and playing throughout the game.

MUSCULAR STRENGTH – The maximum force (strength) that can be generated (made) by a muscle or muscle group.

FLEXIBILITY – Being able to move a joint fluidly (smoothly) through its complete (whole) range of movement

SPEED – Speed (m/s) = $\frac{\text{distance (m)}}{\text{Time (s)}}$

There are three types of speed

1. **Accelerative speed** – sprints up to 30 m
2. **Pure speed**- sprints up to 60 m
3. **Speed endurance**- sprints with a short recovery period (rest) in between

BODY COMPOSITION – The relative ratio (amount) of fat mass to fat-free mass in the body

SKILL – RELATED FITNESS

BALANCE – The ability to maintain centre of mass over a base of support

1. **Static Balance** – a still balance like a hand stand
2. **Dynamic Balance** – a moving balance like a cartwheel

POWER – The product (result) of speed x strength e.g. you need power to drive the ball in golf

AGILITY – The ability of a sports performer to quickly and precisely (exactly) move or change direction without losing balance or time

COORDINATION - The smooth flow of movement needed to perform a motor task efficiently (wasting as little energy as possible) and accurately (without going wrong)

REACTION TIME – The time that it takes for a sports performer to respond to a stimulus and initiate (start) their response.

Each sport needs different types of **physical** and **skill-related fitness.** You need to be able to identify the **types of fitness** needed for **different sports**. To do this, think about what the sports performers need to do in that sport.

TRAINING PROGRAM MES AND PRINCIPLES

TRAINING PROGRAM ME – a programme of exercise designed to improve performance.

There are **four** basic principles (guidelines) that a coach can follow

Frequency – How often to train per week

Intensity – How hard to train

Time – How long to train

Type – What training method (way of exercising) should be used to improve the type of fitness needed for the sport.

There are also seven more principles of training that a coach needs to think about

SPECIFICITY – Training should be linked to the sport, activity or physical/skill-related fitness goal

INDIVIDUAL DIFFERENCES/NEEDS – The programme should be designed to meet individual training goals and needs e.g. a fitter person would have a harder training programme

VARIATION – It is important to do different activities in training to the performer doesn't get bored

REST AND RECOVERY -A sports performer needs to rest to allow their body to recover. During recovery the body repairs any damage caused by exercise

PROGRESSIVE OVERLOAD - In order to progress (improve), training needs to be demanding enough to cause the body to adapt(change) to improve performance

ADAPTATION – How the body reacts to training loads by increasing its ability to cope with those loads

REVERSIBILITY – If training stops or the intensity of training is not sufficient (enough) to cause adaptation, training effects will be reversed.

HEART RATE

HEART RATE – The number of times the heart beats per minute (bpm)

MAXIMUM HEART RATE – also called **HR max**

HR max = 220 – age (years)

e.g. the maximum heart rate of a 25 year old is

HR max = 220 – age
= 220 – 25
= 195 bpm

HEART RATE TARGET ZONES

Heart rate needs to be high enough to cause adaptation and improve fitness

The target zone recommend to improve cardiorespiratory fitness is

TARGET ZONE = 60%-85% of HR max (a person's maximum heart rate)

WORKING OUT TARGET ZONES

1. Calculate maximum heart rate (HR max) or they might give it to you
   HR max = 220 – age (years)
2. Find **upper training threshold = HR max X 0.85**
3. Find **lower training threshold = HR max X 0.60**
4. Write down the lower heart rate followed by the higher heart rate to show the target zone

e.g. 220 – 25 (age) = 195 bpm
195 x 0.85 = 165.75 = 166 bpm (upper training threshold)
195 x 0.60 = 117 bpm (lower training threshold)
Target zone = 117 bpm – 166 bpm

BORG (6-20) RATING OF PERCEIVED EXERTION SCALE or the BORG (6-20) RPE Scale

6	No exertion
7	
8	
9	
10	
11	Light
12	
13	Somewhat hard
14	
15	Hard (heavy)
16	
17	Very hard
18	
19	
20	Maximal exertion

The numbers on the scale represent the **different levels** of **exercise intensity.**

The BORG (6-20) can be used to estimate a person's heart rate

HR (bpm) = RPE x 10

e.g. a perform says they are working extremely hard and give a RPE scale rating of 19 their estimated heart rate is

HR (bpm) = RPE X 10
= 19 X 10
= 190 bpm (beats per minute)

You can also estimate a RPE scale/Borg scale rating from a heart rate (bpm)

e.g. a performers heart rate is 154 (bpm)

RPE scale = HR (bpm) ÷10
= 154 ÷ 10
= 15.4
=15 RPE Scale

BTEC REVISION NOTES

TRAINING AND SAFETY

Fitness training methods are different ways of exercising. Each training method improves a different type of physical or skill-related fitness.

Advantages and Disadvantages
Each fitness training method has advantages and disadvantages like
VARIETY – is the training method interesting enough?
INTENSITY – is it easy to vary the intensity?
PURPOSE – does the training method improve the type of fitness you want it to?
COST – Does the training method needs lots of expensive equipment?
SPORT SPECIFIC – can the training method be changed to suit different sports?
SAFETY – Can the training method cause injury.
e.g. an advantage of stretching is that it increase flexibility. A disadvantage of stretching is that it can cause muscle soreness.

SAFETY –
Use equipment safely
Use training methods in the right way
Warm-up = (gentle exercise + stretching) **to increase heart rate and help prevent injury**
and **cool down** = (gentle exercise + stretching) **to decrease heart rate and stop muscles becomes sore.**

FITNESS TRAINING METHODS

FLEXIBILITY TRAINING – STRETCHING IS A FITNESS TRAINING METHOD

STRETCHING IMPROVES FLEXIBILITY

STATIC STRETCHING – is when you stretch a muscle and hold it in one position. There are 2 types of static stretching.

1. **ACTIVE** – This is where you use your own muscles to hold the stretch
2. **PASSIVE** – This is where you use someone or a piece of equipment to help you hold the stretch.

BALLISTIC STRETCHING – Is when you make fast movements (bounces). A disadvantage of this type of stretching is have it can strain (pull) your muscles or make them sore.

PROPRIOCEPTIVE NEUROMUSCULAR FACILITATION (PNF)
You need a partner for PNF stretching

1. The performer stretches the muscle as far as it can go.
2. A partner helps hold the muscle in that position while the performer pushes back against the partner for 6-10s.
3. The performer relaxes.
4. So the partner can push the stretch a little further.

Muscles have a stretch reflex that stops them stretching too far. PNF works by stopping that reflex so the muscle can be stretched further. It improves mobility, strength and flexibility. It can help people to recover from injuries.

FITNESS TRAINING METHODS

STRENGTH TRAINING

FREE WEIGHTS – are weights that are not attached to a machine
You can use free weights to improve **MUSCULAR STRENGH** AND **MUSCULAR ENDURANCE**
You can target particular muscles
You can injury yourself if your technique is wrong

There are two types of exercise with **free weights**
CORE EXERCISES – These wort muscles that make the spine and pelvis stable
ASSISTANCE EXERCISES – These work muscles that are specific to a sport or exercise

Always do **core before assistance** exercises
Change between **upper and lower** body exercises
Change between **push and pull** exercises

Weight training is done in **REPS** – one specific exercise and **SETS** – the number of reps you do without a rest
1RM – one repetition maximum – is the heaviest amount you can lift in one rep
The intensity of training can be described as a percentage of 1RM

MUSCULAR STRENGTH	STRENGTH ENDURANCE	ELASTIC STRENGH
High loads and low reps	Low loads and high reps	Medium loads and medium reps
90% 1RM and 6 reps	50-60% 1RM and 20 reps	75% 1RM and 12 reps

FITNESS TRAINING METHODS

SPEED TRAINING – going as fast as you can for a short distance and then having lots of rest.

HOLLOW SPRINTS – do more than one sprint with a jog or walk in between called the hollow period
INTERVAL TRAINING – do a period of work and a period of rest and recovery. To work on Speed you need periods of higher intensity (close to maximum) for a short time. You can increase the number of rest or recovery periods. E.g. run for 15 seconds as fast as you can and then recover for 3 minutes.
ACCELERATION SPRINTS – you keep increasing the pace over a short distance. You can start either standing still or rolling (easy jogging) and slowly get faster. In between each acceleration sprint you rest by walking or jogging slowly. You can make acceleration sprints harder by doing
HILL SPRINTS
RESISITANCE DRILLS

COACHES NEED TO MATCH TRAINING METHODS TO SPORTS AND USE THE PRINCIPLES OF TRAINING TO GUIDE THEIR PLANNING.

FITNESS TRAINING METHODS

AEROBIC ENDURANCE TRAINING - Increasing how long you can exercise for

CONTINUOUS TRAINING – is where you keep doing the same exercise without any rest for at least 30 minutes. You keep at a steady pace and at moderate (medium) intensity so you don't go too fast.
FARTLEK TRAINING – involves changes in intensity with no rest. You can change the intensity by

1. changing the speed
2. changing the steepness of the ground
3. adding weight

Advantages are that you can make it hard or easy to match a performers INDIVIDIUAL NEEDS. You can use it in lots of different activities like running, cycling and rowing.
INTERVAL TRAINING – This involves periods of working and resting. Work usually ranges between 30 seconds and 5 minutes. Rest period can include sit down, stand still, walk or jog. To improve aerobic endurance you need to have longer more intense periods of working and shorter breaks.
VO2 max = the maximum amount of oxygen uptake. It is the largest amount of oxygen that your body can use every minute. Measured in ml of oxygen per kg of body mass per minute (ml/kg/min). The intensity of training can be measured as a percentage of VO2 max.
CIRCUIT TRAINING – You can adapt a circuit to work on aerobic endurance for example using exercises like skipping and shuttle runs. You can increase the time spend at each station and the frequency of training.

FITNESS TRAINING METHODS

STRENGH TRAINING

CIRCUIT TRAINING FOR STRENGTH
You can use circuit training to improve muscular strength, power and muscular endurance. You can also adapt a circuit to work on skills like agility and coordination or to work on aerobic endurance.
In circuit training you do different exercises one after another.

- Each exercise is called a station.
- You normally have 6-10 different stations.
- All the stations make up one circuit.
- You need to put the exercises in an order that doesn't work the same muscles straight after each other to stop the muscles getting too tired.

PLYOMETRICS FOR EXPLOSIVE POWER AND MUSCULAR STRENGTH.

The exercises are linked to the sport
The performer uses **maximal force** (as much power as possible). This force is needed to lengthen and then quickly shorten the muscle for example two footed jumping over hurdles.
The working muscle lengthens when you land this is the **eccentric action**
The working muscle shortens quickly when you jump this is the **concentric action**
Used by sprinters, hurdlers, and team games where jumping is important like netball, volleyball and basketball. The disadvantage is that is can make muscles sore.

HOMEWORK PLANNER

YEAR 10	X BAND		Y BAND	
	Subject 1	Subject 2	Subject 1	Subject 2
Monday	Science	English	Science	Maths
Tuesday	Option P	Option R	Option P	Option R
Wednesday	Science		Science	
Thursday	Science	Option Q	English	Option Q
Friday	Maths	Option N	Science	Option N

When I am going to do my homework

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Before school							
Lunch time							
Between 3.00pm and 4.00pm							
Between 4.00pm and 5.00pm							
Between 5.00pm and 6.00pm							
Between 6.00pm and 7.00pm							
Between 7.00pm and 8.00pm							
Between 8.00pm and 9.00pm							

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FLASH CARDS

USE

Memorising key words/facts/short pieces of information.

WHAT ARE THEY?

A set of cards with a question/ key word on one side and an answer/ definition on the other. You learn as you make the cards and then have an excellent tool to test yourself over and over until you know the answers.

HOW DO I USE THEM?

MAKING THE CARDS:

1. Buy or make some cards (A6 size) - Not paper.
2. Write the topic/subject in the corner of the card.
3. Write a key word/ question on the same side of the card.
4. On the other side of the card write the answer (if you have written a question) or definition/ explanation (if it is a key word).
5. Make a set of cards - You can use different colour cards for different topics or for easier and harder questions.

USING THE CARDS:

1. Read through cards (both sides) one at a time.
2. Test yourself- go through the cards one at a time. If you have asked a question, try to answer it out loud or in your mind; if you have written a key word try to recall as much information as you can.
3. After each card, turn it over and look at the answer/definition. If you are happy with the way you have answered it put it on the RIGHT pile. If you got the information wrong or your answer was incomplete , put it on the WRONG pile.
4. When you have gone through all the cards, repeat the process with the WRONG pile. Keep repeating until you have no cards in the WRONG pile.
5. You can also use your cards to test your friends.

Put your cards in a safe place - You can come back to them in future.

PLYMPTON ACADEMY

TERM ONE & TWO

HANDBOOK

YEAR 10