Student Name:

MAGNUS
CHURCH OF ENGLAND
ACADEMY

Knowledge Organiser: September 2025

Year 11

"Wise men and women are always learning, always listening for fresh insights."
Proverbs 18:15 (The Message)

Determination – Integrity – Ambition – Humility – Compassion

Using Your Knowledge Organiser

Your teachers have worked hard to produce this document for you and have selected the most important knowledge that you will need to know to make good progress in their subjects. **You should aim to learn all the information in your knowledge organiser off by heart.**

Try out some of the strategies listed here to help you achieve this.

1. Read the knowledge organiser and ensure you understand it. Try and make links between the information on it and what you already know and do.

2. Look, Cover, Write, Check – the traditional way of learning spellings!

3. Create a Mnemonic – Using the first letters of keywords create a memorable sentence or phrase.

4. Create an acronym – using the first letters of keywords to create a word to prompt you to remember all of the information.

5. Write it out in full on a blank version of the same format.

6. Write it out in note form, reducing it to key ideas or words. Try the same format but a smaller piece of paper.

7. Recreate the knowledge organiser as a series of images and words

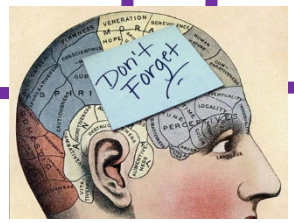
8. Write a set of test questions for yourself using the organiser.
    - Answer these without the organiser the next day.
    - Swap your questions with a friend to increase challenge.
    - Turn your questions in to a game by putting them on cards and playing with friends.

9. Chunk the knowledge into smaller bitesize sections of around 5 pieces of information. Concentrate on mastering a chunk before you start on the next.

10. Try to make connections between the information and people you know. E.g. Visualise yourself trying these strategies with a specific teaching group.

11. Talk about the information on the knowledge organiser with another person. Teaching someone else about it helps us learn it.

12. Say the information out loud – rehearse it like learning lines for a play, or sing it as if you are in a musical!



Year 11 Half Term 1 Key Vocabulary

English Language	**English Literature**	**Maths**	**Science - Biology**	**Science-Chemistry**	**Science – Physics**
Insanitary	Incessantly		Clone	Atmosphere	Newton's second law
Populous	Gilded		Allele	Sedimentary rock	Resultant force
Sinister	Reverence		Meiosis	Greenhouse effect	Mass
Repulsive	Versatile		Gamete	Greenhouses gases	Weight
Permanent	Wrath		Variation	photosynthesis	Acceleration
Adapt	Regicide		Genome	Climate change	Terminal velocity
Tone	Foil		Chromosome	Formulations	Stopping distance
Structure	Catharsis		Gene	Mobile phase	Hooke's Law
Impression	Paradox		Mutation	Stationary phase	Directly proportional
Salutation			Natural selection		Spring constant
			Evolution		

History	**Geography**	**Spanish**	**French**	**GCSE RS**	**Sociology**
Inoculation	Development	Noun	Noun	Retribution	Crime
Vaccination	Trade	Adjective	Adjective	Deterrence	Deviance
Symptom	Development Gap	Verb	Verb	Reformation	Pressure
Diagnosing	Globalisation	Connective	Connective	Revenge	Statistics
Purging	Human Development Index	Opinion verb	Opinion verb	Forgiveness	Surveys
Astrology	Gross National Income	Infinitive	Infinitive	Death penalty	Reported
Flagellation	Transnational Corporation	Frequency expression	Frequency expression	Oppose	Recorded
Urine Chart	Life Expectancy	Conjugate	Conjugate	Support	Validity
Infirmary	Industrial Structure	Adjectival agreement	Adjectival agreement	Suffering	Reliability
Apothecary	Intermediate Technology	Wow phrase	Wow phrase	Corporal punishment	Social construct
		Exclamation	Exclamation		

Performing Arts - Drama	**Performing Arts – Dance**	**Child Development**	**Art**	**Sport**	**Technology**
Forum Theatre	Choreographic	Unoccupied play		Aerobic endurance	
Improvisation	Motif	Solitary play		Muscular endurance	
Action	Action	Spectator play		Muscular strength	
Relationship	Dynamic	Parallel play		Speed	
Form	Relationship	Associative play		Flexibility	
Cross-cutting	Spatial	Co-operative play		Body composition	
Marking the Moment	Expressive	Locomotor play		Power	
Thought Tracking	Acceleration	Creative play		Agility	
Hot seating	Accumulation	Sensory play		Reaction time	
Narration	Intention	Imaginative play		Balance	
				Coordination	

Construction	**iMedia**	**Hospitality and Catering**	**Music**	**Business**	**Core RS**
			Repetition	Aesthetics	Buddha
			Imitation	Market segment	Jakata
			Sequence	Pricing strategy	Ascetics
			Ostinato	Product life cycle	Meditation
			Drone	Distribution	Enlightenment
			Arpeggio/broken chord	Integration	Mara
			Alberti bass	Logistics	Dhamma
			Anacrusis	Productivity	The three marks of existence
			Dotted rhythms	Stock control	The four noble truths
			Syncopation	Supplier	Arhat

Year 11 — Component 2 English Language

1. Tier 2 Vocabulary : Volcanoes -Sandrick and Tom Robins & London Markets– Petticoat Lane and Kingsland Road Market.

Volcanoes:	
specialises	Concentrate on and become an expert in a particular skill or subject.
permanent	Lasting or intending to last indefinitely (an unlimited time).
revamp	The act of improving the appearance of something.
adapt	Change; modify; change for a new purpose.
Markets:	
inadequate	Not good enough; lacking the quality required.
din	Loud, unpleasant and prolonged (going on too long) noise.
sanitary	Conditions that affect hygiene and health.
seething	Filled with anger but without expressing it.
thronged	A crowd filling a place.
excess	An amount that is more than necessary.
oily	Unpleasantly smooth or ingratiating (intending to gain approval

2. Vocabulary: to describe *place*

Term	Definition
insanitary	Unhygienic conditions.
populous	Having a large population; densely populated.
sinister	Giving the impression that something evil or unpleasant will happen there.
popular	Like by many people.
thunderous	Noisy; very loud; powerful and intense.
repulsive	Arousing intense distaste or disgust.

3. Letter writing: Structure

Sender's address: (house number/ street name

Town

City

County

Date in full

Recipient's address: (house number/ street name

Town

City

County

Post code

Salutation: Dear Sir/ Madam,

Closure: Yours faithfully/ sincerely,

If you **don't** know the recipient's actual name, end with **Yours faithfully,**

If you **do** know the recipient's name, end with **Yours sincerely,**

4. Question Terminology

Term	Definition
Tone	The writer's use of words and writing style to convey his or her attitude towards a topic.
Structure	The arrangement of and relations between the parts or elements of something complex.
Impression	An idea, feeling, or opinion about something or someone, especially one formed without conscious thought or on the basis of little evidence.

Year 11 — English Literature *'Conflict Poetry'*

Key Vocabulary

Belfast Confetti	**Labyrinth**—*Maze* **Rapid**—*Fast* **Punctuated**— *interrupted or emphasised* **Balaclava**—*Hat that covers the face and neck* **Fusillade of**— *a bunch of*
Exposure	**Ache**—*a prolonged dull pain* **Merciless**—*cruel* **Wearied**—*tired* **Salient**—*important* **Sentries**—*guards/lookouts* **Agonies**—*extremely bad pains* **Incessantly**—*constantly* **Poignant**—*emotional* **Successive**—*one after the other* **Nonchalance**—*calmness* **dazed**—*shocked and confused* **Loath**—*unwilling* **Shrivelling**—*shrinking* **Grasp**—*grab/ understand*
War Photographer	**Reassurance**—*kind words* **Absurd**—*weird and ridiculous* **Gilded**—*covered in gold* **Staggering**—*walking unsteadily or huge* **Devastated**—*destroyed* **Instinct**—*gut feeling* **Prevailing**—*winning* **Burden**—*heavy load* **Boundaries**—*edges/borders* **Arbitrary**—*random*
What were they like?	**Ceremonies**– *special events/series of actions* **Reverence**—*an almost holy respect* **Inclined to**— *likely to* **Ornament**—*decoration* **Epic**—*huge* **Distinguish between**—*tell the difference between* **Illumined**—*lit up* **Charred**—*blackened by fire* **Peasants**—*poor people* **Bamboo**—*fast-growing wood* **Resembled**—*looked like*
The Class Game	**Wince**—*tense up* **Toil**—*to work hard* **Bog**—*slang for toilet* **Gullet**—*throat*
A Poison Tree	**Wrath**—*anger* **Foe**—*enemy* **Deceitful**—*dishonest* **Wiles**—*tricks* **Beheld**—*look/saw*
No Problem	**Taunts**—*teasing/intimidating statements* **Academic**—*intelligent and good at school-work* **Dey**—*they* **Branded**—*called/labelled* **Versatile**—*able to do lots of different things*
Half-Caste	**Half-caste**—*mixed race* **Picasso**— *a famous Spanish painter* **Canvas**—*something you paint on* **Overcast**—*covered with clouds* **Spiteful**—*angry* **Tchaikovsky**— *famous Russian composer* **Symphony**—*complex music for a full orchestra*

Poetic Terminology

Stanza	A group of lines forming the basic recurring metrical unit in a poem; a verse.
Speaker	The poetic voice within a poem.
Listener	The person who hears the poem.
Caesura	A pause near the middle of a line of poetry. Usually signalled by a full stop.
Enjambment	The running over of one verse into the next.
Rhyme	The repetition of the same or similar sounds occurs in two or more words, usually at the end of lines .
Rhythm	The beat and pace of a poem. Rhythm is created by the pattern of stressed and unstressed syllables in a line or verse.

Year 11 — English Literature *'Conflict Poetry'*

Key Vocabulary

Charge of the Light Brigade	**Brigade**—*military unit (or group of people)* **Dismayed**—*upset* **Blundered**—*made a mistake* **Sabres**—*swords* **Plunged**—*Steeply dropped* **Sundered**—*torn away*
The Man He Killed	**Ancient**—*very old* **Nipperkin**— *a half-pint* **Infantry**—*a branch of an army made up of soldiers* **Foe**—*enemy* **Quaint**—*attractively old-fashioned* **Half-a-crown**—*old british coin*
Poppies	**Armistice**—*peace agreement* **Graves**—*places where bodies are buried* **Crimped**—*folded/interfered with* **Spasms**—*extreme pains/muscle jerks* **Blockade**—*something that prevents access to and from a place* **Rounded up**—*collected/gathered together* **Impulse**—*sudden desire* **Blackthorns**—*bushes with fruits* **Intoxicated**—*drunk* **Skirting**—*avoiding/going around the edge* **Ornamental**—*pretty* **Reinforcements**—*additional things that strength or add support* **Inscriptions**—*written sayings*
The Prelude	**Unloosed**—*released/gave/given* **Glittering**—*shining and twinkling* **Idly**—*in a lazy way* **Craggy**—*rough and rocky* **Utmost**—*extreme* **Boundary**—*Edge/border* **Elfin**—*elf-like* **Lustily**– *energetically (with sex on the mind)* **Heaving**—*lifting up* **Instinct**—*gut feeling* **Stature**—*height* **Strode**—*walked* **Trembling**—*shaking* **Covert**—*secret* **Mooring**—*anchoring* **Solitude**—*quiet aloneness* **Spectacle**—*sight to see*
The Destruction of Sennacherib	**Cohorts**—*associates/groups of people* **Gleaming**—*shining* **Sheen**—*shine* **Withered** - *shrank and died* **On the morrow**—*on the next day* **Heaved**—*lifted up/threw* **Steed**—*horse* **Distorted**—*twisted/lied about* **Lances**—*knives* **Wail**—*loud cry* **Gentile**—*non-Jewish person*
Catrin	**Fierce**—*strong* **Confrontation**—*argument* **Environmental**—*relating to surrounding conditions* **Rosy**—*wonderful* **Defiant**—*angry and uncooperative* **Glare**— *angry*
Cousin Kate	**Cottage**—*house* **Maiden**—*young unmarried woman* **Contented**—*satisfied and happy* **Mindful**—*aware/careful* **Flaxen**—*pale yellow* **Lured**—*attracted* **Thereof**—*of that/of it* **Shameless**—*without shame* **Pure**—*total/totally/nothing else mixed in* **Outcast**—*person who is disliked* **Howl**—*yell* **Writ**—*official written order* **Fret**—*worry*

A Christmas Carol—Key Quotes

'Hard and sharp as flint […] as solitary as an oyster'	The adjectives 'hard' and 'sharp' imply Scrooge has a tough exterior, but the simile 'as flint' suggests if hit hard enough it could spark a fire inside to create change. The simile comparing him to an oyster emphasises this by focusing on a hard exterior that if cracked open, may hold a pearl (something of beauty).
'If they would rather die, they had better do it, and decrease the surplus population'	Scrooge shows his callous, selfish attitude towards the poor by viewing them as better off dead and simply a 'surplus', viewing them in monetary terms as opposed to human beings.
'I wear the chain I forged in life…The chain was made up of cash boxes… ledgers…heavy purses'	Marley's Ghost tells Scrooge than unless he changes he will have a chain holding him to the earth, forged by his sins 'boxes, ledgers, purses' (money). This is used to scare Scrooge and make him realise where his sins lie.
'A solitary child, neglected by his friends is left there still – Scrooge sobbed'	The Ghost of Christmas Past shows Scrooge his time as a child at school, and Scrooge shows a moment of emotion . The reader is given a reason to sympathise with Scrooge, and Scrooge is given a reminder of who he was and how he felt.
'They are Man's. This boy is ignorance. This girl is Want. Beware for I see that written which is Doom.'	Dickens explains that Mankind's ignorance and want has poisoned them, and that ignorance especially will cause 'Doom'. This summarises his message to the upper class, that their ignorance will lead to the death of people and ultimately society.
'It was shrouded in a deep black garment…left nothing visible except one outstretched hand.'	The Ghost of Christmas Yet to Come does not speak to Scrooge, as Scrooge must decide to change by himself and without guidance. He is dressed as the Grim Reaper to emphasise that ultimately Scrooge will end up dead and without mourners if he does not change.
'I will honour Christmas in my heart. I will live in the Past, the Present and the Future. I will not shut out the lessons that they teach'	By Stave 5, Scrooge is a changed man and promises to keep the lessons of all three Ghosts in his heart. The repetition of 'I will' shows that he has changed and that he now has a more positive and charitable attitude in life.

Subject terminology - Number	
Integer	A whole number with no decimal part
Factor	A number that divides into another number exactly and without leaving a remainder
Multiple	The result of multiplying a number by an integer
Prime	A number which only has two factors – 1 and itself
Percentage multiplier	The decimal equivalent of a percentage used to calculate percentage change
Estimate	Working out a rough answer to a calculation by rounding the values first
Equivalent	Having the same value or being equal
Proportion	When quantities have the same relative size (the same ratio)

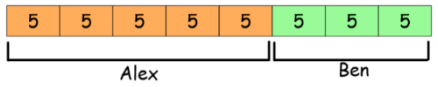
How to : Percentage multipliers	
<u>Find an amount</u> 1) Divide the percentage by 100 to find the multiplier 2) Multiply by the original quantity	E.g. Find 12% of 200 $12 \div 100 = 0.12$ $200 \times 0.12 = 24$
<u>Increase by an amount</u> 1) Add the percentage to 100% 2) Divide the percentage by 100 to find the multiplier 3) Multiply by the original quantity	E.g. Increase 200 by 12% $100\% + 12\% = 112\%$ $112 \div 100 = 1.12$ $200 \times 1.12 = 224$
<u>Decrease by an amount</u> 1) Subtract the percentage from 100% 2) Divide the percentage by 100 to find the multiplier 3) Multiply by the original quantity	E.g. Decrease 200 by 12% $100 - 12\% = 88\%$ $88 \div 100 = 0.88$ $200 \times 0.88 = 176$

Ratio: Sharing using bar models

To use a bar model we add the parts of our ratio together, draw that number of boxes and share the amount given into those boxes. **The value in each box must always be the same**

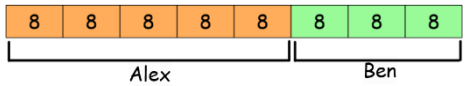
E.g. Alex and Ben share some money in the ratio 5:3. Together they receive £40

We need to share £40 into the total amount of boxes, so $40 \div 8 = 5$



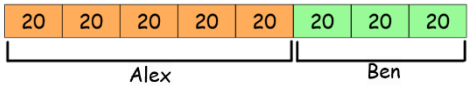
E.g. Alex and Ben share some money in the ratio 5:3. Alex receives £40

As Alex has received £40 and he has 5 boxes, we calculate $40 \div 5 = 8$



E.g. Alex and Ben share some money in the ratio 5:3. The difference in what they both receive is £40

The difference between the boxes Alex has and the boxes Ben has is $5 - 3 = 2$ so we need to calculate $40 \div 2 = 20$



Standard form always comes in the form

$$A \times 10^n$$

exponent

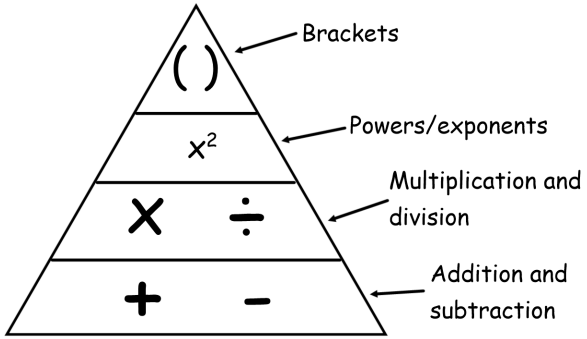
base

where $1 \leq A < 10$

$4.3 \times 10^6 = 4300000$ Positive Power = Large Number

$4.3 \times 10^{-6} = 0.0000043$ Negative Power = Small Number

Order of Operations



Inverse Operations

+ ⟷ −

× ⟷ ÷

$\square^2$ ⟷ $\sqrt{\square}$

$\square^3$ ⟷ $\sqrt[3]{\square}$

Square Numbers

1 x 1 or 1^2 = 1
2 x 2 or 2^2 = 4
3 x 3 or 3^2 = 9
4 x 4 or 4^2 = 16
5 x 5 or 5^2 = 25
6 x 6 or 6^2 = 36
7 x 7 or 7^2 = 49
8 x 8 or 8^2 = 64
9 x 9 or 9^2 = 81
10 x 10 or 10^2 = 100
11 x 11 or 11^2 = 121
12 x 12 or 12^2 = 144

Cube Numbers

$1^3 = 1 \times 1 \times 1 = 1$
$2^3 = 2 \times 2 \times 2 = 8$
$3^3 = 3 \times 3 \times 3 = 27$
$4^3 = 4 \times 4 \times 4 = 64$
$5^3 = 5 \times 5 \times 5 = 125$

Written methods

Multiplication (Grid method)

26 x 5

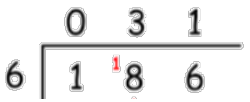
×	20	6
5	100	30

The 26 is broken into 20 and 6. These numbers are multiplied as shown.

The results are then added, 100 + 30 = 130.

Division (Bus stop)

186 ÷ 6



6 doesn't divide into 1, so the 1 carries.
6 divides into 18, 3 times.
6 divides into 6, once.

Multiplying Integers

If the signs are the same, the result is positive.

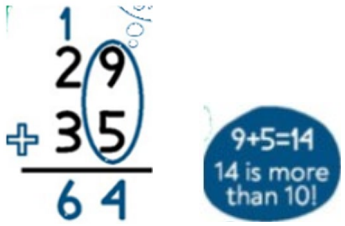
+ × + = + − × − = +

+ × − = − − × + = −

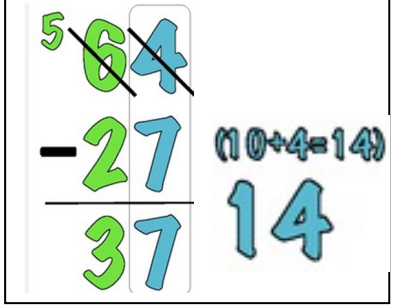
Adding Negative Numbers

+ add +	Add the numbers; end result is a positive E.g. 3 + 5 = 8
+ add −	Find the difference between the numbers; end result takes the sign of the number with largest magnitude. E.g. 3 + - 5 = -2
- add -	Add the integers; end result is a negative -3 + -5 = -8

Column Addition



Column Subtraction



Rounding (to different degrees of accuracy)

* 5 and above rounds up *

24.356 To the nearest integer (whole number)

24

24.356 To 3 significant figures (starting at first non-zero digit)

24.4

24.356 To 2 decimal places (digits after the decimal point)

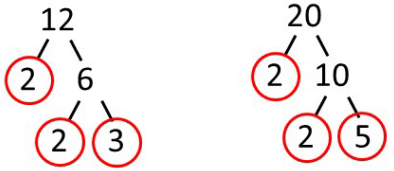
24.36

Draw in your line then check the number to the right

Subject terminology – Number	
Integer	A number which is a whole number. This can be either positive or negative.
Product	An operation to multiply two numbers together
Prime Factorisation	A way of writing a number as a product of its prime factors.
Rational Number	A number which can be written as a fraction.
Irrational Number	A number which cannot be written a fraction.
Highest Common Factor	The largest factor which is common to a set of numbers.
Lowest Common Multiple	The lowest quantity that is a multiple of a set of numbers.
Recurring Decimal	A decimal in which after a certain point a particular digit or sequence of digits repeat indefinitely.

Find the **Highest Common Factor (HCF)** of 12 & 20.

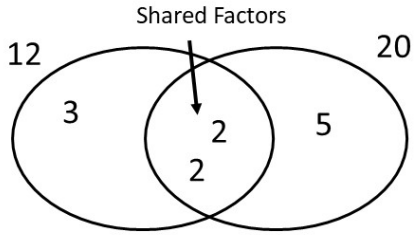
1) Complete Prime Factorisation for both numbers.



$12 = 2 \times 2 \times 3$

$20 = 2 \times 2 \times 5$

2) Input the Prime Factors into a Venn diagram



3) **HCF** = Product of **shared** factors

$2 \times 2 = 4$

Rationalising a denominator

If the denominator has just one term that is a surd, the denominator can be rationalised by multiplying the numerator and denominator by that surd

If the denominator of a fraction includes a rational number, add or subtract a surd, swap the + or – sign and multiply the numerator and denominator by this expression.

Example: Rationalise the denominator of $\frac{\sqrt{8}}{\sqrt{6}}$

$$\frac{\sqrt{8} \times \sqrt{6}}{\sqrt{6} \times \sqrt{6}} = \frac{\sqrt{48}}{6} = \frac{\sqrt{(16 \times 3)}}{6} = \frac{4\sqrt{3}}{6} = \frac{2\sqrt{3}}{3}$$

How to: Convert recurring decimals to fractions

Convert $0.\dot{5}$ to a fraction.

Let $x = 0.\dot{5}$,

$10x = 5.\dot{5}$

$10x - x = 5$

$9x = 5$

$\div 9$

$x = \frac{5}{9}$

$10x - x$

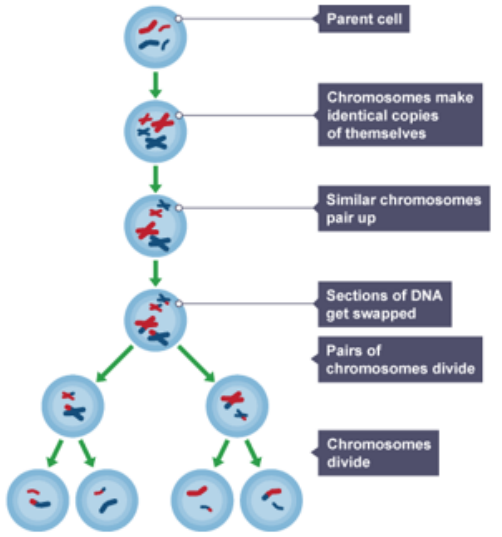
$5.555555\ldots$

$-\ 0.555555\ldots$

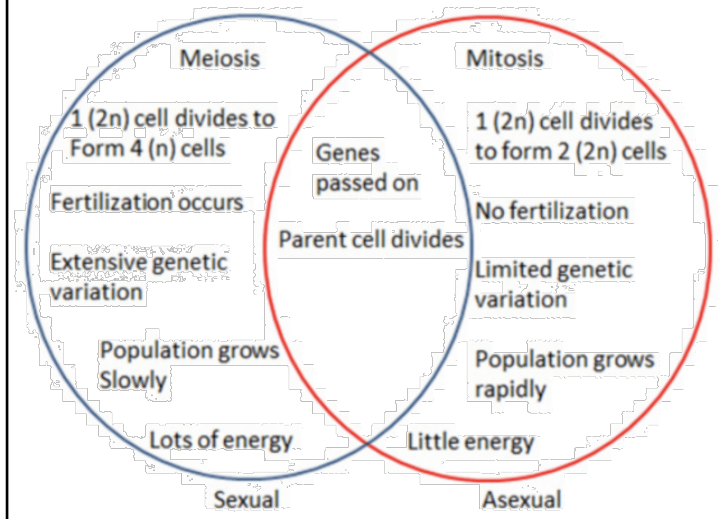
5.0

Paper 2 Subject: Science - Biology Topic: B12 Reproduction

Meiosis



Sexual vs Asexual Reproduction



Subject Terminology	Definition
Clone	Offspring that is genetically identical to the parent.
Allele	Different versions of the same gene - e.g the hair colour gene has brown, black, blonde and ginger alleles
Meiosis	two stage process of cell division that reduces the chromosome number of daughter cells. It is involved in making gametes for sexual reproduction
Gamete	Sex cell e.g. sperm and egg
Variation	Differences between individuals.
Genome	The complete set of DNA found in an organism.
Chromosome	The structure made of DNA coiled around proteins.
Gene	a small section of DNA on a chromosome that codes for a particular sequence of amino acids, to make a specific protein.
Dominant allele	The allele will be expressed and the phenotype will be apparent in the offspring even if only one of the alleles is inherited
Recessive allele	The allele will be expressed and the phenotype that will only show up in the offspring if both of the alleles coding for that characteristic are inherited
Homozygous	two identical versions of the alleles for a characteristic
Heterozygous	Two different versions of the alleles for a characteristic
Genotype	the genetic makeup of an individual for a particular characteristic
Phenotype	the physical appearance / biochemistry of an individual for a particular characteristic

Embryo Screening

For embryo screening	Against embryo screening
Can **avoid suffering** by stopping children from being born with genetic disorders.	This process could imply that people with genetic disorders are **'undesirable'**, which is not fair or true.
Treatment for disorders **costs** governments and taxpayers a lot of money.	Embryo screening is a very **expensive** process and therefore is **not available to all** potential parents — only those who can pay for it.
There are **laws in place to stop embryo screening being abused** (eg. parents are not allowed to choose the sex of the baby unless they are trying to prevent certain genetic disorders which are sex-linked, that is, those that specific to either males or females).	This could be a 'slippery slope'— if the process becomes more affordable and more people want to screen their embryos, we may end up in a situation where the process of embryo screening is **abused** and used to produce **'desirable'** offspring (ie. those with characteristics chosen by the parents).

Cystic fibrosis is a genetic disorder of cell membranes resulting in the body producing large amounts of thick, sticky mucus in the air passages. It is caused by a recessive allele.

Polydactyly is a genetic disorder that causes someone to be born with extra fingers or toes, it is caused by a dominant allele.

Capital letter = dominant allele
Lower case = recessive allele

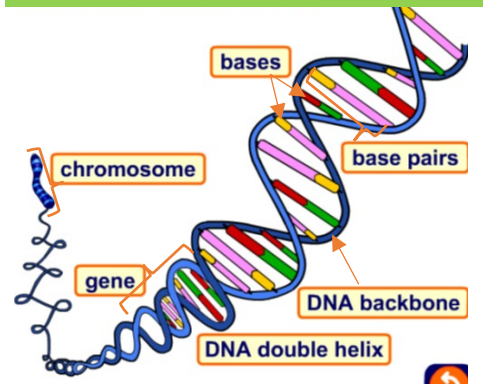
How to construct Punnett squares

f is the cystic fibrosis allele

		mother	
		F	**f**
father	**F**	FF	Ff
	f	Ff	ff

1. Determine the parental genotypes. You can use any letter you like but select one that has a clearly different lower case, for example: Aa, Bb, Dd.
2. Split the alleles for each parent and add them into your Punnett square around the edges.
3. Work out the new possible genetic combinations inside the Punnett square.

Structure of DNA

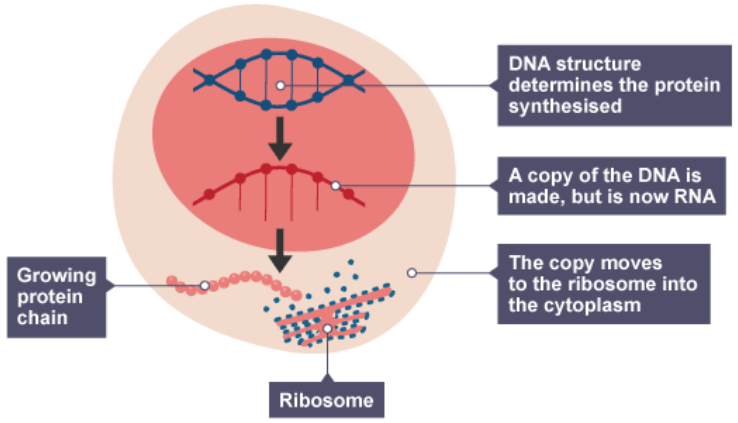


Paper 2 Subject: Science - Biology Topic: B12 Reproduction

Examples of sexual and asexual reproduction in organisms

Sexual reproduction	Asexual reproduction
Fungi reproduce sexually to generate variation	Fungi release spores by asexual reproduction
Plants use sexual reproduction to produce seeds	Plants such as strawberries reproduce asexually by sending out runners, or daffodils when their bulbs divide
Malarial parasites reproduce sexually in the host mosquito	Malarial parasites reproduce asexually in the human host

Protein synthesis



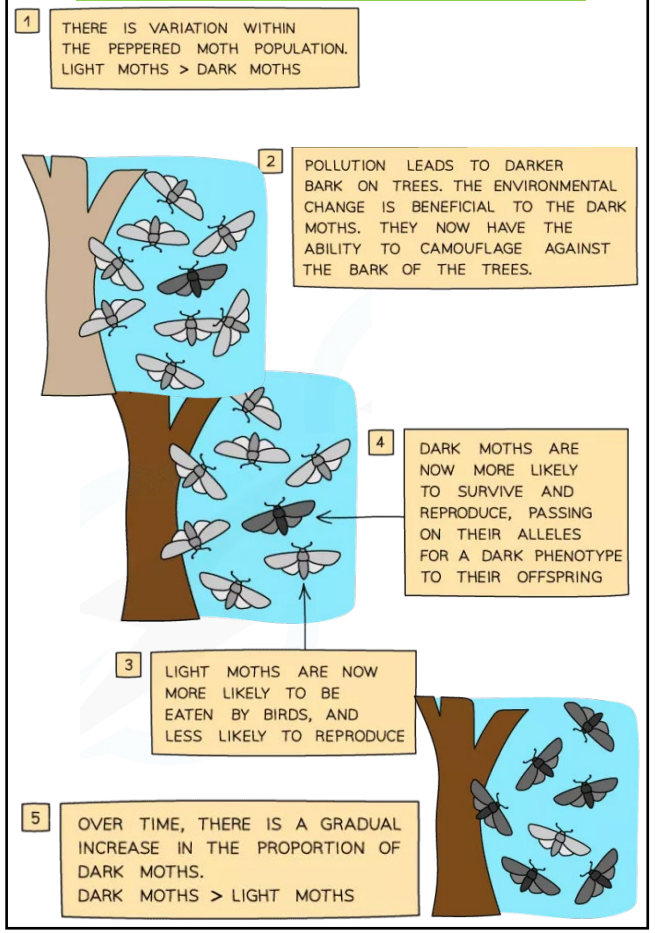
Subject Terminology	Definition
Clone	Offspring that is genetically identical to the parent.
Allele	Different versions of the same gene - e.g the hair colour gene has brown, black, blonde and ginger alleles
Meiosis	two stage process of cell division that reduces the chromosome number of daughter cells. It is involved in making gametes for sexual reproduction
Gamete	Sex cell e.g. sperm and egg
Variation	Differences between individuals.
Genome	The complete set of DNA found in an organism.
Chromosome	The structure made of DNA coiled around proteins.
Gene	a small section of DNA on a chromosome that codes for a particular sequence of amino acids, to make a specific protein.
Dominant allele	The allele will be expressed and the phenotype will be apparent in the offspring even if only one of the alleles is inherited
Recessive allele	The allele will be expressed and the phenotype that will only show up in the offspring if both of the alleles coding for that characteristic are inherited
Homozygous	two identical versions of the alleles for a characteristic
Heterozygous	Two different versions of the alleles for a characteristic
Genotype	the genetic makeup of an individual for a particular characteristic
Phenotype	the physical appearance / biochemistry of an individual for a particular characteristic
Protein synthesis	The production of proteins from amino acids, which happens in the ribosomes of the cell.
Mutation	A random and spontaneous change in the structure of a gene, chromosome or number of chromosomes.
Nucleotide	The units or molecules of which DNA or RNA is composed

Paper 2 Subject: Science - Biology Topic: B13 Variation and Evolution

Natural Selection Model Answer

1. A mutation causes variation in the species.
2. The organism better adapted/most suited survives.
3. The organism reproduces and passes on its genes to the next generation.

Peppered Moth Natural Selection



Genetic Engineering

1. selection of the desired characteristic
2. the gene responsible for the characteristic is 'cut out' of the chromosome
3. the gene is transferred and inserted into another organism
4. replication of the modified organism.

Benefits of genetic engineering

Genetic modification is a faster and more efficient than selective breeding.
Improve crop yields or crop quality
Less herbicides used
Less insecticides used
Sterile insects could be created such as a mosquito. This may help with spread of diseases, such as malaria, dengue fever and the Zika virus.

Risks of genetic engineering

Some people believe it is not ethical to interfere with nature in this way.
GM crop seeds are more expensive and so people in developing countries cannot afford them.
GM crops could be harmful, effects of eating GM crops on human health have not been fully explored.

Subject Terminology	Definition
Genetically modified	Describes a cell or organism that has had its genetic code altered by adding a gene from another organism.
Genetic engineering	Process which involves the artificial transfer of genetic information from one donor cell or organism to another.
Selective breeding	speeds up natural selection by selecting animals or plants for breeding that have a required characteristic
Mutation	A change in the genetic material of an organism
Natural selection	the process by which evolution takes place. Organisms produce more offspring than the environment can support. Only those that are most suited to their environment will survive to breed and pass on their useful characteristics to their offspring
Evolution	The process of change in the inherited traits of a population of organisms from one generation to the next.
Variation	The difference between organisms due to a combination of their genes and the environment.
Adaptation	Special features that make an organism well suited to their environment
Tissue culture	a modern way of cloning plants that allows thousands of new plants to be created from one piece of plant tissue
Environmental variation	Differences between individuals of a species due to factors in their surroundings. E.g. language, religion, flower colour of hydrangeas
Inherited variation	Differences between individuals of a species due to their genetic information e.g. eye colour, hair colour, ability to roll your tongue

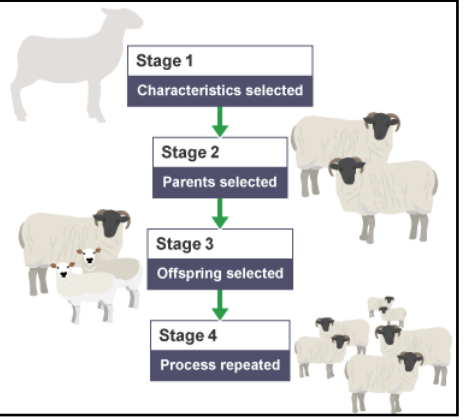
Selective Breeding

Benefits of selective breeding include:

- new varieties may be economically important, by producing more or better quality food
- animals can be selected that cannot cause harm, for example cattle without horns

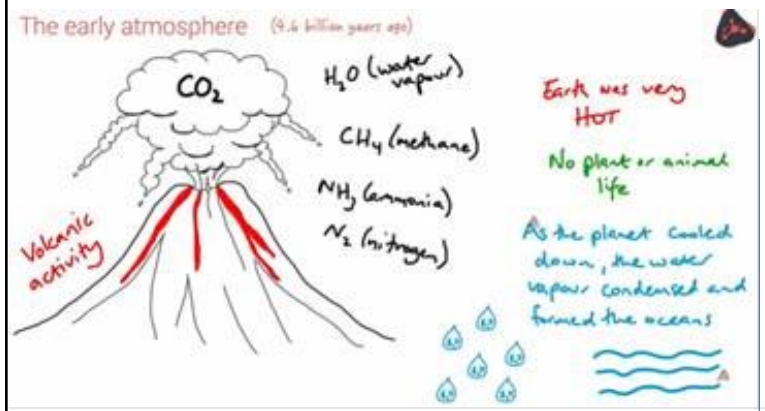
Risks of selective breeding include:

- reduced genetic variation can lead to attack by specific insects or disease, which could be extremely destructive
- rare disease genes can be unknowingly selected as part of a positive trait, leading to problems with specific organisms, eg a high percentage of Dalmatian dogs are deaf
- can create physical problems in specific organisms, eg large dogs can have faulty hips due to not being formed correctly

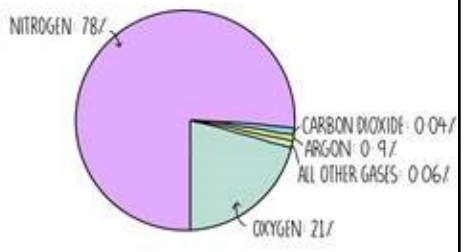


Paper 2 Subject: Science - Chemistry Topic: C13 The Earth's atmosphere

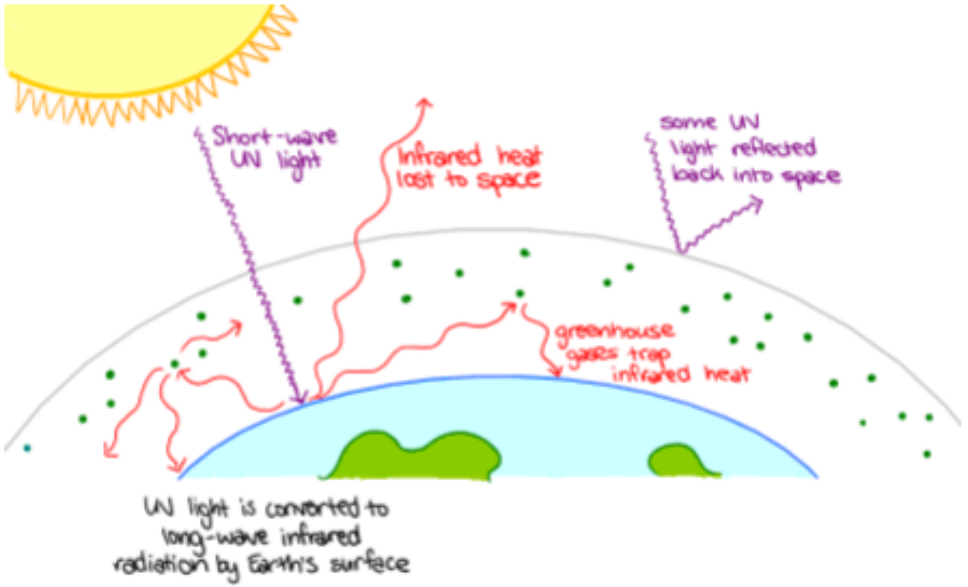
Changing atmosphere



The current atmosphere

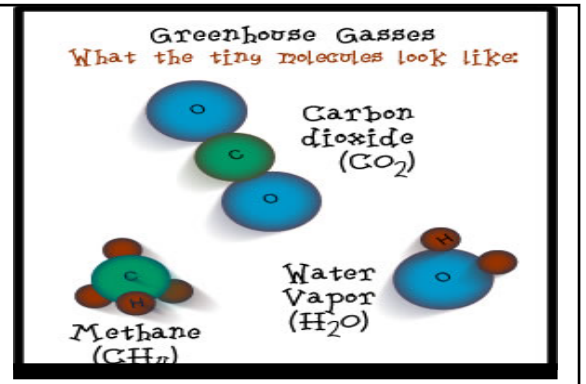


The greenhouse effect

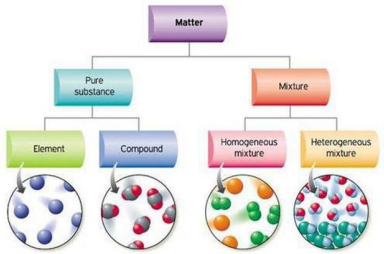


Subject Terminology	Definition
Atmosphere	The layers of gases that surround the Earth. The important gases in the atmosphere are nitrogen, oxygen and carbon dioxide
Sedimentary rock	formed from sediments that have settled at the bottom of a lake, sea or ocean, and have been compressed over millions of years.
Greenhouse effect	The retention of heat in the atmosphere caused by the build-up of greenhouse gases.
Greenhouses gases	The gases responsible for global warming - carbon dioxide, methane, and water vapour.
photosynthesis	A chemical process used by plants to make glucose and oxygen from carbon dioxide and water, using light energy
Climate change	The long-term alteration of weather patterns.
pollutant	A toxic chemical or object that causes damage to the land, air or water.
carbon footprint	A measure of how much carbon is used through the activities of a person, company or country.
Complete combustion	Burning in a plentiful supply of oxygen or air. Complete combustion of a hydrocarbon produces water vapour and carbon dioxide.

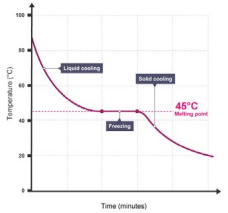
The Earth's three main green house gases



Pure substances and Mixtures

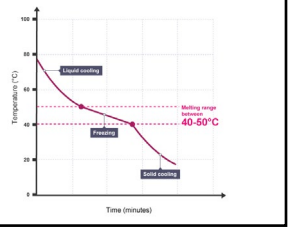


Pure substances have a sharp **melting point** but mixtures **melt** over a range of temperatures.



The horizontal part of the graph shows that the salol has a sharp melting point, so it is pure.

Impure salol (a mixture of salol and other substances) would produce a gradual fall in temperature as it freezes.

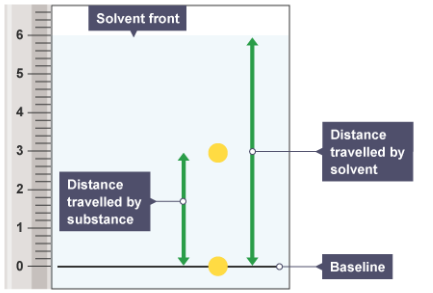


Chromatography

Paper **chromatography** is used to separate mixtures of **soluble** substances.

R_f values can be used to identify unknown chemicals if they can be compared to a range of reference substances. The R_f value is always the same for a particular substance.

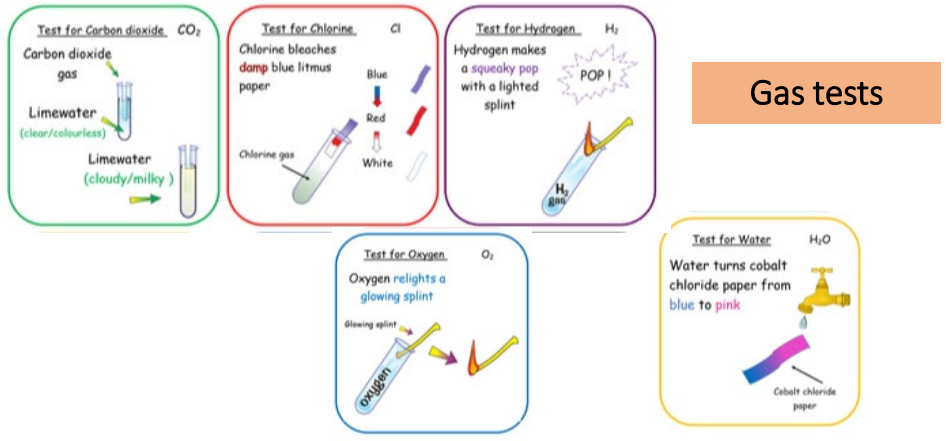
$$R_f = \frac{\textit{distance travelled by substance}}{\textit{distance travelled by solvent}}$$



Subject Terminology

Key Word	Definition
Formulations	A mixture that has been designed as a useful product
Mobile phase	Phase in chromatography that moves, usually a solvent or mixture of solvents.
Stationary phase	Phase in chromatography that does not move, for instance, the paper in chromatography.
Repeatable	The same person doing the same investigation and getting similar or the same results.
Random error	An error that is unpredictable and caused by the person using equipment incorrectly, leading to anomalous results. This can be reduced (not prevented) by repeats and calculating a mean.
Systematic error	An error that is consistent and always out by the same proportion. Caused by the equipment and not the person. E.g. zero error.
Precise	How tightly clustered around the mean your result is, reflecting degree of random error
Accurate	How close your answer is to the true value

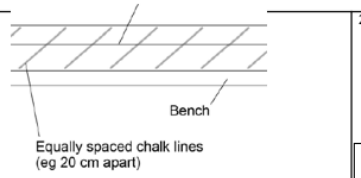
Gas tests



Paper 2 Subject: Science – Physics Topic: P10 Forces and Motion

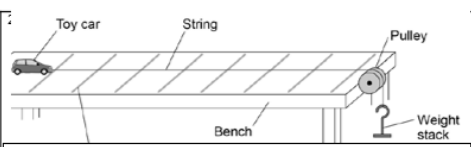
Investigating the effect of force on acceleration Required Practical

1



Use the ruler to measure intervals on the bench and draw straight lines the bench at these intervals.

2



Attach one end of the string to the trolley, then pass the string over the pulley and attach to the 1N weight stack at the other end.

3

Release the toy car or trolley at the same time as you start the stopwatch.

4

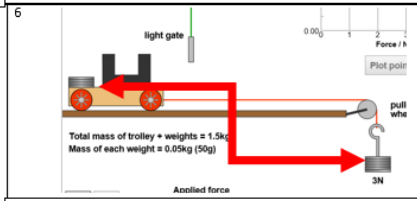
Lap

Press the stopwatch (lap mode) at each line on the bench and for the final time at 100 cm.

5

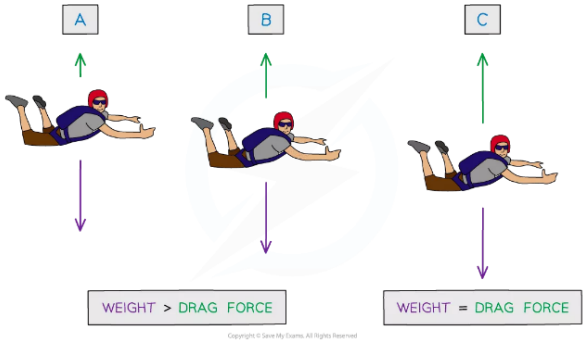
Record the times in your results table.

6



Take 20N off the weight stack and add it to the trolley and repeat steps 1-5.

A skydiver reaching terminal velocity



THE SKYDIVER IS IN FREEFALL.

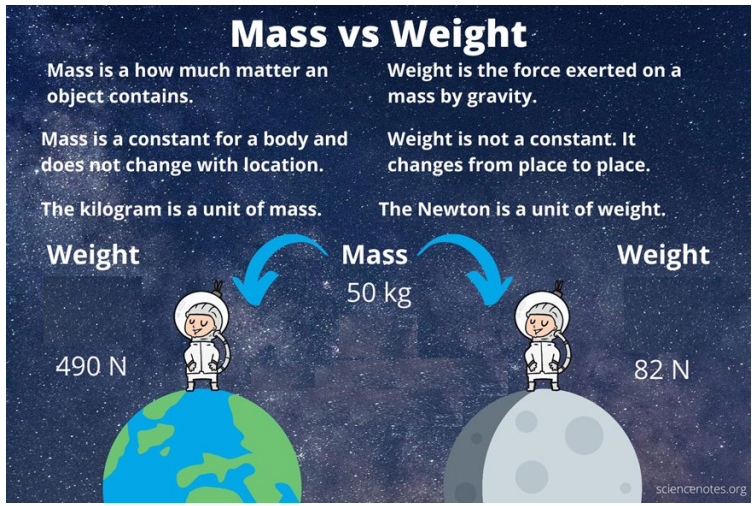
THEIR VELOCITY INCREASES DUE TO THE DOWNWARD FORCE OF THEIR WEIGHT.

THE INCREASE IN VELOCITY MEANS AIR RESISTANCE ALSO INCREASES AND ACCELERATION DECREASES.

EVENTUALLY THE SKYDIVER REACHES A VELOCITY WHERE THEIR WEIGHT EQUALS THE FORCE OF AIR RESISTANCE.

THEIR ACCELERATION IS 0.

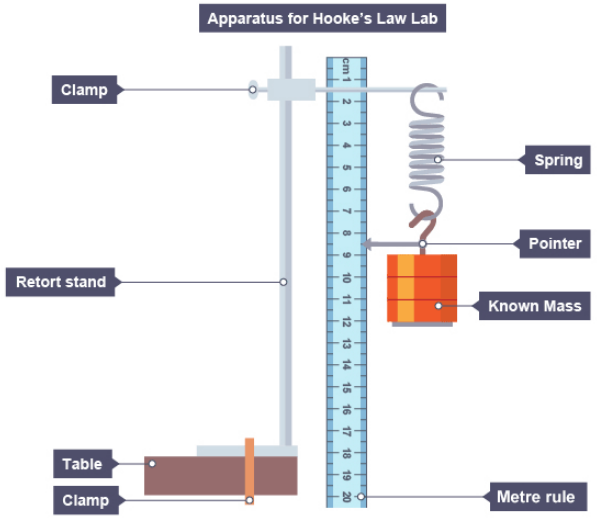
THIS IS THE TERMINAL VELOCITY.



Subject Terminology	Definition
Newton's second law	The acceleration of an object is proportional to the resultant force acting on it and inversely proportional to the object's mass
Resultant force	A single force which can replace all the forces acting on an object and have the same effect.
Mass	The amount of matter an object is made up of. Measured in kg. A scalar.
Weight	The force acting on an object due to gravitational attraction. Measures in Newtons. A vector.
Acceleration	The rate of change of velocity. Measured in m/s^2. A vector.
Terminal velocity	Maximum speed of an object falling through a fluid, reached when the forces on the object are balanced
Stopping distance	Thinking distance + stopping distance.
Thinking distance	The distance travelled during a person's reaction time.
Braking distance	The distance taken to stop once the brakes are applied.
Elastic deformation	An objects returns to its original shape once the forces deforming it are removed.
Hooke's Law	The extension of a spring is directly proportional to the force applied as long as the limit of proportionality is not exceeded.
Elastic limit	The maximum amount that an object can be stretched or squashed before it is no longer able to return to its original shape.
Limit of proportionality	The point where force and extension are no longer directly proportional and Hooke's Law no longer applies.
Directly proportional	Shown on a graph by a straight line through the origin.
Elastic potential energy	The energy stored in a stretched, squashed or twisted object.
Spring constant	The measure of the stiffness of a spring. Measured in N/m

Pape 2 Subject: Science – Physics Topic: P10 Forces and Motion

Hooke's Law Practical

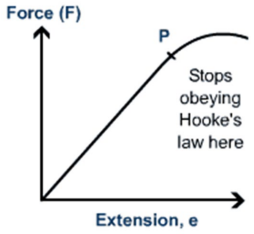


Method

1. Read the pointer value from the metre rule. Record this length. This is the initial length of the spring for zero mass.
2. Add a 100g slotted mass to the hanger. Record the mass in kg in the table.
3. Read the new position of the pointer on metre rule. This is the stretched length of the spring. Record this length in the table.
4. Calculate the stretching force = weight of masses: W = mg.
5. Calculate: extension = stretched length – original length.
6. Repeat the procedure by adding 100g masses in steps of 100g up to 1200g.

Force Extension Graph

The graph shows a directly proportional relationship until point p

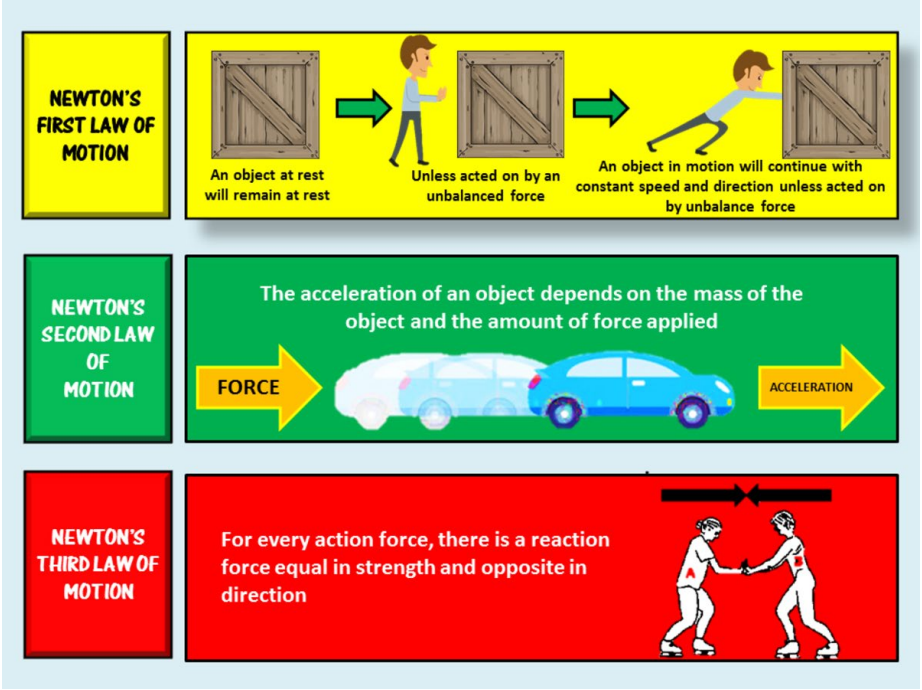


Using Equations

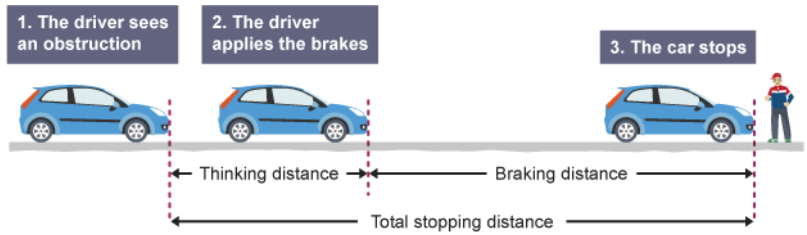
Force = mass x acceleration
Force = spring constant x extension
Weight = mass x gravitational field strength
Elastic potential energy = 0.5 x spring constant x extension²
Stopping distance = thinking distance + braking distance

Remember FIFA
Formula: Write down the equation to use
Insert values: Substitute your numbers into the equation
Fine tune: Rearrange the equation and convert units if you need to
Answer: Calculate the answer and write the unit

Newton's 3 Laws of Motion



Road Safety



Factors affecting…	
Thinking Distance	**Stopping Distance**
Speed	Speed
Distraction	Worn brakes
Alcohol	Wet/Icy road
Drugs	Mass of car
Tiredness	Worn tyres

Unit 2b
The Changing Economic World

What is development?

Development is an improvement in living standards through better use of resources.

Economic	This is progress in economic growth through levels of industrialisation and use of technology.
Social	This is an improvement in people's standard of living. For example, clean water and electricity.
Environmental	This involves advances in the management and protection of the environment.

Measuring development

These are used to compare and understand a country's level of development.

Economic indictors examples

Employment type	The proportion of the population working in primary, secondary, tertiary and quaternary industries.
Gross Domestic Product per capita	This is the total value of goods and services produced in a country per person, per year.
Gross National Income per capita	An average of gross national income per person, per year in US dollars.

Social indicators examples

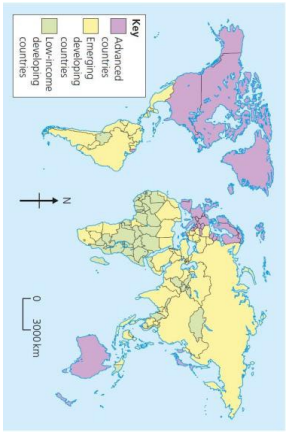
Infant mortality	The number of children who die before reaching 1 per 1000 babies born.
Literacy rate	The percentage of population over the age of 15 who can read and write.
Life expectancy	The average lifespan of someone born in that country.

Mixed indicators

Human Development Index (HDI)	A number that uses life expectancy, education level and income per person.

Variations in the level of development

LICs	Poorest countries in the world. GNI per capita is low and most citizens have a low standard of living.
NEEs	These countries are getting richer as their economy is progressing from the primary industry to the secondary industry. Greater exports leads to better wages.
HICs	These countries are wealthy with a high GNI per capita and standards of living. These countries can spend money on services.



Causes of uneven development

Development is globally uneven with most HICs located in Europe, North America and Oceania. Most NEEs are in Asia and South America, whilst most LICs are in Africa. Remember, development can also vary within countries too.

Physical factors affecting uneven development

Natural Resources

- **Fuel sources** such as oil.
- Minerals and metals for fuel.
- **Availability for timber**.
- Access to **safe water**.

Natural Hazards

- Risk of tectonic hazards.
- Benefits from **volcanic material** and **floodwater.**
- Frequent hazards **undermines redevelopment**.

Climate

- **Reliability** of rainfall to benefit farming.
- **Extreme climates** limit industry and affects health.
- Climate can **attract tourists.**

Location/Terrain

- **Landlocked countries** may find trade difficulties.
- Mountainous terrain makes farming difficult.
- **Scenery attracts tourists**.

Human factors affecting uneven development

Aid

- Aid can help some countries develop **key projects** for infrastructure faster.
- **Aid** can improve services such as schools, hospitals and roads.
- Too much **reliance on aid** might stop other trade links becoming established.

Trade

- Countries that export more than they import have a **trade surplus**. This can improve the national economy.
- Having **good trade relationships**.
- **Trading goods** and services is more profitable than raw materials.

Education

- Education creates a **skilled workforce** meaning more goods and services are produced.
- **Educated people earn more money**, meaning they also pay more taxes. This money can help develop the country in the future.

Health

- **Lack of clean water** and poor healthcare means a large number of people suffer from **diseases**.
- People who are ill cannot work so there is little contribution to the economy.
- More money on healthcare means less spent on development.

Politics

- **Corruption** in local and national governments.
- The **stability of the government** can effect the country's ability to trade.
- Ability of the country to **invest into services and infrastructure**.

History

- **Colonialism** has helped Europe develop, but slowed down development in many other countries.
- Countries that went through industrialisation a while ago, have now develop further.

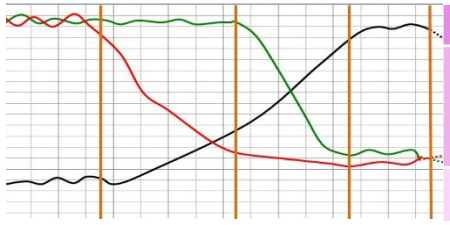
Consequences of Uneven Development

Levels of development are different in different countries. This uneven development has consequences for countries, especially in wealth, health and migration.

Wealth	People in more developed countries have higher incomes than less developed countries.
Health	Better healthcare means that people in more developed countries live longer than those in less developed countries.
Migration	If nearby countries have higher levels of development or are secure, people will move to seek better opportunities and standard of living.

The Demographic Transition Model

The demographic transition model (DTM) shows population change over time. It studies how birth rate and death rate affect the total population of a country.



STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5
High DR High BR Steady	*BR Low Declining DR Very High*	*Rapidly falling DR Low BR High*	*Low DR Low BR Zero*	*Slowly Falling DR Low BR Negative*
e.g. Tribes	e.g. Kenya	e.g. India	e.g. UK	e.g. Japan

Reducing the Global Development Gap

Microfinance Loans
This involves people in LICs receiving smalls loans from traditional banks.
+ Loans enable people to begin their own businesses
- Its not clear they can reduce poverty at a large scale.

Foreign-direct investment
This is when one country buys property or infrastructure in another country.
+ Leads to better access to finance, technology & expertise.
- Investment can come with strings attached that country's will need to comply with.

Aid
This is given by one country to another as money or resources.
+ Improve literacy rates, building dams, improving agriculture.
- Can be wasted by corrupt governments or they can become too reliant on aid.

Debt Relief
This is when a country's debt is cancelled or interest rates are lowered.
+ Means more money can be spent on development.
- Locals might not always get a say. Some aid can be tied under condition from donor country.

Fair trade
This is a movement where farmers get a fair price for the goods produced.
+ Paid fairly so they can develop schools & health centres.
-Only a tiny proportion of the extra money reaches producers.

Technology
Includes tools, machines and affordable equipment that improve quality of life.
+ Renewable energy is less expensive and polluting.
- Requires initial investment and skills in operating technology

CS: Reducing the Development Gap In Jamaica

Location and Background
Jamaica is a LIC island nation part of the Caribbean. Location makes Jamaica an attractive place for visitors to explore the tropical blue seas, skies and palm filled sandy beaches

Tourist economy
-In 2015, **2.12 million** visited.
-Tourism **contributes 27% of GDP** and will increase to **38% by 2025**.
-**130,000 jobs** rely on tourism.
-**Global recession** 2008 caused a **decline in tourism**. Now tourism is beginning to recover.

Multiplier effect
-**Jobs from tourism** have meant **more money** has been spent in shops and other businesses.
-Government has invested in **infrastructure** to support tourism.
-**New sewage treatment** plants have reduced pollution.

Development Problems
- Tourists do not always **spend much money** outside their resorts.
- Infrastructure improvements **have not spread** to the whole island.
- Many people in Jamaica still live in **poor quality housing** and **lack basic services** such as healthcare.

Case Study: Economic Development in Nigeria

Location & Importance
Nigeria is a NEE in West Africa. Nigeria is just north of the Equator and experiences a range of environments.
Nigeria is the most populous and economically powerful country in Africa. Economic growth has been base on oil exports.

Influences upon Nigeria's development

Political
Suffered **instability** with a **civil war** between 1967-1970.
From 1999, the country became **stable** with **free and fair elections**.
Stability has **encouraged global investment** from China and USA.

Social
Nigeria is a **multi-cultural, multi-faith society**.
Although mostly a strength, diversity has caused **regional conflicts** from groups such as the Boko Haram terrorists.

Cultural
Nigeria's **diversity** has created rich and varied **artistic culture**.
The country has **a rich music, literacy and film industry** (i.e. Nollywood).
A successful national football side.

Industrial Structures
Once mainly based on agriculture, **50% of its economy is now manufacturing and services**.
A thriving manufacturing industry is **increasing foreign investment** and **employment opportunities**.

The role of TNCs
TNCs such as **Shell** have played an important role in its economy.
+ Investment has **increased employment and income**.
- **Profits move to HICs**.
- Many **oil spills** have **damaged fragile environments**.

Changing Relationships
Nigeria plays a leading role with the **African Union** and **UN**.
Growing links with **China** with huge **investment in infrastructure**.
Main import includes petrol from the EU, cars from Brazil and phones from China.

Environmental Impacts
The 2008/09 **oil spills devastated swamps** and its **ecosystems.**
Industry has caused **toxic chemicals** to be discharged in open sewers - **risking human health**.
80% of forest have been **cut down**.
This also increases **CO^2 emissions**.

Aid & Debt relief
+ Receives **$5billion** per year in aid.
+ **Aid groups** (ActionAid) have improved health centres, provided anti-mosquito nets and helped to protect people against AIDS/HIV.
- Some aid fails to reach the people who need it due to **corruption**.

Effects of Economic Development
Life expectancy has increased from 46 to 53 years. 64% have access to safe water. Typical schooling years has increased from 7 to 9.

Case Study: Economic Change in the UK

UK in the Wider World
The UK has one of the largest economies in the world.
The UK has huge political, economic and cultural influences.
The UK is highly regarded for its fairness and tolerance.
The UK has global transport links i.e. Heathrow and the Eurostar.

Causes of Economic Change
De-industrialisation and the **decline** of the UK's industrial base.
Globalisation has meant many industries have moved overseas, where labour costs are lower.
Government investing in supporting vital businesses.

Towards Post-Industrial
The **quaternary industry** has **increased**, whilst **secondary** has **decreased**.
Numbers in **primary** and **tertiary industry** has **stayed the steady**.
Big increase in **professional** and **technical jobs**.

Developments of Science Parks
Science Parks are groups of scientific and technical knowledge based businesses on a single site.
- Access to **transport routes**.
- **Highly educated workers**.
- Staff benefit from **attractive working conditions**.
- Attracts **clusters** of related **high-tech businesses**.

CS: UK Car Industry
Every year the UK makes 1.5 million cars. These factories are owned by large TNCs. i.e. Nissan.
- 7% of energy used there factories is from **wind energy**.
- New cars are more energy **efficient and lighter**.
- Nissan produces **electric and hybrid cars**.

Change to a Rural Landscape

Social
Rising house prices have caused tensions in villages.
Villages are **unpopulated** during the day causing **loss of identity**.
Resentment towards **poor migrant communities**.

Economic
Lack of affordable housing for local first time buyers.
Sales of farmland **has increased rural unemployment**.
Influx of poor migrants puts **pressures** on local services.

Improvements to Transport
A **£15 billion 'Road Improvement Strategy'**. This will involve 10 new roads and 1,600 extra lanes.
£50 billion HS2 railway to improve connections between key UK cities.
£18 billion on Heathrow's controversial **third runway**.
UK has many **large ports** for importing and exporting goods.

UK North/South Divide
- Wages are **lower** in the North.
- Health is **better** in the South.
- Education is **worse** in the North.
+ The government is aiming to support a **Northern Powerhouse** project to resolve regional differences.
+ More **devolving of powers** to disadvantaged regions.

Key Dates In the Expansion and Consolidation of America	
1854	**Kansas Nebraska Act** – created as a compromise. Kansas and Nebraska were given popular sovereignty to decide to become slave or free states.
1860	**Abraham Lincoln elected President of the United States** – He became the first Republican to win and only received 40% of the popular vote.
1861 – 1865	**American Civil War** – a civil war in the United States fought between the Union (north) and Confederacy (south).
1863	**President Lincoln signed the Emancipation Proclamation** – it declared "that all persons held as slaves … and henceforward shall be free"
1863 – 1868	**Indian Wars** – a series of battles waged by the US Government against Native Americans (Plain's Indians) over land and natural resources in the West.
1864	**Sand Creek Massacre**- Colorado soldiers attacked a peaceful Plain's Indian camp slaughtering and mutilating about 150 people, mainly women & children.
1865	**Thirteenth Amendment** – abolished slavery and involuntary enslavement, except as punishment for a crime.
1865 – 1868	**Sioux or Red Cloud's War** – began as US gov developed the Bozeman Trial. Plain's Indians attacked workers, settlers and soldiers to save their native land.
1866	**Fetterman Massacre** – The Sioux lured a US Army patrol at Fort Phil Kearny into a deadly trap where they killed 81 US soldiers.

TECHNICAL VOCABULARY	
Fort Laramie Treaty	Agreement between US Government and representatives of the Plains Indian Nations. Plains Indians promised not to attack settlers on the Oregon Trial and to allow building of some roads and Forts in their territory. In return they had an agreed hunting area and annual subsidy.
Bozeman Trial	Established to link the gold fields in Montana with the Oregon Trial – broke the terms of the Fort Laramie Treaty.
Negotiators	These people wanted a negotiated solution to the Indian problem. They believed that responsibility for Indian affairs should be kept within the Bureau of Indian Affairs.
Exterminators	This group believed that the Plains Indians were savages, and the Indian problem required a military solution. Their aim was to use the army to wipe out the Indians – a solution that today we would call Genocide.
Emancipation Proclamation	President Abraham Lincoln issued the Emancipation Proclamation on January 1, 1863. It declared "that all persons held as slaves" within the rebellious states "are, and henceforward shall be free."
Abolitionism	The formal organised opposition to slavery which began as early as 1817 in the USA.
Fugitive Slave Act	Required all Americans to return runaway slaves to their owner, even if the slaves reached free states. This made the institution of slavery very visible to Northerners and anti-slavery feeling grew.
Plantations	In the early 19th century, the South's economy was heavily based on cotton exports. Cotton was produced cheaply using slave labour on plantations – large slave run farms.

American Civil War

7 Southern States left the rest of the USA and set up what was known as the CONFEDERATES. The remaining states in the north were called the UNION. The Union north won and the southern states re-joined the rest of the USA.

What were the Consequences?

. At the end of the war in 1865, over 600,000 Americans had died. 400,000 were wounded.
. The southern states were devastated by the war.
. Government needed to re-build the south and also gave citizenship (freedom) to former African American slaves.

How did this Affect the West?

. Many southerners wanted a **new start** to their lives in the West.
. Many Black Americans decided to move away from the South to make a new life in the West.

Conflict with The Plains Indians	
Little Crow's War (1862)	Chief of Dakota Sioux in Minnesota, where white population increasing. Agreed to give up 24m acres of land and live on reservations for $1.4m. Gov delayed payment; reservation not big enough to hunt so Indians left. Sioux attacked settler towns, killed 600. Army arrived; some Indians put on trial; others forced onto poor reservation land where many died.
Sand Creek Massacre (1864)	When gold found in Montana, prospectors travelled across Cheyenne Indian land. Chiefs agreed to move to reservation, but young warriors refused. Cheyenne chief Black Kettle tried to reach agreement, but Colonel Chivington massacred 130 Indians, who were waving white surrender flags.
Red Cloud's War (1866-68)	Gold discovered in Montana 1862, prospectors travelled there on Bozeman Trial, across sacred Lakota Sioux land. This broke Fort Laramie Treaty. Red Cloud did not trust government, so fought rather than agreeing to allow forts along Bozeman Trail: 3,000 Indians fought 700 US soldiers. They won many battles.

Why was there TENSION between the White Settlers and the Plains Indians?

Fear of the Plains Indians	Racism	Threat to food	Shortage of grass	Government Pressure
White settlers were sometimes caught up in raids between tribes and took this the wrong way thinking they were being attacked. White settlers scared each other with stories. They were worried that they would be **scalped** or caputred as **slaves.**	The White Settlers had strong, racist views about the Plains Indians thinking they were **Superior.** This made them angry when Plains Indians stole horses from them.	With so much travel on the Oregon Trial, the Plains Indians had serious problems with the disruption of the **buffalo.** The White Settlers killed huge numbers for the **meat** on their jounry. The settlers caused massive buffalo stampedes because they did not know how to control them.	Thousands of oxen and horses travelling on the Oregan Trail resulted in a lack of grass. This meant there was tension and competion from both sides to feed their animals.	The White Settlers saw the Plains Indians keeping an eye on them, but even without being aggressive the settlers believed the Plains Indians were going to attack them. Some wanted the government to build **Forts** so the **Army** could **protect** them.

Half-Term 2 History Topic: Treatment and Prevention – Medicine through Time.

Medieval (1250 – 1500) Approaches to TREATMENT and PREVENTION	
Religious/supernatural:	Prayer; saying mass; fasting; going on pilgrimage – all advised as religious "treatments". Some believed disease was a punishment sent by God, therefore you should not try to treat.
Humoural Treatments:	Physician suggested a treatment for each symptom, including bleeding and purging; bathing (only available to rich); remedies (made from herbs and spices)
Prevention:	PRAY! Practice basic hygiene (as recommended in the Regimen Sanitatis); purifying bad air (e.g. carrying a sweet-smelling "posy"; some measures were taken to keep towns clean, like clearing animal corpses)
Who cared for the Sick?	The Physician was university educated; expensive so only available if you were rich. Diagnosed illness by: observing sample of urine/faeces/blood and consulting astrological charts. Apothecary mixed the herbal remedies. Surgeon performed basic operations and bleeding. Approx. 1,100 Hospitals by 1500, 30% run by Church. Provide clean place to rest and eat well. Many hospitals were places for travellers to stay. Emphasis on Care not cure. Most people cared for at home (kept clear, fed, herbal remedies). This was considered to be a woman's role.

Renaissance (1500 – 1700) Approaches to TREATMENT and PREVENTION	
Religious/supernatural:	Time of discovery, scientific progress and experiments. The church had less control over life so there was a chance for the spread of new ideas.
Treatment	Transference – disease could be transferred to an object by rubbing it. Lots more herbal remedies available from newly discovered lands of the New World. The new science of chemistry resulted in lots of chemical cures. Apothecaries and surgeons were better trained. Less hospitals available because many of these had been run by the monasteries, which were closed by Henry VIII.
Prevention:	Ideas about cause of disease had advanced, but treatments were still not effective. Therefore, prevention still very important. Cleanliness still important, though less use of public baths since arrival of syphilis. Moderation avoiding too much alcohol, cold, food etc. To reduce miasma homeowners in some towns had to pay a fine if they did not clean outside their homes.

C18th – C19th (1700 – 1900) Approaches to TREATMENT and PREVENTION	
Hospitals:	Florence Nightingale: Nurse in Crimean War 1854; hospitals appalling. Made changes to way wounded soldiers treated; Sanitation (clean hospital, bedding etc); Nurses to provide care & good meals provided. Mortality rate (% of wounded dying) fell from 40% to 2% Upon return to GB Nightingale set up nursing college, designed hospital wards & wrote "Notes on Nursing".
Treatment	Koch and Pasteur – Pasteur was the first to suggest that Germs cause disease. He published his idea in 1861 called the Germ Theory. He argued that microbes in the air caused decay not the other way round. – Koch used dye to identify microbes. He linked specific disease to the particular microbe that caused them. This technique was called 'Microbe hunting'. He identified several disease such as tuberculosis (1882) and Cholera (1883).
Prevention:	Edward Jenner developed vaccination to protect against smallpox. Previously people had been inoculated (given a small dose of disease to develop immunity). 1776 Jenner worked out you could make someone immune to smallpox by injecting a small amount of Cowpox. Lots of opposition from Church, inoculators and scientists.

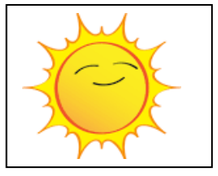
TECHNICAL VOCABULARY

Inoculation	Protecting someone from a disease by giving them a weakened version.
Vaccination	A substance which gives someone a weakened form of a disease to protect them from it.
Symptom	A negative side effect of the disease, e.g. a runny nose is a symptom of a cold.
Diagnosing	The process of trying to work out what illness a patient has.
Purging	A natural treatment that tried to rebalance the humours by giving the patient something to make them vomit or a laxative to make them defecate.
Astrology	The study of the movement of planets and the stars.
Flagellation	Flogging, whipping or beating oneself to punish someone for their sins or show a dedication to God.
Urine Chart	A tool used by a physician to help them diagnose a patient's illness. They would look at a sample of the patients urine and compare it to a colour chart to determine why they were ill.
Infirmary	A hospital.
Apothecary	Mixed herbal remedies to try and create a cure for an illness.

Modern (1900 -) Approaches to TREATMENT and PREVENTION	
Technology/Chemical Cures:	• Magic bullet = attacks disease, not body • Salvason 606 = first developed to attack syphilis • Penicillin = 1928 Alexander Fleming noticed that in his lab, some mould was killing bacteria in a dirty petri dish (it had drifted in through the window). He didn't study further but published his findings. Florey and Chain were studying antibiotics. They read Fleming's work and tested it successfully in 1940 on mice. They couldn't however produce large quantities. When US joined WW2 in 1941, Florey and Chain got backing from big American Drug Companies to mass produce. • Technology has helped to identify and combat diseases
Prevention:	Government has assumed responsibility for Public Health. Compulsory vaccinations. Laws to provide health environment (e.g. Clean Air Act 1956) Communication about health risks of lifestyle choice (e.g. anti-smoking campaigns)

Theory of four humours	Theory that the body is made up of four humours. If one humour is out of balance then you will fall ill.
Theory of opposites	The idea to treat illness by re-balancing the humour.
Miasma	The theory that disease was caused by bad or dirty air and this led to illness and death.
Islamic beliefs	Doctors in hospitals 'For every disease Allah has given a cure'. Mental illness is treated with compassion. Avicenna's book the Cannon of Medicine documented 760 drugs.
Christian beliefs	Believed in 'Care not cure', illness and disease are a punishment from God for committing sins. Medical understanding based on Galen and Hippocrates' ideas. Human dissections are banned by the Church. 700 Hospitals in England – used for rest, rather than treatment.
Spontaneous Germination	An old belief that germs are the result of disease and decay, rather than the cause of them. This idea is now known to be false.

Subject French Holidays Threshold Concept Link(s): Expressing opinions; past, present and future tense.



Qu'est-ce que tu aimes faire pendant les vacances ?

Opinions – Week 1					
Opinion	**Infinitive**	**Because**	**In my opinion**	**Verb**	**Infinitive**
Ça me dérange de = I get annoyed	aller – to go				se reposer – relax
Je suis fasciné par = It fascinates me	voyager – to travel	parce que	à mon avis		lire – read
Je suis amusé par – I have fun	séjourner – to stay				prendre des photos – take photos
Je suis déçu par – It disappoints me	nager – to swim				acheter des souvenirs – buy souvenirs
Je m'en fiche de – I'm not bothered about	faire du ski– to ski	car	selon moi	je peux =	parler la langue– speak the language
J'apprécie = I appreciate	voler – to fly			I can	faire du tourisme – go sightseeing
Je préfère – I prefer	acheter – to buy				essayer des repas locaux– try local dishes
Il vaut mieux – it's worth	se reposer – to rest				découvrir la culture – discover the culture
J'en ai marre de – I'm fed up of	se bronzer – to sunbathe				envoyer les cartes postales – send postcards
Je suis d'accord avec – I am in favour of	danser – to dance				manger la nourriture typique = eat typical food

Present Tense – Week 2							
Verb	**Time expression**	**Nouns**	**Connective**	**Noun**	**Verb**	**Infinitive**	**Nouns**
Je vais = I go	toujours = always	en Espagne = to Spain en France = to France	mais = but	je = I	préfère = prefer	aller = to go	en italie = to Italy au Portugal = to Portugal
Je voyage = I travel	presque toujours = nearly always	en avion = by plane en voiture = by car		mon frère ma sœur		voyager = to travel	en bateau = by boat en train = by train
Je séjourne = I stay	normalement = normally	dans une caravane = in a caravan dans une tente = in a tent	cependant = however	ma mère ma famille	préfère = prefers	séjourner = to stay	dans un hôtel = in a hotel dans un auberge = in an inn
Je nage = I swim	souvent = often	dans la mer = in the sea dans une piscine = in an indoor pool		mon père mon cousin ma grand-mère		nager = to swim	dans un lac = in a lake dans une piscine = in a swimming pool
J'achète = I buy	généralement = generally	les souvenirs = souvenirs un postal = a postcard				acheter = to buy	un porte-clés = a keyring un béret = béret du fromage = some cheese
Je me bronze = I sunbathe	quelquefois = sometimes	à la plage = on the beach à côté de la piscine = next to the pool	pourtant = however	mes parents et moi ma mère et moi ma grand-père et moi mon frère et moi	préférons = prefer	se bronzer = to sunbathe	à la plage = on the beach à côté de la piscine = next to the pool
Je visite = I visit	parfois = sometimes	les monuments = the monuments le château = the castle l'aquarium = the aquarium		mon père et moi mon oncle et moi		visiter = to visit	le stade = the stadium le musée = the museum le parc d'attractions = the theme park
Je mange = I eat	rarement = rarely	les escargots = snails la tartiflette = cheesy potatoes	alors que = while	mes parents mes grands-parents		manger = to eat	la nourriture typique = typical food les repas locaux = local dishes
Je bois = I drink	de temps en temps = from time to time	de la limonade = lemonade de l'eau minérale = water		mes amis mes cousins	préfèrent = prefer	boire = to drink	le vin rouge = red wine la bière = beer
Je lis = I read	en général = generally	un roman = a novel un livre = a book	tandis que = whilst			lire = to read	un magazine = a magazine un journal = a newspaper

Past tense – Imperfect and Perfect Week 3						
Time Expression	**Verb**	**Noun**	**Connective**	**Verb**	**Qualifier**	**Adjective**
Hier = Yesterday Avant-hier = The day before yesterday Hier matin = Yesterday morning Hier soir = Yesterday evening La semaine dernière = Last week Le week-end dernier = Last weekend L'année dernière = Last year Il y a deux mois = Two months ago	je suis allé = I went	au Portugal = to Portugal aux Etats-Unis = to the USA	et = and	c'était = it was	trop = too	drôle = funny amusant(e) = fun (dés)agréable = (un)pleasant ennuyeux(se) = boring ambitieux(se) = ambitious embêtant(e) = annoying rapide = fast lent = slow cool = cool génial = great fantastique = fantastic reposant = relaxing merveilleux = great animé = lively difficile = difficult facile = easy divertissant = entertaining
	j'ai voyagé = I travelled	en car = by coach en avion = by plane	mais = but	j'ai trouvé que c'était = I found that it was	très = very	
	j'ai bu = I drank	du coca = some coke du jus de pomme = apple juice	cependant = however	j'ai pensé que c'était = I thought that it was	un peu = a bit	
	j'ai lu = I read	un roman = energy un journal = petrol	pourtant = however		assez = quite	
	j'ai visité = I did	le stade = the stadium le musée = the museum le parc d'attractions = the theme park	en revanche = on the other hand	j'ai cru que c'était = I believed that it was	vraiment = really	
	je me suis bronzé = I sunbathed	à la plage = on the beach à côté de la piscine = next to the pool	toutefois = however	j'ai consideré que c'était = I considered that it was	extrêmement = extremely	
	j'ai mangé = I ate	une tarte tatin = caramelised upside-down apple tart un pain au chocolat = chocolate croissant	néanmoins = nevertheless	ce n'était pas = it was not		
	j'ai séjourné = I stayed	dans un hôtel = in a hotel dans un auberge de jeunesse = in a youth hostel				

Future Tense – If Clauses Week 4						
If clause starter	**Verb**	**Noun**	**Connective**	**In my opinion**	**I think that it would be**	**Adjective**
Si j'ai beaucoup d'argent = If I have a lot of money Si j'ai assez d'argent = If I have enough money Si j'ai de la chance = If I am lucky Si j'ai l'occasion = If I have the opportunity Si je peux = If I can	j'irai = I will go	au Portugal = to Portugal aux Etats-Unis = to the USA	parce que	à mon avis		génial = great fantastique = fantastic reposant = relaxing merveilleux = great animé = lively difficile = difficult facile = easy divertissant = entertaining amusant(e) = fun (dés)agréable = (un)pleasant ennuyeux(se) = boring ambitieux(se) = ambitious embêtant(e) = annoying important = important
	je visiterai = I will visit	les magasins locaux = the local shops le parc d'attractions = the theme park			je pense que ce sera	
	je voyagerai = I will travel	en car = by coach en avion = by plane	car	selon moi	je considère que ce sera	
	je voudrai = I will want	découvrir la culture – discover the culture parler la langue– speak the language			je crois que ce serait	
	je mangerai = I will eat	une tarte tatin = caramelised upside-down apple tart un pain au chocolat = chocolate croissant	puisque	pour moi		
Si j'avais beaucoup d'argent = If I had a lot of money Si j'avais assez d'argent = If I had enough money Si j'avais de la chance = If I was lucky Si j'avais l'occasion = If I had the opportunity Si je pouvais = If I could	j'irais = I will go	au Portugal = to Portugal aux Etats-Unis = to the USA		en ce qui me concerne	il me semble que ce serait	
	je visiterais = I will visit	les magasins locaux = the local shops le parc d'attractions = the theme park				
	je voyagerais = I will travel	en car = by coach en avion = by plane				
	je voudrais = I will want	découvrir la culture – discover the culture parler la langue– speak the language				
	je mangerais = I will eat	une tarte tatin = caramelised upside-down apple tart un pain au chocolat = chocolate croissant				

Half-Term 2 Year 11 French Topic : À l'école

Opinions – Week 1						
Opinion	**Infinitive**		**Because**	**In my opinion**	**I think that it is**	**Infinitive**
Ça me dérange de = I get annoyed Je suis fasciné par = It fascinates me Je suis amusé par – I have fun Je suis déçu par – It disappoints me Je m'en fiche de – I'm not bothered about J'apprécie = I appreciate Je préfère – I prefer Il vaut mieux – it's worth J'en ai marre de – I'm fed up of Je suis d'accord avec – I am in favour of	étudier = to study faire = to do aller = to go assister à = to attend	l'anglais = English le dessin = art l'espagnol = Spanish l'allemand = German le français = French les études commerciales = business studies le théâtre = drama la cuisine = food technology la biologie = biology la chimie = chemistry la physique = physics l'éducation religieuse = RE l'informatique= ICT l'histoire = history la musique = music la géographie = geography l'éducation physique = PE la technologie = technology les sciences= science les maths = maths à l'école = to school aux cours = to lesson	parce que car	à mon avis selon moi pour moi en ce qui me concerne	je pense que c'est je crois que c'est je considère que c'est il me semble que c'est	ennuyeux(se) = boring bon(ne) = good amusant(e) = fun obligatoire = compulsory divertissant(e) = entertaining éducatif(ve) = educational génial(e) = great intéressant(e) = interesting passionnant(e) = exciting important(e) = important facile = easy utile = useful inutile = useless difficile = difficult phénoménal(e) = great fantastique = fantastic

Week 2 – Present tense			
Days of the Week	**Verb**	**Time expression**	**NOUN**
Lundi Mardi Mercredi Jeudi Vendredi Samedi Dimanche	J'étudie = I study Nous étudions = We study	toujours = always presque toujours = almost always normalement = normally souvent = often quelquefois = sometimes parfois = sometimes rarement = rarely ne… jamais = never	à la bibliothèque = in the library beaucoup de matières = lots of subjects
	J'écoute = I listen Nous écoutons = We listen		au professeur = to the teacher de la musique = music
	Je parle = I speak Nous parlons = We speak		avec mes amis = with my friends avec mes copains = with my friends
	Je regarde = I watch Nous regardons = We watch		un vidéo = a video
	Je lis = I read Nous lisons = We read		un livre = a book à la bibliothèque = in the library
	Je mange = I eat Nous mangeons = We eat		à la cantine = in the canteen un sandwich = a sandwich
	Je bois = I drink Nous buvons = We drink		en classe = in class à la laboratoire = in the laboratory l'eau minérale = water
	J'écris = I write Nous écrivons = We write		dans mon cahier = in my exercise book dans mon agenda = in my planner

Past tense – Imperfect and Perfect Week 3						
Time Expression	**Verb**	**Noun**	**Connective**	**Verb**	**Qualifier**	**Adjective**
Hier = Yesterday Avant-hier = The day before yesterday Hier matin = Yesterday morning Hier soir = Yesterday evening La semaine dernière = Last week Le week-end dernier = Last weekend L'année dernière = Last year Il y a deux mois = Two months ago	j'ai étudié = I studied	le français = French l'anglais = English les maths = Maths	et = and mais = but cependant = however pourtant = however en revanche = on the other hand toutefois = however néanmoins = nevertheless	c'était = it was j'ai trouvé que c'était = I found that it was j'ai pensé que c'était = I thought that it was j'ai cru que c'était = I believed that it was j'ai consideré que c'était = I considered that it was ce n'était pas = it was not	trop = too très = very un peu = a bit assez = quite vraiment = really extrêmement = extremely	drôle = funny amusant(e) = fun (dés)agréable = (un)pleasant ennuyeux(se) = boring ambitieux(se) = ambitious embêtant(e) = annoying rapide = fast lent = slow cool = cool génial = great fantastique = fantastic reposant = relaxing merveilleux = great animé = lively difficile = difficult facile = easy divertissant = entertaining
	j'ai travaillé = I worked	à l'école = at school aux cours = in lessons				
	j'ai parlé = I spoke	avec mes amis avec le professeur				
	je suis allé = I went	à l'école = to school à la récré = to break				
Lundi = On Monday Mardi = On Tuesday Mercredi = On Wednesday Jeudi = On Thursday Vendredi = On Friday Samedi = On Saturday Dimanche = On Sunday	j'ai bu = I drank	de l'eau minérale = water de la limonade = lemonade				
	j'ai écrit = I wrote	dans mon agenda = in my planner dans mon cahier = in my exercise book				
	j'ai mangé = I ate	un sandwich = a sandwich un pain au chocolat = chocolate croissant				
	j'ai porté = I wore	mon uniforme scolaire = my school uniform				

Future Tense – If Clauses Week 4						
If clause starter	**Verb**	**Noun**	**Connective**	**In my opinion**	**I think that it would be**	**Adjective**
Si j'ai beaucoup d'argent = If I have a lot of money Si j'ai assez d'argent = If I have enough money Si j'ai de la chance = If I am lucky Si j'ai l'occasion = If I have the opportunity Si je peux = If I can Si j'ai le choix = If I have the choice Quand je serai plus âgé(e) = When I am older	j'irai = I will go	à l'université = to university au lycée = to college	parce que car puisque	à mon avis selon moi pour moi en ce qui me concerne	je pense que ce sera je considère que ce sera je crois que ce serait il me semble que ce serait	génial = great fantastique = fantastic reposant = relaxing merveilleux = great animé = lively difficile = difficult facile = easy divertissant = entertaining amusant(e) = fun (dés)agréable = (un)pleasant ennuyeux(se) = boring ambitieux(se) = ambitious embêtant(e) = annoying important = important
	je voudrai être = I will want to be	médecin = a doctor avocat = a lawyer pompier = a firefighter agent de police = a police officer professeur = a teacher				
	je travaillerai = I will work	à l'étranger = abroad				
	je ferai = I will do	un stage = a work experience placement un emploi d'été = a summer job				
Si j'avais beaucoup d'argent = If I had a lot of money Si j'avais assez d'argent = If I had enough money Si j'avais de la chance = If I was lucky Si j'avais l'occasion = If I had the opportunity Si je pouvais = If I could Si j'avais le choix = If I had the choice	j'irais = I would go	au Portugal = to Portugal aux Etats-Unis = to the USA				
	je voudrais être = I would like to be	mécanicien = a mechanic maçon = a builder infirmier = a nurse facteur = a delivery driver plombier = a plumber				
	je travaillerais = I would work	à l'étranger = abroad				

Quand je serai plus âgé(e) = When I am older	**je ferais = I would do**	**un stage = a work experience placement** **un emploi d'été = a summer job**				

Other factors that will affect your performance

To determine what factors will affect your performance, you should ask yourself the following questions:

- Where will the performance take place?
- Who will be your target audience?
- What style or genre will the performance be in?

Whether you specialise in acting, singing or dancing, creating a performance piece could potentially involve all three disciplines. As the director, you manage the creative process and final production. Your first big decision is deciding what type of performance you want to create. For example, it could be:

- a community play
- a street performance
- a performance in a small-scale theatre
- an open-air production
- a festival
- a concert.

Stage roles

- **Actor** – a person who acts on stage, or in TV or film. They work with the director and choreographer.
- **Stand-up comedian** – a person who entertains a live audience using humour and comedy.
- **Circus artist** – a person who entertains a live audience with circus skills and acts. They work with the director and choreographer.
- **Session musician** – a singer or instrumentalist who performs in a live or recorded session or gig. The performer is usually employed on a session-by-session basis. The ability to read music, improvise and perform by ear are essential for a session musician. Knowledge of a wide range of styles is also important. Most session musicians work as freelancers. Production companies or record labels may contact the session musician directly or use a contractor (fixer). There are usually agreed rates and terms and conditions for session musicians; most of the time, a session musician is paid a fee and the deal is done – no further payment is required. Unions will usually support musicians with their rights and payments if appropriate. They work with the musical director.
- **Singer** – a person who sings to entertain a live audience individually or as part of an ensemble. They work with the director, choreographer and musical director.
- **Dancer** – a person who performs routines to live audiences as part of entertainment shows, or TV or film productions. A dancer works with a choreographer or director to learn a repertoire and create choreography. In musical theatre, a dancer would also be required to act and sing.

Behind-the-scenes roles

- **Director** – a person who is responsible for the overall creative vision of a production. They have to lead a team through the creative process so that all elements of the show come together to produce the final outcome. A director works directly with the producers, creative team and performers.
- **Producer** – a person who researches funding and investment to finance a production. They also supervise the creation and performance of the show. They work directly with the director, creative team and performers and manage the technical and stage management teams.
- **Stage manager** – a person who is responsible for the technical details of the production and is fully responsible for the stage during each performance. They assist the director during rehearsals and supervise the lighting, costume and set.
- **Choreographer** – a choreographer creates dance routines for performances. They must follow the brief to create routines appropriate for the type of performance. A choreographer recruits and auditions dancers, teaches the set repertoire and develops movement material that forms part of the final performance. They work alongside costume, prop, lighting and set designers, and directly under the director and show producer.
- **Set designer** – a person who designs, creates and builds the set for a show or scene.
- **Theatre technician** – a person who works backstage and manages the stage crew. They prepare and maintain the set/stage by moving scenery and may be responsible for setting up or adjusting video, audio and lighting equipment. The theatre technician works with the stage crew, set designer, lighting designer and director.
- **Sound designer** – a person who creates sound effects and atmosphere to fit the narrative of a film or live performance. A sound designer would work directly with the musical director, composers and live musicians.
- **Lighting designer** – a person who designs the lighting plot for a film or live performance to help create a specific atmosphere to fit the narrative. The lighting designer works directly with the director, choreographer, set designer, costume designer and sound designer to ensure the safety of performers and that all elements are functioning as intended.
- **Stage crew** – a group of people also known as stage hands who work behind the scenes during the show or a live performance to ensure that scene changes are carried out at the correct time.

Year 11 Subject: Performing Arts Topic: Production

Building Tension:

Tension, or **dramatic tension**, often lies with the development of **suspense** in a drama. As the **audience** anticipates certain outcomes in the plot, the **tension builds**. An example **of rising tension** occurs in a mystery play or whodunit. In these instances, the audience is left in a constant state of **suspense** trying to guess the real culprit.

The development of **tension** usually parallels the advancement of the plot, leading to a **crisis or climax. Tension** is closely linked with the **element of timing**.

The Audience:

Using the **imagination** of the **audience** and the **suspension of disbelief** is extremely important when developing **tension, suspense and atmosphere.**

Technical elements:

The use of **sound effects, music, lighting, costume and set** in a performance can be pivotal in creating **suspense and atmosphere**.

Symbol

A symbol is something which stands for, or **represents something else**. **Symbols** are often used in drama to deepen its meaning and remind the audience of the themes or issues it is discussing. A **prop** often has a particular significance that an **audience** will instantly recognise when used **symbolically** in the work.

Lighting

Altering the **level of light** and combining the light with various colours can help to significantly change the **mood** and **atmosphere** of a scene.

- A **low lighting level**, with dark blues, greens or reds, can make the stage very **eerie** and filled with **dramatic tension.**
- A **high lighting level** of warm, coloured light can produce a very **happy** and **energetic** feeling on **stage**.

Subject Terminology

Suspense	A state or feeling of excited or anxious uncertainty about what may happen.
Mood	Created by the director, performers and performance elements all working together. Eg: mysterious, stressful
Atmosphere	**Atmosphere** is the overall feeling the audience experiences as a result of the mood created in the scene.
Climax/ Anti-climax	This is the building and release of tension in **drama**.
Play within a play	It means that your **characters** are performing a **play** on-stage for their own benefit, as a part of the **play**
Tension	Tension is **a growing sense of expectation within the drama**
Suspension of Disbelief	**The people in the audience know that what they are seeing on stage or screen is a pretend reality**, but they are pretending that they do not know that.

Music and Sound

Sound and music are extremely effective when conveying the **atmosphere** required for a specific **scene** or moment. **A sound designer**, working with the director, will:

- Identify moments where the **sound** can enhance the **action** on stage for an audience.
- Decide what sort of **sound** is required (**music, sound effect** or combination).

Music will often imply that the drama on stage is building to a **climax,** making the **audience** think that something is going to happen and putting them on edge.

ARTICULATION

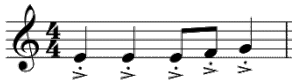
(How the notes are played)

Not Dynamics…

Articulation is the way the performer plays / sings the note, not how loud they do it. That would be Dynamics instead.

More Than One…

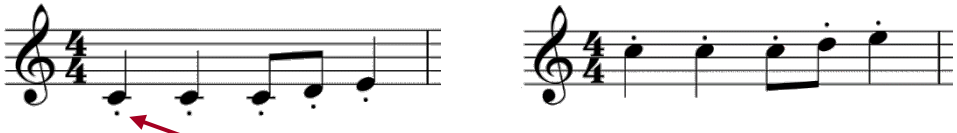
You can write more than one type of articulation for the same note. For example:



Staccato & Accented

Staccato

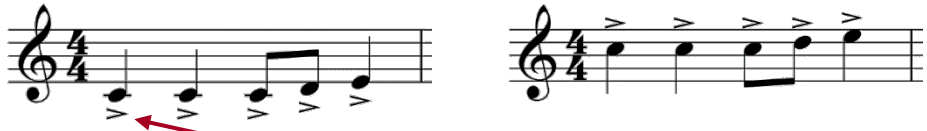
Staccato means short and detached /seperated. **You will likely hear a gap between each note.*



Shown by writing a **dot** just above/below the head of the note.

Accented

Give extra emphasis or force to the marked notes.



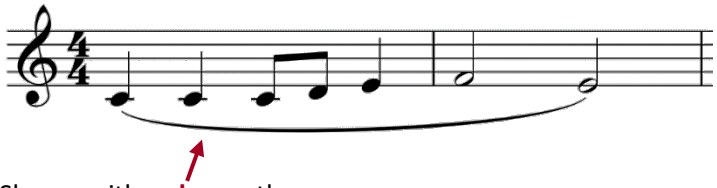
Shown by writing an **accent** above/below the head of the note.

Legato

To play the music smoothly, without breaks between notes.

Slurred

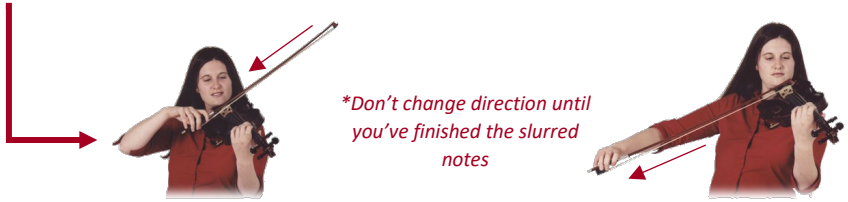
Playing the notes in a legato style, without breaks between notes.



Shown with a **slur** on the score.

How? Some examples:

String Instruments - Play the notes without changing the direction of the bow.



Don't change direction until you've finished the slurred notes

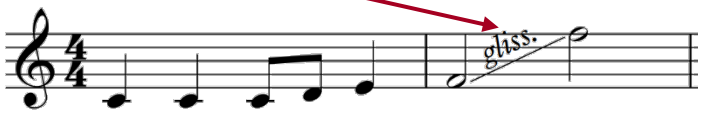
Brass & Wind Instruments - Only tongue the first note, not the others.

Glissando

*You can glissando upwards or downwards

A slide between two notes.

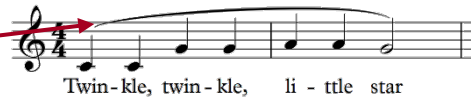
Marked with a **glissando** on the score.



Some Associated Markings On Vocal Music…

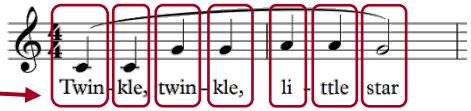
Phrase markings

Slurs drawn onto the score to show singers what to sing in one breath.



Syllabic

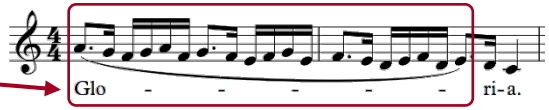
Where the music is written with one note per syllable.



Melismatic

Where the music is written with more than one note per syllable.

*A slur is used to show the notes on one syllable



Musical forms and devices

Area of study 1 - Eduqas GCSE Music

Baroque era (1600-1750)

- Harpsichord
- Ornaments
- Terraced dynamics
- Basso continuo
- Small orchestra (mostly strings, plus some wind)
- Suite, sonata, oratorio, chorales, trio sonata
- **Bach, Handel, Vivaldi**

Classical era (1750-1810)

- Slightly larger orchestra
- Piano introduced
- Alberti bass
- String quartets
- Symphony, solo sonata, solo concerto
- Balanced, regular phrases
- **Haydn, Mozart, Beethoven**

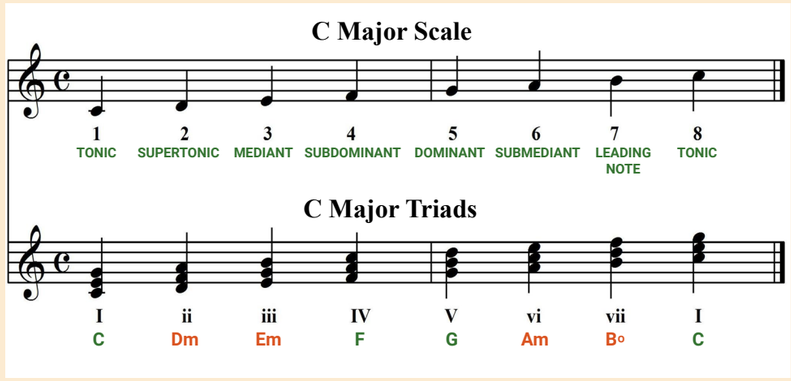
Romantic era (1810-1910)

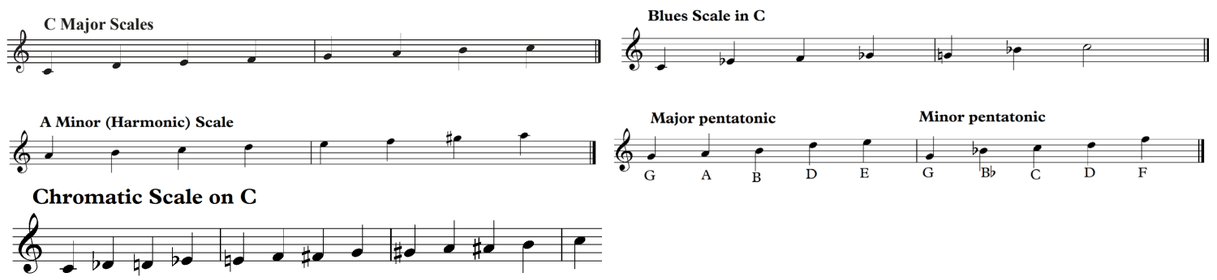
- Lyrical, expressive melodies
- Large orchestra
- Wider range of dynamics
- Richer harmonies and use of chromatic chords
- Programme music
- Opera symphony
- **Tchaikovsky, Grieg, Schumann, Dvorak, Brahms, Verdi, Wagner**

Scales and chords

A **CHORD** is a group of two or more notes played at the same time. A **TRIAD** has three notes. A **CHORD SEQUENCE/ PATTERN** is a series of chords. **DIATONIC HARMONY** is based on the chords of major/minor scales.

Primary chords I, IV, V
Secondary chords ii, iii, vi, vii





Form and structure

BINARY **A B**

Two sections: A usually ends in a related key (e.g. dominant or relative minor), but B returns to the tonic. B will contain with some change/contrast.

TERNARY **A B A**

Three sections: section B provides a contrast (e.g. new tune key change). A may return exactly or with some slight changes.

RONDO **A B A C A**

A longer form: A returns throughout the piece, with contrasting sections called 'episodes', containing new ideas and using different keys.

MINUET AND TRIO **II: AB: II II:CD :II AB**

The minuet was a type of graceful dance from the 17-18th century, and was often used as the 3rd movement in symphonies in the Classical era. The minuet had two repeated sections, the trio had two new repeated sections, with a return to the minuet at the end (no repeat).

VARIATIONS **A a A A A**

The main theme (tune) is repeated and developed a number of times in a variety of different ways.

STROPHIC **A A A**

A simple form where the song uses the same melody over and over.

Devices

Repetition	A musical idea is repeated exactly.
Imitation	An idea is copied in another part.
Sequence	Repetition of an idea in the same part at a higher/lower pitch.
Ostinato	A short, repeated pattern or phrase.
Drone	A long held or constantly repeated note(s).
Arpeggio/ broken chord	The notes of a chord played individually.
Alberti bass	A broken chord accompaniment (I,V,iii,V) common in the Classical era.
Anacrusis	An 'up-beat' or pick-up before the first strong beat.
Dotted rhythms	A rhythm using dotted notes (gives a 'jagged' or 'bouncy' type of effect).
Syncopation	Off beat accents.
Conjunct	Notes that move in steps.
Disjunct	Notes that move in leaps/ intervals.
Regular phrasing	Balanced parts of a melody (like the phrases in a sentence) e.g. four bar phrases.

Cadences

The two chords at the end of a phrase

Perfect	**V-I**	Strong ending – sounds 'finished'; a musical full stop.
Plagal	**IV-I**	Sounds finished but 'softer'; Amen.
Imperfect	**I-V, ii-V, vi-V**	Sounds unfinished.
Interrupted	**V-vi**	Moves to an unexpected chord; 'surprise'.

Half-Term: HT1 Subject: KS4 Art Threshold Concept Link(s): Analyse and write critically about the work of others demonstrating critical understanding

TECHNICAL VOCABULARY	
Analyse	To examine in detail
Annotate	Explanatory notes
Critical	Judge and form opinions
Context	The full picture-when, where, events etc. that have influenced the artist
Review	Evaluate
Reflect	Reconsider and modify
Independent	On your own
Formal Elements	The Formal Elements are the parts used to make a piece of artwork. They should be commented on when discussing the work of others
Interpret	Explain/translate art work
Opinion	Your belief and thoughts

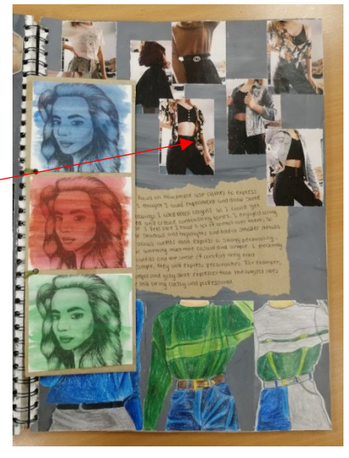
Developing ideas

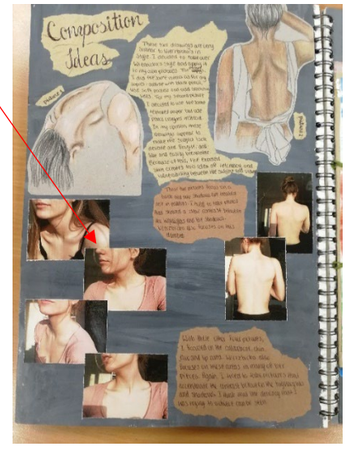
1. Primary sources- take **lots** of your own photo responses and choose at least 4 compositions to draw out, on one or 2 sides.
2. Link your work to a chosen artist(s)/art style
   - What does the artist draw?
   - What media do they use?
   - What colour scheme do they use?
   - What is their work about; meaning, mood etc.?
3. Use a variety of media, experimenting with new and different techniques
4. Use a variety of colour schemes
5. Review and evaluate:
   - What media you liked and why?
   - What you like/dislike about your ideas and about the changes to the drawings?
   - How you used the media and what effects you achieved?
   - What problems you had or what happy accidents occurred?
   - Which material and process is most suitable for each idea and why?
   - What connections to artists have you made and how successful are they?

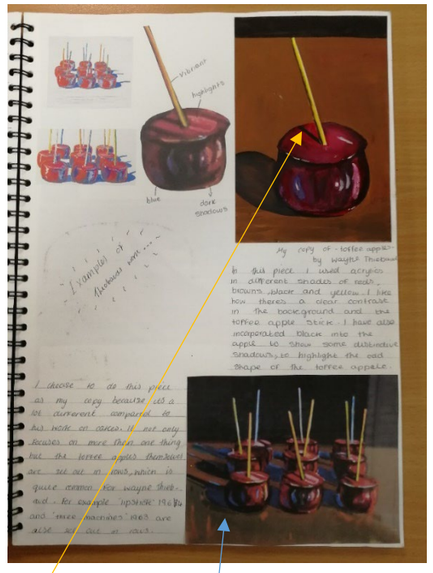
6.Choose the most successful idea, ensuring that you will be able to reproduce it

Personal Portfolio

You should have researched 4 different artists. From the 4 pick your favourite and research further This will add to AO1, AO2 and AO3







For the chosen artist you will need the following;

Double page

Reason for choice and further analysis

Artist copy x 2

More examples of artists ‘work

Knowledge Organisers – Core principles

Page 1

Term	Explanation	Term	Explanation
Iterative design	Small steps with constant changes as feedback is gained. Feedback is used to help the design refine further developments.	**Primary data sources of information**	**First hand information**
Secondary data sources	**Information obtained from others**	**Ergonomics**	Study of human interaction between the user and the product. Feel Comfort Sound Ease of use Smell
Anthropometrics	Measurements of the human body – Maximum and minimum. **Length Height Weight Angles**	**Design brief**	This is a written statement that says what you are going to design make and evaluate. It should include your target market and where it will be used.
Manufacturing specification	1. Details relating to the products function. 2. How its made 3. Time scale 4. Health and safety 5. Quality control 6. Quality assurance 7. CAD Drawings in 2D and 3D 8. Cutting list 9. Components used 10. Tolerances needed.	**Coco Channel 1883-1971**	French fashion designer for fragrances, accessories and clothing. Huge company today!
Alexander McQueen 1969-2010	**British fashion designer** who wowed people with his shocking and unconventional designs	**William Morris 1834-1896**	Main part of the arts and crafts movement in 1880's using nature as inspiration
Mary Quant 1934 – present.	Famous for the mini skirt and flower power inspiration	**Vivienne Westwood 1941 – present**	Establishing the punk image of the 70's. Her designs are still popular today.
Marcel Breur 1902-1981	Maker of Bauhaus. Most famous was the Wassily chair and first to be made from tube steel. He went on to become an architect.	**Norman Foster 1935-present**	Famous for the **Gherkin and Wembley stadium** including the great court.
Charles Rennie Mackintosh 1868-1928	Mackintosh was a Scottish designer using **ART NOUVEAU** as a design influence.	**Aldo Rossi 1931-1997**	**Italian architect** who became a product designer. Post modern influences to produce building like this.
Gerrit Rietveld 1888-1964	Dutch architect and furniture designer to produce the movement **De Stijl**. Famous for using primary colours and geometric lines.	**Ettore Sottsass 1917-2007**	Austrian born **Italian**. Famous for revamping officing style machines such as this **Valentine type writer.**
Raymond Templier 1891-1968	Belonged to the **art deco** movement and designed jewellery.	**Louis Comfort Tiffany 1848-1933**	American art designer and artist known for his glass designs. His famous was the **tiffany lamp.**
Sir Alec Issigonis 1906-1988	Famous for car design and joined Morris motors to produce the iconic **Morris Minor and mini**!	**Alessi**	**Founded by Giovanni Alessi in 1921** and produced metal wear for tables.

Knowledge Organisers – Core principles

Page 2

Term	Explanation	Term	Explanation
Braun	**German company** founded in the 1920's. Famous for shavers and audio equipment.	**Apple**	IN 1976, **Steve jobs** along with two other founded Apple. **Largest IT** company in the world. Famous for coming up with innovative designs that will be iconic for ever.
Dyson	Sir James Dyson started to make improvements to the traditional vacuum cleaner in 78 and produced the famous bagless vacuum cleaner. Also, no designing fans and lighting products.	**GAP**	American company selling clothing. Simply and clothing using clear, bold colours.
Primark	International clothing retailer with its main business in Ireland. Low cost 'fast fashion' trend. Cloths made in China, Bangladesh and India.	**ZARA**	Spanish clothing company known for selling products that react to client's trends – Just in time production approach. Began to work with GREENPEACE in 2011 to eliminate harmful toxins from cloths.
User-Centred design	Means to fulfil the wants, needs and limitations of the user	**Systems approach**	If you are designing a product with electronics or mechanisms use a sequence chart to show input/ process/ out put so they can see how it would work.
Sketching	Getting ideas down quickly is important. Do this on plain paper or scaffolded sheets to help you with scale and proportion.	**Modelling and its purpose**	2D models are quick to produce Quick to produce Using materials such as card is cheap and easy to form 3D ideas – they can be recycled after and doesn't cost anything Show size, scale and proportion. Show the development between each design. These can be photographed and recorded into your portfolio to show how they will work.
Testing	To show the intent of the design and how it will work. Destructive testing – used to determine how the product will respond under pressure. Make decisions on materials used. Market testing – inspection of parts/ functional testing and its looks.	**Oblique**	Quick to produce and simple technique. Draw the idea as a plan and then use a 45 degree angle to project the sides back.
Isometric projection	30 degree angle for height width and depth Dimensions can be done accurately. Good for geometric shapes Fairly realistic Use measurements on the drawing	**Perspective drawing**	Uses vanishing points Construction lines go back to the vanishing points Realistic drawing
Annotating drawings	Adding notes to a drawing to explain detail Explaining if parts of the design meet the needs of the specification Express subjective and objective views	**Collaborative designing**	Some designers may have more strengths in parts of the design process. Some people are good at risk taking? Innovation Identifying problems Some people may have contacts in areas to help with a problem. Speed up the process – in development people can work on different aspects of a solution.
Marketability	Look goof and fully functional Potential to be commercially viable Fill and meet a gap in the market Compete with other products Easily tested		

Year 11 HT2 Subject – Hospitality and Catering Threshold Concept Link(s) **Nutritional needs of specific groups of people**

Different Activity levels	
Energy required for; • Growth • Movement • Body warmth • Production of sound • Brain function • Energy comes from Carbohydrate first • Fat second source • Protein only when carbs and fat stores are depleted Food and drinks which contain carbohydrates, protein and fats.	• Increased activity requires increased energy intake preferably in the form of carbohydrates • Decreased activity levels due to age or health issues calorie intake should be reduced accordingly • People recovering from illness or an operation should get their calories from protein rich food to increase tissue repair and healing. • Calories from starchy carbohydrates are better as they burn slowly therefore releasing energy at an even rate throughout the day

TECHNICAL VOCABULARY	
RDI- **Recommended daily intake**	The amount of each nutrient recommended to meet the requirements of the majority population
Free sugars	Sugars, honey, fruit juices, sugar added to food
Protein complementation	Combining two incomplete proteins to get a complete one
BMR-	**Basal metabolic rate**- the speed of the metabolism in the resting state
Peak bone mass	The amount of bone present when the skeleton has stopped growing and are at a maximum density
Osteoporosis	The production of new bone cannot keep up with the removal of old bone
Anaemia	When you are unable to make enough red blood cells to carry oxygen around the body
Pernicious anaemia	Caused by low red blood cell production and the body is unable to absorb Vit B12
PAL	**Physical activity level**-The amount of extra activity you do per day such as sport.
EAR	**Estimated average requirement-** Calories required per day to maintain body weight

Unit 2

AC1.2 LO1

Different Life Stages	
Children 1-12 **NEEDS-**All nutrients are important especially proteins vitamins and minerals • A good variety of foods should be introduced early • Food needs to be made into fun shapes to encourage variety in the diet • Get kids involved in the cooking • Small portions, presented well • Limit the amount free sugars in foods and drinks • Children should be active, can become more sedentary playing computer games. This can lead to obesity **Adolescents (TEENAGERS)** **NEEDS-** All nutrients are important especially proteins vitamins and minerals • The body is growing from a child into an adult • Minerals are taken up into the bones to reach peek bone mass as adults • Girls start menstruating need plenty of iron to avoid anaemia	**Adults** **NEEDS-** All nutrients are important especially **proteins** vitamins and minerals • Keep body weight within a healthy range • Eat less calories as BMR decreases with age • Eat sufficient **calcium and vitamin D** to promote healthy bones • Eat plenty of fibre as the digestive system slows down with age • **Vitamin C** aids the uptake of **Iron** to avoid anaemia • Salt intake should be kept below >6g to avoid high blood pressure • Body reaches peak bone mass at 30yrs • Avoid high fat/ high sugar food **Older Adults** **NEEDS-**Vits A, C, E to prevent age related eye conditions. Vit B to help body's use of energy • Body systems such as digestion and circulation slow down. • Metabolic rate slows down, so reduction of carb intake • High • Less active as weight may be gained • Smaller appetite

Special diets			
Type of diet	**Reason**	**What can be eaten**	**Foods to avoid**
Vegan	Health, religion, ethical	All plant based foods	All animal foods and products
Lacto-ovo vegetarian (Normal veggie)	Health, religion, ethical	All plant based foods, Dairy and eggs	No food which involves killing an animal
Lacto vegetarian	Health, religion, ethical	All plant foods All dairy	No food which involves killing an animal and eggs
Gluten free	Coeliac disease	Rice, soya, maize, pulses, beans and nuts	Foods containing wheat. Biscuits, pasta, bread
Lactose free	Lactose intolerance	Lactose free products Alpro, soya milk, oat milk	Foods containing dairy
Low salt	Heart disease and high blood pressure	Fruit and veg, dairy and unprocessed meat	Yeast extract, processed foods, sauces
Low sugar	Diabetes, weight reduction	Fruit and veg, dairy and unsweetened products	Foods full of sugars and fizzy drinks

Half-Term 1 – Planning & Building

Clearance cost

Skip

Digger

Dumper

Specialist tools

Disconnection of old electrics

Cap off drainage

Onsite toilet

Scaffold

Labour

Driver

Build

Brick

Block

Cement

Building sand

Brick tie

Steal

Waste pipe

UPVC windows/conservatory

Scaffold

Insulation

Buying

Amazon

Ebay

Jewson

Turnballs

B&Q

Wickes

Travis Perkins

Central Skip hire

Scaffolding

Site toilet

Look at the above and write as much information about what the requirements are for building.

Subject - Construction

How many bricks?

There are 60 bricks per square metre m2, if you are building a half-brick wall or a one-layer wall.

How many blocks?

There are approximately 10 concrete blocks per square metre m2.

Using the calculations below workout the cost for 10m2

Brick wall

Standard brick wall

Garden wall

Retaining wall

Decorative brick wall

Repair & Maintenance

Brick Wall Jobs	Price Range
Standard brick wall	£50–£120 per m²
Garden wall	£60–£150 per m²
Retaining wall	£70–£200 per m²
Decorative brick wall	£80–£250 per m²
Repair and Maintenance	£30–£100 per m²

How much are the following tradesperson charging per hour?

Groundsman
Labourer
Bricklayer
Electrician
Plumber
Plasterer
Driver
Window fitter

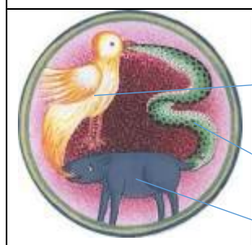
Subject **RS** Buddhism: beliefs and teachings.

Before enlightenment	
How long ago was Buddhism founded?	Buddhism was founded around 2500 years ago.
Who is the founder of Buddhism?	The founder of Buddhism was Siddhartha Gautama, he was born around 500BCE.
Who were Siddhartha's parents and what did this mean for his lifestyle?	Siddhartha's parents were King Suddhodana and Queen Maya and he had a life of 'material' luxury.
Queen Maya had a dream before Siddhartha was born what was it? What did it mean?	Queen Maya dreamt about a little white elephant who told her that her child would be holy.
After his mother died the King tried to protect his son from all hardships – what were the four sights that changed Siddhartha's life?	The four sights were old age; illness; death and a holy man. 
When he was an ascetic how was Siddhartha trying to understand the problem of suffering?	Siddhartha practiced living in extreme temperatures and places of danger; he slept on thorns and survived on very small amounts of food.
How did the demon Mara try to distract Siddhartha from gaining enlightenment?	Mara tried to distract Siddhartha by sending his daughters; his armies; offering control of his kingdom and questioning Siddhartha.
How long did Siddhartha's enlightenment take?	Siddhartha's enlightenment took place during 3 parts (watches) of the night.

TECHNICAL VOCABULARY	
Buddha	This is a title meaning 'awakened one' or 'enlightened one.'
Jakata	Popular stories about the life of Buddha.
Ascetics	People who live a simple and strict lifestyle with few pleasures or possessions. They are searching for spiritual wisdom.
Meditation	The practice of calming and focussing the mind.
Enlightenment	Spiritual wisdom that comes from understanding the true reality of nature.
Mara	A demon that represents spiritual obstacles and temptation.
Dhamma	The truth Buddha realised when he became enlightened.
The three marks of existence	Dukkha (suffering); Anicca (impermanence) and Anatta (nothing is permananet).
The four noble truths	These are dukkha (suffering); samudaya (cause of suffering); nirodha (suffering can end) and magga (there is a means to end suffering).
Arhat	A perfected person

After Enlightenment: Teachings	
What is the Dhamma?	Dhamma refers to the Buddha's teachings but is also about truth; training and universal 'law'.
What are the three refuges (or jewels) in Buddhism?	The three refuges (jewels) in Buddhism are the Buddha; the Dhamma and the Sangha (the Buddhist community).
What is the idea of dependent arising?	Dependent arising is the idea that everything arises in dependence upon conditions. It is shown as the Wheel of Life.
What does the Tibetan Wheel of Life show?	The Wheel of Life shows dependent arising as applied to birth, death and rebirth (samsara).
What are the three marks of existence?	The three marks of existence are suffering (Dukkha); impermanence (anicca) and having no permanent, fixed self or soul (anatta).
What are the 3 recognised types of suffering?	The three types of suffering are ordinary suffering (dukkha-dukkhata); suffering because of change (viparinama-dukkha) and suffering because of attachment (samkhara-dukkha).
How does anicca (impermanence) affect the	Anicca affects the world in the three following groups – living things; non-living things and people's minds.
What does the story of Nagasena and the chariot	The story of Nagasena and the chariot illustrates that there is no fixed part to a person.
What are the Four Noble Truths?	The Four Noble Truths are- 1/ dukkha (suffering); 2/ samudaya (causes of suffering); 3/ nirodha (suffering can end) and 4/ magga (there is a way to end suffering).
What are the 5 aggregates/skandhas?	The 5 aggregates/skandhas are Form: Sensation; Perception; Mental Formations and Consciousness.

Suffering, causes and routes to happiness



The 3 poisons

Greed/desire shown by a cockerel.

Hatred/anger shown by a snake.

Ignorance shown by a pig.

The **threefold way** makes up the sections of the eightfold path. They are ethics; meditation and wisdom.

The Eightfold Path has 8 aspects that Buddhists practice and live by in order to achieve enlightenment. It is split into the threefold way and can be understood as a range of practices that should all be developed. They are: -

Ethics – right speech; right action; right livelihood.

Meditation – right effort; right mindfulness; right concentration.

Wisdom – right understanding; right intention.

How does a person become an **Arhat**?
An arhat has overcome the main sources of suffering and has become enlightened so the cycle of rebirth ends and reach nibbana, this means that have followed and fulfilled the Eightfold Path.

HT1 Y11 Subject **RS GCSE** Theme E **Crime and Punishment** Christianity

Religion, crime and punishment and reasons for crime	
In the UK who do the police arrest?	Police arrest people who are suspected of having broken the law by committing crimes.
If the police question someone and believe they committed a crime what happens?	If the police are confident that they have the right person, then the person will be charged with that offence.
What happens to a person charged with a serious crime in the UK?	Suspected offenders face a hearing in front of a local magistrate before going to Crown Court before a judge and a jury of 12 people.
What do most serious offences carry?	A life sentence in prison although this doesn't mean people stay in prison until they die. A life sentence is usually 25 years.
Can a UK court impose a sentence of physical harm or death?	No UK court can impose physical harm or death in some countries the death penalty is allowed.
What is Civil Law?	Civil law concerns disputes between individuals or groups – landlords/tenants etc…
What do the teachings in the Bible warn against?	They warn against having any evil or wrong thoughts or intentions.
In a religious sense who can evil be linked to?	Evil can be linked to the devil (Satan) who is the source of all that is considered evil.
Do Christians believe that people are evil?	Many would say there is no such thing as an evil person. Human beings are imperfect and suffer from an original sin.
What are some reasons for committing crime?	Poverty; opposition to unjust laws; hate; greed; addiction; mental illness and upbringing.

Christian attitudes	
What are the general Christian attitudes to lawbreakers?	Christians are against people breaking the laws of their country as laws are there to protect the rights and security of all citizens.
What do Christians believe about lawbreakers?	Some believe that a punishment should be as severe as the crime committed; others believe that the lawbreaker should be helped so that they do not re-offend. They hate the crime but not the person.
What are Christian attitudes to how lawbreakers should be treated?	Lawbreakers have rights and these should be protected, even whilst they are being punished. Christians believe that inhumane treatment of offenders is wrong. Jesus said prisoners should be treated well.
What are Christian attitudes to different types of crime?	Christians condemn hate crimes and murder as all people are created with equal value and none should get inferior treatment.
What are Christian attitudes to suffering?	Christians should try and help those who are suffering; they should follow the example of Jesus who helped people in need.
Can we blame God for suffering?	Christians believe that God gave humanity the free will to behave as they choose. Teachings of Jesus give guidance to help.
If they cause suffering what should Christians do?	Christians should be honest to themselves; to other people and to God and work hard at repairing any damage they have caused so that relationships can be restored.
When should prison be used?	Most Christians agree that prison should be used as a punishment for serious crimes.
Would a Christian agree with corporal punishment?	Christians do not agree with this, they focus on positive sanctions that help rehabilitate offenders, they believe in following Jesus' example of treating all people with respect.

TECHNICAL VOCABULARY	
Crime	An offence which is punishable by law – stealing; murder etc.
Punishment	Something legally done to somebody as a result of being found guilty of breaking the law.
Evil	The opposite of good; a force or the personification of a negative power that is seen as destructive and against God.
Poverty	Being without money, food or other basic needs of life (being poor)
Mental illness	A medical condition that affects a person's feelings, emotions or mood and perhaps their ability to relate to others.
Addiction	Physical or mental dependency on a substance or activity which is very difficult to overcome.
Greed	Wanting to possess wealth, goods or items of value which are not needed.
Retribution	An aim of punishment -to get your own back 'an eye for an eye.'
Deterrence	An aim of punishment- to put people off committing crime.
Reformation	An aim of punishment to change someone's behaviour.
Free will	The ability of people to make decisions for themselves.
Corporal punishment	Punishment of an offender by causing them physical pain – illegal in the UK.
Forgiveness	Showing mercy and pardoning someone for what they have done wrong.

Aims of punishment and the Death Penalty	
What is retribution?	This means to get your own back; in the Old Testament this is called lex talionis and means criminals should receive the same injuries and damage they caused their victim.
What is deterrence?	If offenders are seen to be punished for their actions it is hoped that the threat of this will put others off committing crimes.
In the past what punishments were used as deterrents?	Being punished in public – public floggings and executions.
What is reformation?	This is the punishment that most Christians prefer as it seeks to help offenders by working with them to help them understand why their behaviour is harmful.
Should Christians seek revenge?	No Christians should seek and show compassion.
Is there a limit to forgiveness?	No there is no maximum amount of times a person should be forgiven. God's love is infinite so there can be no limit to forgiveness.
What do Christians think about the death penalty?	Some agree with it and use teachings from the Old Testament to support their views: 'Whoever sheds human blood, by humans shall their blood be shed.' Genesis 9:6 and 'Life for life; eye for eye; tooth for tooth.' Exodus 21:23-24.
Why do some Christians oppose the death penalty?	They do not believe that taking another life is right – only God has the right to take life.

Year 11 HT1

Child Development: Learning Through Play.

Physical Play	
What do children learn through physical play?	Spatial awareness Activities to stay healthy How to take care of yourself and self-care Gross motor skills Fine motor control
What activities and resources can we use for physical play and learning?	Role play of home life situations Food preparation, snack times and handwashing Bat and ball games Tricycles, bicycles, sit and ride toys Climbing frames, swings, slides Creative activities Playdough, sand and water activities Construction toys Baby gyms, push along toys, rattles.

Cognitive Play	
What learning is promoted through cognitive play?	Problem solving skills Creativity Use of imagination Listening and attention skills Numeracy skills Exploration of environments inside and outside Confidence using technology Understanding of others' experiences
What activities and resources can we use for cognitive play?	Counters, weights, play money Shape sorters, puzzles, matching pairs Trips and visits Digging and building Computer games, apps, PCs, tablets Writing Small world toys

Social Play	
What learning is promoted through social play?	Development of friendships and relationships Emotional support networks Sharing, turn taking, compromise.
What activities and resources can we use for social play?	Team games and activities Group activities Role play Board games

TECHNICAL VOCABULARY	
Unoccupied play	Baby makes movements discovering how their body moves.
Solitary play	A child plays alone, not interested in playing with others.
Spectator/onlooker play	A child watches other children play but doesn't join in with them.
Parallel play	A child plays alongside or near others but does not play with them.
Associative play	A child starts to interact with others during play but there is not a lot of interaction.
Co-operative play	A child fully interacts with others and is interested in the activity and other children, they create their own rules.
Locomotor play	Any type of physical activity using gross motor skills- enjoying movement.
Creative play	Freedom to explore resources, making something, trying new ideas.
Sensory play	Using the senses to explore, discover textures and functions.
Imaginative play	Children pretend in some ways, act out their experiences, role play and small world play.

Communication and language play	
What learning is promoted through communication and language play?	Listening skills Process of following instructions Vocabulary and literacy skills, speaking and questioning skills Expressing and discussing feelings Having conversations
What activities and resources can we use for communication and language play?	Books – lift the flap, textured, stories, talking books, story sacks. Role play Nursery rhymes, songs, dances Listening/action games.

Emotional Play	
What learning is promoted through emotional play?	Expression of feelings Promoting independence Improving confidence, esteem and awareness Building relationships
What activities and resources can we use for social play?	Puppets and dolls Role play activities Emotion faces Mirrors Circle time/carpet time

Cycle 1 Subject **Sociology** Threshold Concept Link(s) **Crime and Deviance**

Who commits crime? Why do differences occur?

Gender	Ethnicity	Class	Age
Women committing less crime. • Gender socialisation • Fewer opportunities • More domestic responsibilities • May be treated differently in the criminal justice system e.g. sad, rather than bad, given a lenient sentence. Chivalry thesis • Others argue they are treated more harshly- double deviancy. Therefore do not commit crime. **Women's involvement in crime is increasing:** • Lost a lot of their controls and restraints • Women are not experiencing equality in the work place-gender pay gap.	• Inaccurate statistics Labelling- racism and stereotyping within the police practice. More ethnic groups are stopped and searched. Institutional racism within the police- most police officers are white and may label particular groups (Stephen Lawrence murder) • Linked to their social class, higher levels of crime in the ethnic minority groups could link to the fact they are also possibly experiencing poverty and this leads to crime. • Media reinforcing views- reporting in the media on particular groups can generate mistrust and hostility.	• Inaccurate statistics- lower-class criminals may commit crimes that are more identifiable and more likely to be targeted by the police. • Socialisation • Material deprivation- may commit crime to obtain the things others have • Education- W/C more likely to be in the bottom sets/streams so may look for other routes to get what they need e.g. crime. • Anomie- mismatch between goals and the means to achieve the goals. • Labelling. • White collar crime is not as easily identifiable as crimes committed at lower levels.	• Status frustration- lack of independence and caught in transition. Lack of responsibilities can lead them to drift into deviant and criminal behaviour. • Peer Pressure • Edgework- thrill seeking and risk-taking. Getting a "buzz" from committing a crime or displaying deviant behaviour. • Socialisation- Some young people are inadequately socialised and have learned criminal behaviour as a norm or value. • Police stereotyping • Media moral panic/folk devil. • Subcultural theory

TECHNICAL VOCABULARY	
Crime	Behaviour that breaks the law.
Deviance	Behaviour that does not conform to the dominant norms of a specific society
Socially defined behaviour	Thought of as natural but is actually the product of cultural expectations.
Official Crime statistics	The way crime is officially measured, based on statistics collected by the Home office.
Victim surveys	Surveys of the public which ask them to report any crimes they have experienced, whether or not they have reported them.
Self –report surveys	Surveys of the population which ask them to confess to crime they have committed. But for which they have not been caught.
Reported crime	Crime is reported to the police. Not all crime is reported
Recorded crime	Crime that is recorded by the police. Not all reported crime is recorded.
Validity	Data is valid if it gives a true picture of what is being studied.
Dark figure of crime	A large amount of criminal activity never appears in the crime statistics.
British Crime Survey	BCS: A victim survey conducted annually by a team of researchers at the home office. The BCS measures the amount of crime in England and Wales by asking people about crimes
Social constructed	Views of what is criminal or deviant behaviour are influenced by the values and norms of the society we live in.
Peer group pressure	A group of a person's won age who are important to them and often influence them to behave in a particular way.

Social Control: Much of our behaviour is socially controlled.

Formal Social Control: Based on written rules and laws.

Agencies of formal social control:
- Houses of Parliament
- The police force
- Judiciary
- The prison service.

Informal Social Control: Based on unwritten rules and processes such as approval & disapproval

Agencies of informal social control:
- Family members
- Peers
- Teachers
- Work colleagues

The class deal & the gender deal.
- Most people conform to the rules because of the 'deals' that offer them rewards.
- **Class Deal:** Material rewards if you work for your wage
- **Gender deal:** Material & emotional rewards if you live with a male breadwinner within the family.

Refusing the class deal: Not found legitimate ways of earning a decent living. More to gain than to lose by offending.

Refusing the gender deal: Supposed to be rewarded with happiness & fulfilment from family life. Many women may be abused, no bonds with family & friends. Nothing to lose and everything to gain.

Those at high risk from crime:
Class: The poor, living in private rented housing
Gender: Males
Age: The Young
Ethnicity: Minority ethnic groups.

Debate: The media:

1. **Are the media biased in their presentation of crime?**
2. **Does the media create crime in society?**

1. Are the media biased in their presentation of crime?

- When individuals do not have direct knowledge or experience of what is happening, they rely on the media to inform them.
- The media set the agenda in terms of what is considered to be important.
- The editors filter what they see as newsworthy (news value) they tend to include and emphasis elements of a story for their audience. Stories they are more likely to report (news value) are stories involving children, violence, celebrities, if the event has occurred locally, easy to understand and if graphic images are involved.
- 46% of media reports are about violence or sexual crimes, yet these only make up for 3% of crime recorded by the police (Ditton & Delphy 1983)
- Deviancy amplification is usually used to describe the impact of the media on the public perception of crime.

2. Does the media create crime?

- Media content can have a negative impact on the behaviour of young people, particularly children.
- It is suggested that some people may imitate violence and immoral or antisocial behaviour seen in media. The media are regarded as a powerful secondary agent of socialisation.
- Video games are often blamed as a link between increased aggressive behaviour and crime.

Crime Key Studies	
Study	Findings
Merton's (1938) strain theory Functionalist	• People's aspirations and goals are shaped by their culture eg American Dream = economic success • Some people experience a strain between the goals of society and the means of achieving them. This may lead to anomie (normlessness) • They may seek out an illegitimate route to economic success eg crime
Becker's (1963) interactionist perspective interactionist	• Argues deviance is created by society • Powerful social groups create deviance by making the rules and applying these to others • People can develop deviant careers if labelled as deviant • The deviant label can become a master status (main identity) • Labelling can lead to the self-fulfilling prophecy
Heidensohn's (1985) control theory Feminist	• Women commit less crime because they are more closely controlled in society • In a patriarchal society, women have stronger social control placed on them which can reduce opportunities for crime • At home, women are controlled by domestic responsibilities, at work by fear of damaging reputation and in public by fear of male violence
Carlen's (1988) class and gender deal Feminist	• Carlen explains why working-class women commit crime • She argues they are promised two rewards for conforming- 'class deal' (money and material items from working hard) and 'gender deal' (happy domestic life with husband and children) • She found WC women committed crime when these rewards were blocked due to: poverty, living in care, drug addiction. • They had nothing to lose and everything to gain
Cohen's (1955) subcultural theory Functionalist	• Argues delinquency is carried out by groups not individuals, and that groups often commit non-utilitarian (not motivated by money) crimes • Working class boys experience status frustration at not succeeding in middle class school • They join/ form a delinquent subculture with an alternative status hierarchy where they will gain status for deviance

Key term	Definition
Crime	Any form of behaviour that breaks the law
Custodial sentences	Punishment where offenders will sentenced to go to prison or Young offenders institute
Crime rate	A measure of the level of criminal activity in a society based on crimes recorded by the police
Dark figure of crime	The unknown amount of criminal activity that is not reported or recorded to the police
Deviance	Any form of behaviour that does not conform to the norms of a society – this can be influenced by time, place, social situation and culture
Formal agencies of social control	Formal rules and social controls that tell everyone within society what is and is not acceptable e.g. the police, the courts, the government
Informal agencies of social control	The approval or disapproval of people around us that can influence and control our behaviour e.g. family , friends, peer group, schools, work, religion
Official crime statistics	Government statistics on crime based on official sources e.g. police records
Self-report study	A survey that asks respondents to identify crimes they have committed, but for which they have not been caught
Social construction of crime	What is considered criminal and deviant changes over time or when it takes place, therefore is socially constructed. No act is in itself criminal or deviant- it largely depends on how other member of society see it e.g. homosexuality
Victim survey	A survey that asks respondents about their experience of crime, regardless of whether or not those crimes have reported
Collective conscience	The shared beliefs that bind communities together and regulate individual behaviour
Deviant career	Deviant behaviour that develops over time due to labels. e.g. labelled a troublemaker at school and then goes onto commit crime later in life
Deviancy amplification	The exaggeration of a particular social issue as a consequence of media coverage, e.g. anti-social behaviour by groups of young people

2.2 Making Marketing Decisions – Part One

3

A business considers how the marketing mix manages each element, how it is used to make decisions and how it gives a competitive advantage in the market.

Product

The first part of the marketing mix is the product. This is what a business sells. It can be a physical, tangible item such as furniture, or it could be a service such as cleaning and valeting a car. The key to success is ensuring customers get value for money. A furniture shop should make sure their furniture is good quality, fashionable, long-lasting and comes with a guarantee. The car cleaning service should ensure there are no scratches on the paintwork of the car.

The design mix

Function

- How well does a product do its job? Some functions are easy, others are more complex. A pen, for example, is straightforward. Does it allow you to write properly? A dishwasher is quite complex; does it clean crockery properly, are there different settings?
- How easy is a product to use? There is no point having an item that is too complicated to use, e.g. a coffee machine. People might just start using instant coffee instead.
- How good is the service a business is offering? Is it fast, efficient and convenient? If not, customers might go elsewhere.
- Improving the functionality of a product can give a business a competitive advantage and stop customers going elsewhere.

Cost

- Cost is just as important as functionality and aesthetics. If a customer can't afford to buy a product, the business does not generate any sales and therefore does not make a profit.
- A business can make a product cheaply, with low costs, but might cut back on functionality and aesthetics, which may limit the number of sales.
- Cheap raw materials can make a product quite unattractive. For example, a pair of glasses with high prescription lenses can be produced quite cheaply if the lenses are not thinned. However, they would be undesirable to the wearer as the lenses would be too thick.

PRICE

Aesthetics

- Aesthetics refers to the way a product looks or feels.
- As well as being functional, a product must attract customers by being appealing or good to look at. However, this is not so important with some products such as medical dressings or painkillers. For these items, functionality is more important than what the packaging looks like.
- With items such as clothes and shoes, aesthetics is extremely important.

When producing a product, a business must think carefully about functionality, aesthetics and cost. Which is more important? If it improves one part of the design mix, would it impact another part? If a product works very efficiently but is too expensive, will it reduce sales? If a product is extremely attractive but doesn't do its job properly, will people buy it? Is it better to use cheaper materials to make a mediocre product that people can afford, or is it better to use dearer materials that will make a more desirable product that only a few people can afford?

Price

The price of a product is what a customer is willing to pay for it. Products that seem the same can be sold for different prices; for example, a cup of tea in a takeaway carton will be much cheaper than the same cup of tea sold at a 5-star hotel in a china teacup.

Pricing strategies

A business sets its selling prices by using pricing strategies. The strategy will depend on factors such as brand loyalty, popularity of the product with customers, how many items they have to sell, and the profit margin of the product. The two main pricing strategies are:

High-volume pricing strategy

This is where a lot of items are produced and sold for a low price.

High-margin pricing strategy

This is where a small number of items are produced and sold at a high price. A business can add value to a product and thus justify a higher price; for example, a designer handbag such as Radley or Gucci has far more value than a cheaper non-designer version.

Influences on pricing strategies

Technology

The amount customers will pay is influenced by technology. For example:

- Comparison websites help customers find the cheapest products on the market.
- Computer games are often free but have add-on purchases, such as extra lives and bonuses, which generate income.
- Apps showing the demand for a product; for example, the price of flights can change a lot depending on the demand for a particular journey.

Customers will pay a higher price for products that have added value. For example, a customer will pay more for a haircut in a salon where they are given a hot drink and magazines than a salon that provides no frills. Customers will also pay more for convenience, speed, reliability and a well-known brand name.

Competition

- Competitors can influence a business to lower its prices to encourage more customers.
- If there are few competitors around, a business might keep its prices high as it doesn't need to worry about the number of customers.
- A business might set a price of a product lower than its actual cost. This is called a loss leader and is done to entice customers into a shop so that they buy other products in the shop.

Market segments

- Some businesses sell products at different prices depending on the type of customer; for example, theatre tickets are sold at different prices to families, pensioners, students and for group bookings.
- Mass-market products, e.g. chocolate bars, are generally sold at a similar price as they are aimed at a large market where customers have a wide range of similar products.
- A business might sell a product at a high price to a niche market. This is a specialised market with only a few customers who are interested in a particular product; for example, racing cars. Customers are prepared to pay a high price for an unusual product.
- A business might sell a new product at a high price. When colour televisions were first introduced in the 1950s, very few customers had one, and customers were willing to pay a high price to be one of the first people to have one.

Product life cycle

- When a product starts its journey in the introduction stage, it will be priced low to encourage customers to buy it.
- As the product reaches the growth stage, the price will start to increase.
- In the maturity stage, the price will be more static.
- In the decline stage, the popularity of the product will fall though the price may not change.
- One extension strategy may be to lower the price of the product to encourage sales.

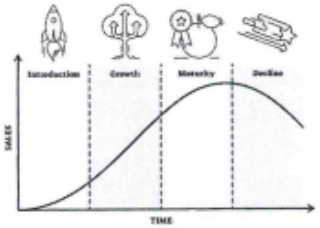
The product life cycle

The four phases of the product life cycle

- Introduction
- Growth
- Maturity
- Decline

Sales start off low in the introduction stage. They increase in the growth stage then slow down in the maturity stage. In the decline stage, sales start to fall.

PRODUCT LIFE CYCLE



A business can decide its pricing, promotion, production levels and its other products by using the product life cycle, which consists of four stages.

Extension strategies

What can a business do to extend the life of a product?

- Lower prices
- Increase advertising
- Rebrand the product
- Introduce variations on a product

2.2 Making Marketing Decisions – Part Two

4

A business considers how the marketing mix manages each element, how it is used to make decisions and how it gives a competitive advantage in the market.

Promotion

Promotion is the way a business tells its customers about its products and is usually done through advertising, often through posters, leaflets, television or radio. More recently, social media, the Internet and smartphone apps have changed the way businesses promote their products.

Advertising

A business will communicate with its customers through adverts. The more attractive, eye-catching, colourful and funny they are, the better. Adverts vary massively in price. Prime-time TV adverts (e.g. adverts during a World Cup football match) will be extremely expensive.

A business often uses an expert to do their advertising. If they get their advertising right, it should pay off as it will increase their sales.

Many different methods of advertising are used depending on the target market:

- Television, e.g. online channels such as QVC, national and local TV
- Radio, e.g. local, national
- Digital, e.g. social media, texts, apps
- Print, e.g. newspapers, brochures
- Roadside/outdoor, e.g. leaflets, billboards

Businesses use different methods to target their customers depending on which market segment they belong to.

Sponsorship

A business will fund an event, an activity or a person by giving them free products or money to support them.

This is very obvious when watching a football match as the sponsoring organisations have their brand name on the players' shirts and around the stadium.

Appropriate promotion strategies for different market segments

Special offers

These are used to entice customers to buy products that they don't usually buy and encourage them to become regular customers. It is an effective way of getting rid of old or surplus stock.

Common offers include BOGOF (buy one, get one free), percentage sale discount (e.g. 25% off) or email subscriptions (where customers receive a discount by signing up to a newsletter).

Product trials

A business will offer a free sample to a customer so they can try their product and then write a review on it. It can be an expensive promotional method but effective.

For example, Saw, an escape room challenge in London, offered potential customers the chance to try their escape rooms in exchange for a 45-minute survey to be completed by the participants.

Branding

Branding is used to identify a particular product by giving it a special name, logo, symbol or unique feature.

A product with a strong brand will attract customer loyalty and increase sales.

The use of technology in promotion

Technology has had a huge impact on promotion and advertising. Businesses can now communicate two-way with consumers and receive feedback on their products. It also enables advertising to be more global as it is far easier to communicate across the world, thus increasing customers.

Viral advertising via social media

Advertising can go viral when social media users share posts, messages, videos or images. This can increase sales or increase brand awareness and creates no extra costs for the business.

Targeted advertising online

Technology enables a business to use sidebar adverts and banners on websites to advertise effectively.

E-newsletters

A business might use an e-newsletter to communicate with its customers and give up-to-date information about its products. By sending e-newsletters by email, a business can send customers links to products which could encourage e-commerce (online shopping) and m-commerce (online shopping via mobile phones).

Place

Place is how customers receive their products from a business. Products can be collected by customers or delivered by the business. The place where a product is sold can add value to a product; for example, staying in a hotel in a popular tourist location. A business has to decide whether to sell online or provide a physical location where customers can view a product, or a mixture of the two (retailers vs e-tailers).

Methods of distribution

Retailers

Retailing is when a customer buys a product from a shop or a warehouse. Products can be delivered from a manufacturer to a warehouse and then to a shop which customers will visit to buy their products.

Advantages

- ✓ Customers can view products before buying, which is useful for products such as musical instruments.
- ✓ Customers receive face-to-face support.
- ✓ Customers can try on a product to make sure it fits. This is particularly useful with clothes and shoes.
- ✓ Some products have to have a physical location, e.g. a fairground or a restaurant.
- ✓ Businesses that offer services can add value by having a convenient location with parking or be near public transport.

Disadvantages

- × Rent and mortgage repayments are expensive which means the selling price might increase or the profit margin of products might decrease.

E-tailers (e-commerce)

E-tailing is the selling of products to customers via a website. Customers could either use the Internet (e-commerce) to access the website, or use an app on their mobile phone (m-commerce), e.g. Amazon.

Advantages

- ✓ No need to rent or buy premises, thus saving costs.
- ✓ Able to sell globally to increase the market share.
- ✓ Easier to set up as there are no premises to buy.
- ✓ New markets are able to grow, such as subscription boxes. This market has grown rapidly and sells products such as food and chocolates to subscribers, e.g. HelloFresh.

Disadvantages

- × People are wary of fake websites.
- × People want to try products before they buy.
- × A business would have to spend a lot of money on digital marketing to generate sufficient customers.
- × Businesses have large delivery costs and have to decide whether to pass on these high costs to the customers or reduce their profit margin.

Using the marketing mix to make business decisions

How each element of the marketing mix can influence other elements

- Each element of the marketing mix has an influence on the other elements.
- The price is affected by the product and its design mix, how it is promoted and where it is sold from.
- Promotion of the product is affected by how it is sold, e.g. online or from a physical location.
- The type of product affects the place it is sold from. If it is sold via the Internet, it must be possible to package it well. If it is a product that needs testing before purchase, the business will need to consider the 'place' carefully.

Using the marketing mix to build competitive advantage

One element of the marketing mix can have a bigger influence than the others. For example, a beach restaurant could be very successful due to its location. It might not advertise much, it might have high prices and the food might not be that amazing. However, its 'place' gives it a competitive advantage over other restaurants that are a distance away from the beach.

How an integrated marketing mix can influence competitive advantage

A business should aim to have one part of the marketing mix as a competitive advantage. It could be:

- the product (better than any other product)
- the place (more convenient than anywhere else)
- promotion (more advertising than any other business)
- the price (better value than anywhere else)

2.3 Making Operational Decisions – Part One

A business operates to meet the needs of its customers by the design, supply and quality of its products and services and by managing the sales process.

5

Business operations

The purpose of business operations

Business operations enable businesses to manufacture, sell and deliver their products to their customers. Labour (employees), materials (raw materials) and capital (money) are needed to do this.

To produce goods

Goods are tangible items that are sold by a business. (Tangible means you can touch the items.) Examples include cars, food, clothes and computers.

To produce services

Services are usually intangible (can't be touched) and are activities that are performed by a worker for a customer. Examples include a haircut, a car service, a dental check-up.

Working with suppliers

A business needs a good supplier it can rely on. Otherwise, this could lead to:

- Poor quality of raw materials, which will lead to poor-quality products being made
- Goods arriving late, which will lead to deadlines not being met
- Expensive goods or raw materials, which will lead to an increase in the selling price of products
- Poor reputation with customers, which will lead to lack of revenue and low profits

Managing stock

A business's stock is either the raw materials / ingredients needed to make a product, or the finished product. If a business holds a lot of stock it won't run out. However, this can be expensive as it needs to be stored, which can be expensive. Stock can be perishable and go out of date; the most obvious example being food. The two main ways by which a business can control its stock are bar gate stock graphs and just-in-time stock control.

Flow

Products are produced on mass on a large scale. Typical items produced this way include computers, smartphones and tinned food.

Advantages

- As a lot of products are made at the same time, a business can benefit from economies of scale as items are mass produced.
- A business can be more competitive as it can reduce its prices.
- Production systems are more automated which means only low-skilled staff are needed which will reduce employee costs.

Disadvantages

- The machinery needed initially can be costly.
- Products can be too standardised, not allowing for any flexibility.

The use of just-in-time (JIT) stock control

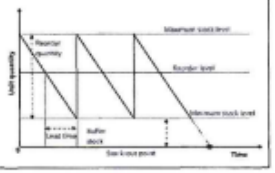
A business might order stock only when it needs it. This is known as just-in-time stock control and is often used in the car industry. Parts for the car arrive at the factory just as they are needed; for example, the bonnet for the car arrives just as it is due to be fitted.

- A business decides how many products it wants to make in a day, orders the correct amount of raw materials from the suppliers, makes the products that day, and then reorders more raw materials for the next day.
- For JIT stock control to work, the business has to be very organised. The suppliers have to be very reliable but it cuts down on storage costs for the business.
- However, if the raw materials are not delivered on time, it stops production, which leads to poor customer satisfaction, less repeat business and lower profits.

Interpretation of bar gate stock graphs

A bar gate stock graph shows how much stock a business is holding. It helps a business make decisions about how much stock to have available, when to order more stock and how much stock it needs. This type of graph shows the:

- time period
- maximum stock level (the business may not be able to stock any more)
- reorder level (the business needs to order new stock in time otherwise it might run out if the delivery times are long)
- minimum stock level (the business does not want to run out of stock)
- lead time (the amount of time between new stock being ordered and being delivered)



Production process

Job

Job production makes one product at a time. Each item is different, e.g. bespoke furniture which is made specifically to the customer's needs. The employees are highly skilled and automation is low. The rate of production is slow; the cost of production is high.

Advantages

- Each product will match the customer needs specifically so there should be high customer satisfaction.

Disadvantages

- Highly skilled workers are hard to find and are expensive.
- Products are very expensive so the business may not make many sales.

Batch

Products are produced in batches which means that several products are made at the same time. Once the batch has been produced, the business can alter the product before it produces its next batch.

Advantages

- As several products can be made at the same time, it will reduce costs.
- It allows alterations to be made at the end of each batch which will allow for variation or the elimination of errors.

Disadvantages

- There can be wasted time between the production of batches. This can lead to lower sales and falling profit.

The impact of different types of production processes

Many businesses use all three methods of production when making their products. For example, when making a wedding cake, batch production might be used to make the cake, while job production could be used to decorate the cake. This can also apply to services such as hairdressing – one member of staff might wash several people's hair while different trained specialists might be used for techniques such as colouring or highlights.

Impacts of technology on production

Flexibility

NEW UPDATE

Technology can help a business to be more flexible by automatically updating quantities of products or changing colours, size or material more easily than by hand.

Quality

Technology can improve quality of products as items are more standard and less subject to human error. It can also improve customer service as systems are automated and communication can be more efficient.

Balancing cost

Technology such as computer-aided manufacturing (CAM) can help a business reduce costs by making mass-produced items such as cars.

Productivity

Technology can help a business become more productive with the introduction of a supply chain management system (SCM) which helps manage deliveries to customers. It also uses barcode systems to manage stock levels and prevent running out of products.

The role of procurement

Relationships with suppliers

A business needs a good relationship with its suppliers to be as successful as possible. The following are important:

Quality: Quality is vital when choosing a supplier. If goods are faulty, it will lead to a bad reputation and poor sales. It will also increase the number of returned products, which increases costs.

Delivery: Cheap delivery is not necessarily the best, as goods might be damaged in transit if delivery companies cut costs, or they may be late. It might be best to pay more for a reliable, efficient delivery service.

Availability: Availability is very important because if a supplier has no goods to sell, a business cannot function or meet its customers' needs.

Cost: The cheaper the better is not always the case. If raw materials are cheap, the quality may be poor, deadlines may not be met or deliveries might be late.

Trust: Trust between a supplier and a business is important. A business wants to know it is getting good-quality goods that are available at a reasonable price, while a supplier needs to know they will get paid on time. Some suppliers will draw up a contract between themselves and a business which creates a strong working relationship.

The impact of logistics and supply decisions

Logistics is another name for transporting and delivering goods which need to be transported from the supplier to the business and then delivered to the customer. It has three main impacts:

Costs: If logistics are well organised, it can reduce costs. For example, if all the deliveries in the North West of England are scheduled for a Monday, and all the deliveries in the South East are scheduled for a Friday, it could save a lot of time, fuel and wages, rather than deliveries taking place at any time of the week to anywhere.

Reputation: Poor logistics can give a business a bad reputation. If deliveries go smoothly, the business will get a good name for itself.

Customer satisfaction: Low costs and a high reputation will give excellent customer satisfaction which encourages repeat business and increases profits.

2.3 Making Operational Decisions – Part Two

A business operates to meet the needs of its customers by the design, supply and quality of its products and services and by managing the sales process.

Managing quality

The concept of quality and its importance

Quality is the standard of goods or services expected by a customer. This can be measured by how long a product lasts, how good the ingredients are or how well a product is made or how successful a service is. The quality required by a customer varies depending on their expectations. Some customers would be delighted with a second-hand Fiesta while others would only be satisfied with a new Ferrari! Quality is extremely important as it determines whether or not a customer will buy a product/service.

Quality of a product can be judged by:
- its brand name (e.g. Porsche)
- its price (it's expensive therefore it must be good!)
- its ability to do its job (a dishwasher washes the pots so therefore it's good quality)

The production of goods and the provision of services

Quality control
- Quality control is when a product is checked at the end of the production process when it has been made.
- The standard and the safety of the product are checked.
- A service can also be checked by giving customers questionnaires to complete, by using mystery shoppers or by offering customers the chance of entering a prize draw if they give feedback.
- Quality control does not fix a faulty product. It can only withdraw it from the production line.
- Quality control assesses the final product.

Quality assurance
- Quality assurance is when a product is checked at each stage of the production process.
- Any products that have faults are taken off the production line.
- As products are checked throughout the process while they are being made, quality control at the end of the process is not so important.
- However, quality assurance can be expensive which could increase the selling price of the product.
- Quality assurance assesses the process.

Quality marks

Some products or services can attract quality marks if the quality assurance process meets national standards. The business can then use the quality mark logo to show potential customers their products or service are of a certain standard. Examples of quality marks include:
- **Kitemark** – a safety award given to products that meet a certain safety standard
- **Investors in People** – an award given to businesses who train and manage their staff to a certain standard
- **CE marking** – an award given to products that meet a European standard of health, safety and environmental protection legislation
- **ISO 9001** – sets an international standard for a quality management system

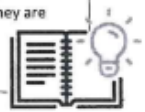
Allowing a business to control costs and gain a competitive advantage

Quality is important as good-quality products can give a business a competitive advantage. This increases customers, repeat business and sales revenue, thus leading to more profit.
- Quality can also help a business control costs.
- It is not always cost-effective to buy cheap raw materials as the finished product might be of poor quality. This can cause it to break which will increase the number of sales returns sent back to the business. This will have a negative effect on the business's reputation and revenue.
- It might encourage a business to change suppliers so it can keep its customers satisfied.

The sales process

Product knowledge

An employee with excellent product knowledge is more likely to secure a sale than an employee who knows nothing about a product. When buying a large item such as a new kitchen, the salesperson must know what they are talking about to show competency and gain the trust of the customer.



Customer engagement

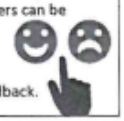
Skilled employees are vital to a business when selling products or providing services that need a lot of interaction with a customer. Buying a loaf of bread doesn't take long but when buying a product such as a car, a lot of rapport needs to be built up between the customer and the employee to guarantee a sale and provide excellent after-sales service.

Speed and efficiency of service

The quicker and more efficient the service from a business, the more customers will be satisfied. This will cause them to become repeat customers and will encourage them to recommend the business by word of mouth to other potential customers, thus causing sales to increase and profits to rise.

Responses to customer feedback

A business needs to respond to customer feedback to improve its product or service. It should find out from the customer what improvements can be made and should put these in place. Suggestions from customers can be found using questionnaires and suggestion boxes. Also, a business could give out free samples to potential customers to gather feedback.



Post-sales service

A business needs to provide customers with an after-sales service. This can involve supporting a customer while getting used to a new product or replacing a broken part. It can be expensive to do this, but it gives the business an excellent reputation. The business will benefit from positive word-of-mouth recommendations from the customer to friends and relatives.

The importance to businesses of providing good customer service

A business must provide excellent customer service if it wants to retain customers and keep a good reputation.

Customers are interested in the following criteria:
- **Speed of delivery** – will a product be delivered on time or will there be a long wait?
- **Accuracy of product** – does it do what it says it does?
- **Friendliness of staff** – grumpy staff can stop a customer returning
- **Efficiency** – if a product is broken, customers will not want to go back to the shop
- **Reasonable selling price** – if a price is too high, customers will not want to buy
- **Good after-sales service** – if there is no aftercare, customers will not want to use a business
- **Honesty** – can the shop be trusted?
- **Meets legal standards** – has all safety legislation been met?
- **Excellent communication throughout** – customers are not interested in a business that will not respond to questions and enquiries

Qualitative methods to assess customer service
- Questionnaires
- Mystery shoppers
- Focus groups

Quantitative methods to assess customer service
- Sales figures for each employee
- Number of enquiries dealt with

A1: Examples of Fitness Tests	
Aerobic endurance	Multistage Fitness Test Yo-Yo Test Harvard Step Test 12 Minute Cooper Run
Muscular endurance	One-minute Sit-Up Test One-minute Press-Up Test Timed Plank Test
Muscular strength	Grip Dynamometer One Rep Max Test
Speed	30m Sprint Test
Flexibility	Sit and Reach Test Shoulder Flexibility Test
Body composition	Body Mass Index Bioelectrical Impedance Analysis Waist to Hip Ratio
Power	Vertical Jump Test Standing Broad Jump
Agility	Illinois Agility Test T-Test
Reaction time	Ruler Drop Test
Balance	Standing Stork Test Y Balance Test
Coordination	Wall Toss Test Stick Flip Test

Pre Test Procedures

Calibrate Equipment

Adjusting equipment to make sure it will measure the test accurately.

Informed Consent

Participants need to know what they are signing up for and consent to taking part. They can withdraw their consent at any time.

Complete a PAR-Q

This is a questionnaire that participants must complete before a test listing what health conditions they may have.

Pre-fitness Check

Participants also must inform you about their overall fitness levels and experience to ensure they can safely participate.