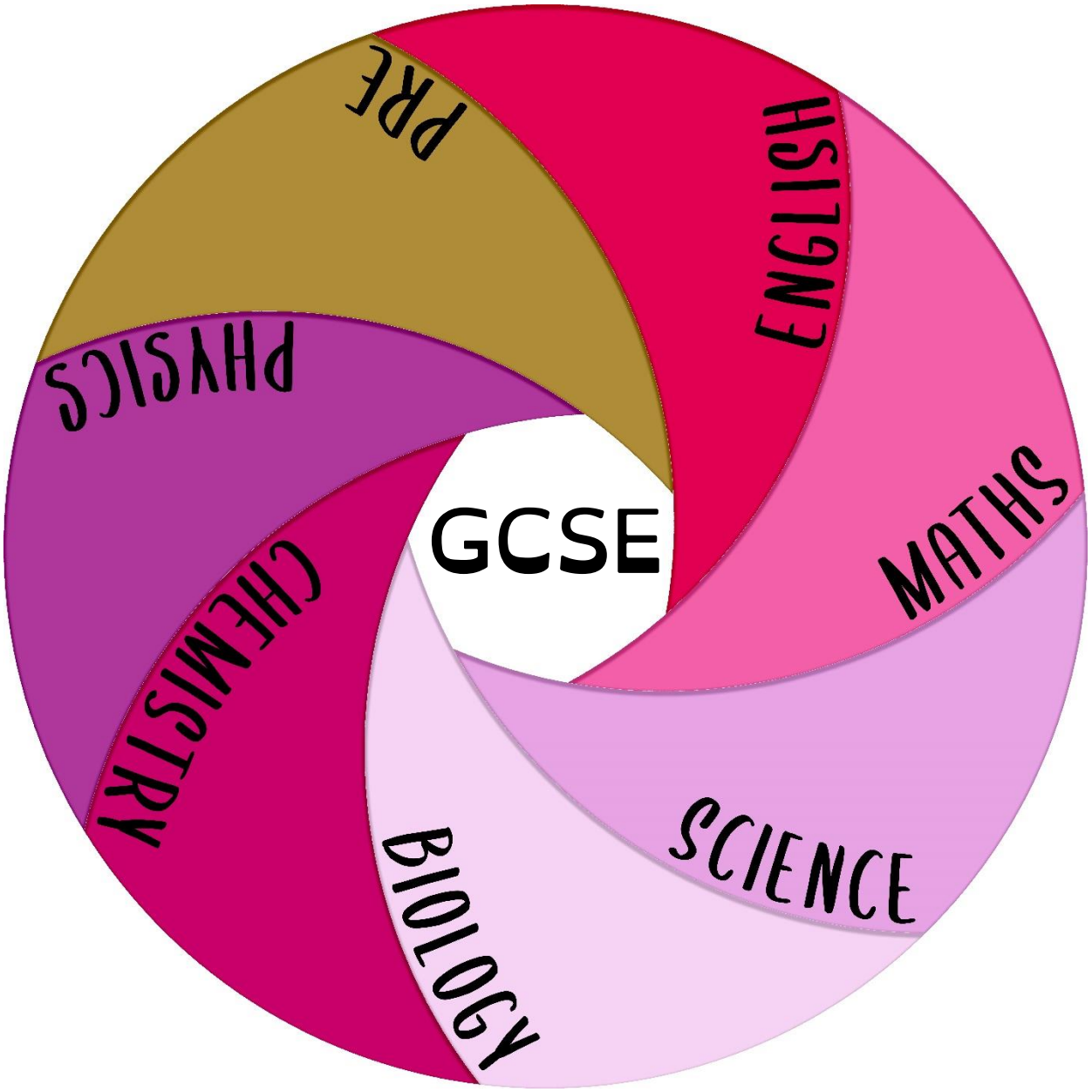
Name: _____

Tutor: _____

Tutor Group: _____

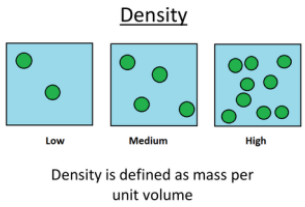
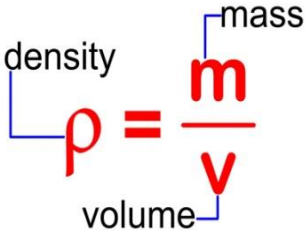
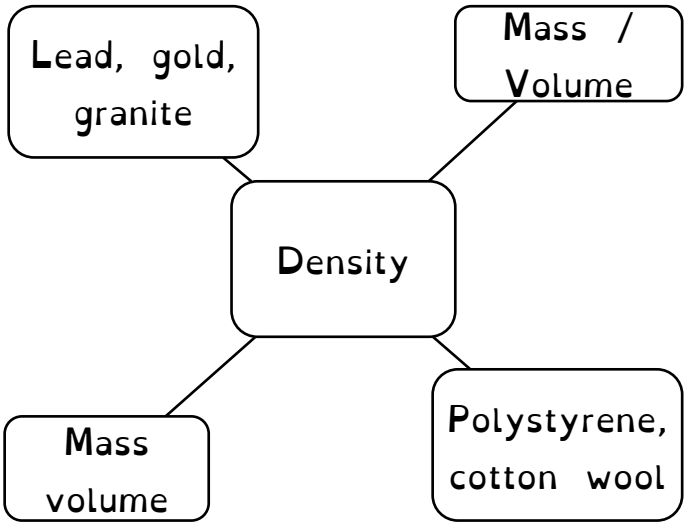


Guildford County School
SPECIALIST MUSIC COLLEGE

GCSE Core Vocabulary Booklet

VOCABULARY ACTIVITIES

"Density"

Define	Draw	In a sentence	Symbol
Density – the mass of matter per unit volume		Iron has a higher **density** than wood.	
Antonyms	**Synonyms**	**Etymology**	**Simile**
Dispersion Lightness	Concentration Compactness Tightness	From the Latin word 'densus' meaning 'thick' or 'dense'	As dense as marble
Play:	**Draw a Word Map**		**Gesture**
Ideas include: Pictionary Taboo Charades 20 questions			

ENGLISH

Key Word	Meaning or Example in a Sentence
	Types of Words
Abrupt	Using too few words when talking, in a way that seems rude and unfriendly.
Adjectives	An adjective describes a noun or a pronoun.
Adverb	An adverb describes a verb.
Colloquial	The use of informal, everyday words and phrases or slang e.g. 'I'm gonna grab a soda'.
Emotive	Emotive language is the deliberate choice of words to elicit emotion, e.g. 'The victims were executed in cold blood.'
Explicit	Fully and clearly expressed; leaving nothing merely implied.
Formal	It is used when writing for official, professional or academic purposes.
Grandiloquent	Pompous or extravagant language, especially in a way that is intended to impress.
Grandiose	Using language that is more complicated elaborate than necessary; overblown.
Harsh	Unpleasant to the ear; grating; strident: unpleasant in action or effect.
Implicit	Where something is suggested but not communicated directly.
Intellectual	Language that talks about ideas or theories, using specialist words.

ENGLISH

Key Word	Meaning or Example in a Sentence
Lexical field of...	A collection of words which are related to one another be it through their similar meanings, or through a more abstract relation.
Literal	Completely straightforward language that means exactly what it states.
Negative	A word with a negative meaning e.g. dishonest, broken, hate.
Noun	A noun is a part of speech that names a person, place, thing or idea.
Positive	A word with a positive meaning, e.g. elegant, durable, inspiring.
Pronoun	A pronoun is a word that replaces a noun in a sentence e.g. he, us, I.
Prosaic	Ordinary language (prose), not poetic. Can mean dull.
Quotidian	Ordinary or every-day.
Romantic	Examples are 'A dream come true', 'adorable' and 'magical'.
Sensory	They describe how we experience the world: related to the physical senses of touch, smell, taste, sight, and hearing.
Superlative	An adjective that describes how a person or thing stands out from a group e.g. 'Katy is the tallest girl in the class.'
Verb	A verb tells us about an action or a state.
Violent	Examples; gunning for trouble, armed with the facts, blown away.

ENGLISH

Key Word	Meaning or Example in a Sentence
Sentence Types and Forms	
Circumlocution	A form of writing where the writer uses exaggeratedly long and complex sentences in order to convey a meaning that could have otherwise been conveyed through a shorter, much simpler sentence.
Clause	A group of words, consisting of a subject and a verb. E.g. 'During the day, Helen worked at the office.'
Colon	A punctuation mark (:) used to precede a list of items, a quotation, or an expansion or explanation.
Comma	A punctuation mark (,) indicating a pause between parts of a sentence or separating items in a list.
Complex	A sentence with a subordinate clause. E.g. 'George wanted to stay outside, despite the driving rain and wind.'
Compound	Has 2 or more clauses that make sense on their own. E.g. 'George realised he could hear voices, so he walked quickly back to the house.'
Compound-complex	Has at least two independent clauses and at least one subordinate clause. E.g. 'Kate doesn't like cartoons because they are loud, so she doesn't watch them.'
Conditional	"If" one thing happens, "then" another thing will happen. E.g. 'If I drink this cup of coffee, I will feel more awake.'
Declarative	Expresses a direct statement. E.g. 'Marie loves the beach, yet she hates sand.' 'Ice is cold.'
Dialogue	A conversation between 2 or more people.

ENGLISH

Key Word	Meaning or Example in a Sentence
Elliptical	A sentence where words have been left out but you can still understand the meaning. E.g. 'Jess has four dogs; Sarah, three.'
Exclamation	A sudden cry or remark expressing surprise, strong emotion, or pain.
Imperative	Are used to issue a command or instruction, make a request, or offer advice. E.g. 'Pass the salt.'
Interrogative	Asks a direct question and is punctuated at the end with a question mark. E.g. 'What is the right way to iron a shirt?'
Long	Long sentences can add poetic power and rhythm to your writing—as long as you know how to write a good one, without running out of breath.
Minor sentence	A minor sentence is an incomplete sentence that still makes sense without all the necessary information. E.g. 'I needed help. Fast!', 'Like father, like son.'
Object	The object of a sentence is the person or thing that receives the action of the verb. E.g. The cat sat on the mat.
Paragraph	A distinct section of a piece of writing, usually dealing with a single theme and indicated by a new line, indentation, or numbering.
Question mark	A punctuation mark (?) indicating a question.
Semi-colon	A punctuation mark (;) indicating a pause, typically between two main clauses, that is more pronounced than that indicated by a comma.
Short	Examples are, 'Call me Ishmael.',' I smiled.',' Help!'

ENGLISH

Key Word	Meaning or Example in a Sentence
Simple	Has just one main verb. E.g. 'He walked quickly back to the house.'
Speech	In direct speech, quotation marks are used to separate the quoted words from the rest of the text.
Statement	A statement sentence asserts or declares a fact, opinion or idea.
Subject	The subject of a sentence is the person, place, thing, or idea that is doing or being something. E.g. The cat sat on the mat.
Subordinate clause	Relies on another part of the sentence to make sense. E.g. 'Helicopters can fly, if they have fuel.'

Language Techniques

Allusion	An implied or indirect reference to a person, event, or thing or to a part of another text.
Ambiguity	A statement which has two or more possible meanings or whose meaning is unclear.
Analogy	A comparison between one thing and another, typically for the purpose of explanation or clarification e.g. 'Life is like a box of chocolates.'
Anecdote	A short, often funny story, especially about something someone has done.
Anthropomorphism	The showing or treating of animals, gods, and objects as if they are human in appearance, character, or behaviour.
Antithesis	The exact opposite.

ENGLISH

Key Word	Meaning or Example in a Sentence
Comparative	Comparative adjectives are used to compare differences between the two objects they modify (larger, smaller, faster, higher).
Contrasting	To compare in order to show unlikeness or differences; note the opposite natures, purposes, etc.
Dialogue	A conversation between 2 or more people.
Euphemism	A polite or mild word or expression used to refer to something embarrassing, taboo, or unpleasant.
Hyperbole	Exaggerated statements or claims not meant to be taken literally.
Imagery	The use of figurative language to create a sensory experience in the reader.
Incremental repetition	One or more line is repeated with small but significant changes that advance the action.
Irony	A difference between the surface meaning of something that is said and the underlying meaning. It can also be a difference between what might be expected to happen and what actually occurs.
Juxtaposition	A literary technique in which two or more ideas, places, characters, and their actions are placed side by side in a narrative or a poem, for the purpose of developing comparisons and contrasts.
Metaphor	A comparison between two things that states one thing is another e.g. 'The mind-forged manacles I hear'
Metonymy	A figure of speech that replaces words with related or associated words. A metonym is typically a part of a larger whole, for example, when we say

ENGLISH

Key Word	Meaning or Example in a Sentence
	"wheels," we are figuratively referring to a "car" and not literally only the wheels.
Monologue	A long speech by one person.
Oxymoron	A figure of speech in which two opposite ideas are joined to create an effect e.g. foolish wisdom.
Paradox	A statement that appears to be self-contradictory or silly, but which may include a latent truth e.g. 'I am nobody'.
Personification	Where something that is not human is given human characteristics e.g. The car complained as the key was roughly turned in its ignition.
Pun	A joke based on the interplay of homophones — words with the same pronunciation but different meanings. It can also play with words that sound similar, but not exactly the same e.g. 'A boiled egg every morning is hard to beat!'
Repetition	Repeating different words or phrases. Repetition creates structure within a poem, and it helps readers focus on a thought or emotion the poet would like them to notice.
Rhetoric	Speaking or writing that's intended to persuade.
Simile	A comparison between two objects or ideas which is introduced by 'like' or 'as'. E.g. 'the flung spray... spits like a tame cat'.
Symbol	In literature, symbols are often characters, settings, images, or other motifs that stand in for bigger ideas.

ENGLISH

Key Word	Meaning or Example in a Sentence
Tone	The attitude or approach that the author takes toward the work's central theme or subject. Works of literature can have many different types of tone, such as humorous, solemn, ironic, sentimental etc.
Understatement	A statement that describes something in a way that makes it seem less important, serious, bad, etc. than it really is.
Zoomorphism	When animal characteristics are assigned to humans, gods and inanimate objects e.g. 'My brother eats like a horse.'
Sounds	
Alliteration	e.g. Jolly Jake, curious cat
Assonance	The repetition of vowel sounds in neighbouring syllables e.g. deep sea
Cacophony	The use of a combination of words with loud, harsh sounds.
Consonance	Repetitive sounds produced by consonants within a sentence or phrase e.g. rain soaks, and clouds sag stormy
Dissonance	Injects discomfort into text through inharmonious sounds and uneven rhythms.
Euphony	The use of sounds that are meant to be soothing e.g. 'Season of mists and mellow fruitfulness'
Fricative	A consonant sound, such as s, z, th, f or v, produced by bringing the mouth into position to block the passage of the airstream, but not making complete

ENGLISH

Key Word	Meaning or Example in a Sentence
	closure, so that air moving through the mouth generates audible friction.
Nasal	The comes out through the nose, producing mellow sounds e.g. 'The moan of doves in immemorial elms and the murmuring of innumerable bees.'
Onomatopoeia	Words or sounds which appear to resemble the sounds which they describe e.g. Pop!
Plosive	A consonant that is produced by stopping the airflow using the lips, teeth, or palate, followed by a sudden release of air. E.g. t, k, and p (voiceless) and d, g, and b (voiced).
Sibilance	The use of hissing sounds such as s, sh and ch. E.g. 'the flung spray hits The very windows, spits like a tame cat Turned savage.'
Syllable	A distinct sound within a word e.g. Holiday has 3 syllables, hol - i – day.

Connectives

Because	She ate because she was hungry.
Consequently	He did not concern himself with the interests of his own class, and consequently some thought him proud and others thought him stupid.
Even though	He shouted out, even though he'd been told not to.
Hence / so	Our server was down, hence the delay in responding.
However	The movie got good reviews; however, it was very long.

ENGLISH

Key Word	Meaning or Example in a Sentence
In contrast	In contrast with your belief that we will fail, I am confident that we will succeed.
Nevertheless	What you said was true but nevertheless unkind.
Similarly	The term "flora" is used in botany collectively for the plant growth of a district; similarly, "fauna" is used collectively for the animals.
Therefore	You had no real knowledge and therefore no way to make a wise decision.
Unless	You can't go out unless you do your homework.

ENGLISH

What Structural Techniques Can I Look For?

Think about how the writer has decided to put the piece together:

- How does the piece start? Introductions are always significant.
- How does the piece end? Endings are what readers are left with.
- Is there some kind of sequence? Is flashback used?
- Is foreshadowing used, or pathetic fallacy?
- Does the piece move from broad ideas to detailed, specific ones, or the opposite?
- Does the piece take different perspectives or viewpoints, for example, inside and outside?
- When does the piece shift its perspective and focus? Why?
- What type of narration is used? First (I), second (you) or third (he, she, they). Omniscient? Central? Peripheral? Does it shift? Why? Does a third-person narrator choose to take a certain character's point-of-view?
- Are there repetitions, re-iterations, threads, patterns or motifs?
- Are there links or references made between paragraphs (cohesion)?
- Does the conclusion refer back in some way to the introduction (circular structure)?
- Are there any significant discourse markers or connectives that represent a shift in focus or mood?
- Are there any juxtapositions, or incongruences, or parallels, or any other patterns?
- Is it structurally regular, stable and cohesive; or irregular, unstable and fragmented?
- Does the ending raise questions that remain unanswered?

Remember that, if you find anything of note structurally, you have to talk about the effect it has, which means linking it specifically to an idea/theme/character/setting/mood within the text.

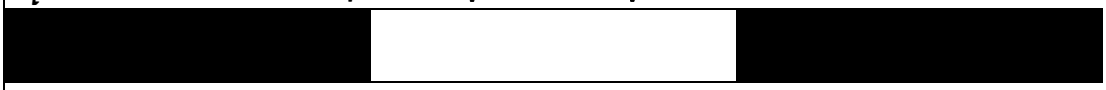
MATHS

Key Word	Definition
	Number
<	Greater than 5 < 2
>	Less than 2 < 5
≥	Greater than or equal to 5 ≥ 5 7 ≥ 5
≤	Less than or equal to 5 ≤ 5 2 ≤ 5
Cube numbers	To find the cube of a number you multiply it itself twice. For example, 4 cubed = $4^3 = 4 \times 4 \times 4 = 64$
Depreciates	Means 'goes down in value'
Direct proportion	When two quantities are in direct proportion, as one increases or decreases, the other increases or decreases at the same rate. Two quantities in direct proportion have a straight-line graph through zero
Estimate	Before doing the calculation, round each number to 1 significant figure
Evaluate	Evaluate means work out
Factor	A factor goes into another number with no remainder
Highest Common Factor	The highest common factor of two numbers is the largest number that is a factor of both numbers.

MATHS

Key Word	Definition
Improper fraction	An improper fraction has a numerator that is bigger than its denominator, for example $\frac{7}{4}$
Index or Power	The '2' in 3^2 is called the power or index. **Indices** is the plural of index
Integer	A whole number. It can be positive, negative or **0**.
Inverse proportion	When two quantities are in inverse proportion, as one increases the other decreases at the same rate.
Lowest Common Multiple	The lowest common multiple of two numbers is the smallest number that is a multiple of both numbers
Mixed number	A mixed number has a whole number part and a fraction part, for example, $1\frac{3}{4}$
Multiple	A multiple is a number that is in a times table.
Order of Operations	You must use the priority of operations to do calculations. Use BIDMAS **B**rackets **I**ndices (powers) **D**ivision and **M**ultiplication **A**ddition and **S**ubtraction
Prime factor decomposition	All positive integers can be written as a product of prime factors. This is called prime factor decomposition. $30 = 2 \times 3 \times 5$
Prime numbers	A prime number has exactly two factors, **1** and itself. **1** is **not** a prime because it only has one factor.
Product	A product is the result of a multiplication. e.g. the product of **3** and **4** is **12**.
Proportion	A proportion compares a **part with a whole**. You can write proportion as a fraction, a decimal or a percentage.

MATHS

Key Word	Definition
Ratio	A ratio is a way of comparing two or more quantities. It compares **part to part.**  The ratio of black to white is **2 : 1**
Reciprocal	The reciprocal of a fraction is the inverse of the fraction. For example: $\frac{1}{2}$ *is the reciprocal of* 2 $\frac{4}{5}$ *is the reciprocal of* $\frac{5}{4}$ $2\frac{1}{2}$ *is the reciprocal of* $\frac{2}{5}$ Multiplying by 2 is inversed by multiplying by $\frac{1}{2}$
Recurring	In a recurring decimal, a dot over the beginning and end of the sequences shows it recurs (repeats infinitely) $0.\dot{4}$ means **0.44444...** $0.\dot{5}42\dot{6}$ means **0.542654265426...** Sometimes it might be written as a line $0.\dot{5}42\dot{6}$ *means* $0.\overline{5426}$
Significant figures s.f.	You can round numbers to a given number of significant figures. The first significant figure is the one with the highest place value. It is the first non-zero digit in the number counting from the left.
Square numbers	To find the square of a number you multiply it by itself
Square root ($\sqrt{25}$)	A square root can be both positive and negative $\sqrt{25}$ is **5** and **-5**. This is because 5×5 and -5×-5 both give **25**.
Surd	A surd is an irrational number that cannot be written as a fraction.

MATHS

Key Word	Definition
VAT	VAT stands for 'value added tax'. It is a tax you pay on most purchases
Venn Diagram	A Venn diagram is a way of showing sets of values. It can be useful for finding HCF and LCM of larger numbers.
ξ	This Greek letter Xi represents the universal set – the set of all values being considered.
	Algebra
Arithmetic sequence	An arithmetic sequence goes up or down in equal steps. For example, 14, 11, 8, 5, 2, ... goes down in steps of 3.
Coefficient	The name for the number in front of a letter.7 is the coefficient in $7y^2$
Distributive law	When you multiply out a bracket, multiply every number inside the bracket by the number outside the bracket. $5 \times (3 + 12) = 5 \times 3 + 5 \times 12$ This is called the distributive law.
Equation	An equation contains an unknown number (a letter) and a '=' sign. To solve an equation means to work out the value of the unknown number.
Expand	Multiply out the brackets
Expression	1 or more terms, no equals sign. For example: $4a$ $5 - 8pw$ $3(w - t) + 8w$ are all expressions
Factorise	To put an expression into brackets.

MATHS

Key Word	Definition
Fibonacci Sequence	Named after the Italian mathematician Leonardo Fibonacci, it is a sequence where you add the previous 2 terms to get the next term.
Formula	A formula shows the relationship between different variables, written as words or letters. You can use a formula to work out an unknown value by **substituting** the value that you do know into the formula.
Function	A function is a relationship between two sets of numbers. The numbers that go into function machines are called the **inputs**. The numbers that come out are called the **outputs.**
Geometric sequence	In a geometric sequence the term-to-term rule is 'multiply by __' You find each term by multiplying the previous term in the sequence by a constant value called the common ratio.
Identity	An equation that holds for all values of the variables. Usually use the ≡ symbol. $2a + 2b \equiv 2(a + b)$
Like terms	Algebraic terms which contain the same letter are 'like terms' $7a$ and $3a$ are like terms. $3ab$ and $4ba$ are like terms. $10a$ and $5b$ are **not** like terms.
Linear expression	A linear expression is one where the highest power is 1. For example, $2x + 5$ and $a + 25$ are linear expressions, $2x^2 + 5$ is **not.**

MATHS

Key Word	Definition
nth term rule	You can use algebra to write the position-to-term rule. It is called the nth term because it tells you how to work out the term at position n (any position)
Quadratic expression	A quadratic expression is one where the highest power is 2. For example, $2x^2+5$ and $7-x^2+2x$ are quadratic expressions
Simultaneous	Simultaneous means to do two or more things at the same time. **Simultaneous equations** are pairs of equations that need to be solved together.
Term-to-term rule	The term-to-term rule tells you how to get from one term to the next in a sequence. It can be adding, subtracting, multiplying, and dividing.
Data and Probability	
Average	The average of a set of data gives a typical value for the data. The mode, median and mean are different ways of describing the average of a set of data.
Compound bar chart	A compound bar chart combines different sets of data in one bar
Continuous Data	Continuous data can be measured. It can take any value You can use groups/classes like $0 \le t < 10$, $10 \le t < 20$, $20 \le t < 30$, ... There are no gaps.
Discrete Data	Discrete data can be counted. It can only take specific values.

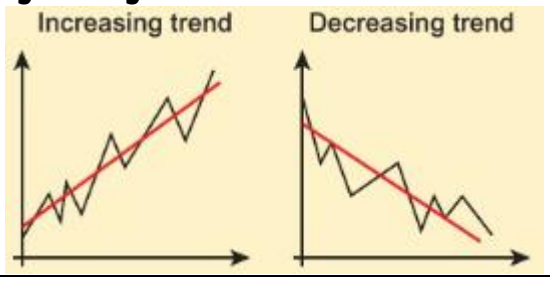
MATHS

Key Word	Definition
	You can use groups like **1 – 10**, **11 – 20**, **21 – 30**, ... Bar charts of discrete data must have gaps between the bars.
Dual bar chart	A dual bar chart compares two sets of data
Even chance	The chance of it happening is **50%**
Event	The word event is used in probability to mean something that might happen, for example, a coin landing on heads, it is going to rain tomorrow, and so on...
Experimental probability	You can estimate the probability of an event using the results of an experiment. This is called finding the experimental probability. Experimental probability = $\frac{freqeuncy\ of\ event}{total\ frequency}$
Fair	Fair means that all outcomes are equally possible.
Frequency	The frequency of a value is the number of times it occurs
Frequency table	A frequency table shows how many of each value there are in a set of data
Independent	Two events are independent if one happening does not affect the probability of the other.
Knot	A 'knot' is a unit of speed used on ships and aircraft.
Line of best fit (on a scatter graph)	A line of best fit shows the relationship between two sets of data. There should be roughly the same number of crosses on each side of the line. There may also be crosses on the line.

MATHS

Key Word	Definition
Mean	The mean of a set of values is the total of the set of values divided by the number of values.
Median	The median is the middle value when the data is put in size order.
Modal class	The modal class is the **class/group** with the highest frequency
Mode or Modal value	The mode is the most common value.
Mutually exclusive	Two events are mutually exclusive if they cannot happen at the same time. The temperature outside being 30 degrees and it also snowing are mutually exclusive events.
Outcome	An outcome is an end result. For example, one outcome of flipping a coin is heads.
Outlier or Extreme value	A value that is much bigger or smaller than the other values
Pie chart	A pie chart is a circle divided into slices called **sectors.** Each sector represents a fraction of the data.
Random	Picking an item at random means that each item has the same chance of being picked.
Range	The range is the difference between the smallest and largest value. The larger the range the more spread out the data is.
Relative frequency	For a set of data, the relative frequency of a value $= \frac{frequency\ of\ value}{total\ frequency}$ You can calculate the expected frequency of a value in a larger data set.

MATHS

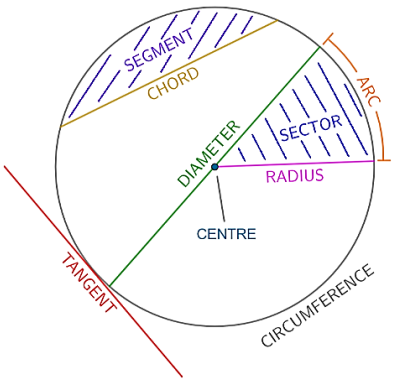
Key Word	Definition
Sample space diagram	A sample space diagram shows all the possible outcomes of two events.
Statistic	A statistic is a way of describing a set of data. Averages and the range are statistics.
Theoretical probability	The theoretical probability of an event is the probability of an event happening based on the number of outcomes.
Tree diagram	A tree diagram shows two or more events and their probabilities.
Trend	Line graphs can help you identify trends in the data. The trend is the general direction of the change, ignoring the individual ups and downs. 

Shape

Accurate drawings	Accurate drawings are drawn to scale, with accurate angles. Use a ruler and protractor to make accurate drawings.
Adjacent	Means 'next to'. The numbers 5 and 6 are adjacent to each other.
Angle bisector	An angle bisector cuts the angle exactly in half. You use a compass to construct this.
Area	Area is the space a 2D shape occupies. The units used for area are square units such as cm^2 which you read as 'square centimetres'

MATHS

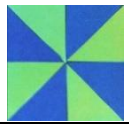
Key Word	Definition
Bearing	A bearing is used in navigation to describe an angle measured clockwise from north.
Bisect	Means 'cut in half'
Capacity	How much a container can hold. Measured in litres, ml and cm^3
Circle	
Arc	Part of a circumference.
Chord	The line segment joining two points on a curve.
Circumference	The perimeter of the circle.
Diameter	The length across the circle, passing through the centre. It is double the radius.
Radius	The length from the centre to the outside.
Sector	Like a slice of cake.
Segment	Like the segment of an orange.
Tangent	A line touching the circumference in one place.
Column vector	You can describe a translation using a column vector. The top number tells you the horizontal movement and the bottom tells you vertical movement. $\begin{pmatrix} 4 \\ -5 \end{pmatrix}$ means 4 right, 5 down
Congruent	Shapes are congruent if they are the same shape and size. For example, these shapes are congruent



MATHS

Key Word	Definition
	In congruent shapes, corresponding sides and corresponding angles are equal. 
Construct	Means to draw accurately using a ruler and compasses.
Diagonal	A diagonal is a line joining two opposite vertices (corners)
Dimensions	Dimensions is another way of saying lengths or widths
Edge	Where 2 faces meet.
Elevations	The front and side view of a 3D shape. They look 2D.
Enlargement	An enlargement is a type of transformation. You multiply all the side lengths of a shape by the same number. The number that the side lengths are multiplied by is called the **scale factor.**
Equidistant	Equal distance from two objects
Equilateral	A triangle with all sides and angles equal.
Face	A 2D surface of a 3D shape. A cube has 6 faces.
Hypotenuse	The hypotenuse of a right-angled triangle is the longest side and is opposite the right angle.
Isosceles	A triangle with 2 lengths and 2 angles the same
Line of symmetry	If you fold a shape along a line of symmetry, both halves fit onto each other perfectly.
Locus and Loci	A locus is the set of all points that obey a certain rule. Often the locus is a path. The plural of locus is loci.
Mass	How much matter is in an object. Measured in grams, kg, tonnes etc

MATHS

Key Word	Definition
Net	A net is a 2D shape that folds to make a 3D shape.
Object and image	The original shape is called the object. The enlarged shape is called the image
Order of rotational symmetry	When a shape is rotated through 360°, the order of rotational symmetry is the number of times it looks the same as where it started from. This shape has no lines of symmetry, but it has rotational symmetry of order 4. 
Parallelogram	A parallelogram has two pairs of parallel sides. Rhombus, square and rectangle are all types of parallelogram.
Perimeter	The total length around a 2D closed shape.
Perpendicular	Means 'at right angles'
Perpendicular bisector	A perpendicular bisector is the line that cuts another line or space in half at right angles. You use a compass to construct this.
Plan view	The 'birds eye view' of a 3D shape
Polygon	Any 2D closed shape with straight sides.
Prism	A solid shape that has the same cross-section throughout its length. The cross section can be any shape. A cuboid is a rectangular prism.
Quadrilateral	A polygon with 4 sides. Square, rectangle, rhombus, kite, parallelogram, and trapezium are all types of quadrilateral.

MATHS

Key Word	Definition
Reflection	A reflection is a type of transformation. You reflect shapes in a mirror line. Lines of reflection (or mirror lines) on a coordinate grid can be described by their equations
Rotation	A rotation is a type of transformation. You rotate a shape by turning it around a point, called a centre of rotation. To describe a rotation, you also need to give the angle and direction (clockwise or anticlockwise)
Scale	The scale shows the ratio of the measurements on the drawing to the measurements in real life. **1 : 40** means for every **1** cm on the drawing, there are **40** cm in real life.
Similar	Enlargement produces similar shapes. The angles and proportions are the same.
Sketch	A sketch is a simple useful drawing. It **does not** have to be drawn to scale.
Surface area	The total area of all the faces on a 3D shape
Translation	A translation of a 2D shape is a slide across a flat surface. To describe a translation, you need to give the movement left or right, followed by the movement up or down.
Vector	A vector has direction and magnitude (size)
Vertex and Vertices	1 vertex (corner) many vertices (corners). E.g. A square has 4 vertices.
Volume	The amount of space a 3D shape takes up. Measured in cubic cm - cm^3, m^3 etc

MATHS

Key Word	Definition
	Command Words
Calculate...	Work out the answer to the question – does **not** mean use a calculator necessarily!
Describe fully...	Usually on transformation questions – make sure you give mathematical language e.g. Rotated by 90° clockwise around centre of rotation (0, -3)
Evaluate...	Give a single number answer (no powers). E.g. evaluate $2^3 \times 2^3$, answer: 32
Expand...	Multiply out the brackets
Express...in the form...	By manipulating algebra and showing every step of method, show how the first thing can be changed into the second thing.
Factorise...	Put the expression into brackets
Find the...	Means 'work out the'
Prove that...	Usually means to use algebra you show that an identity is always true.
Show that...	You must show every step of your working, you need to show where that answer has come from using the information in the question.
Simplify...	Either reduce the number of terms or divide numerator and denominator by common factors. All these show simplifying: $4a - b + 2a - b = 6a - 2b$ $\frac{15a^3}{20a} = \frac{3a^2}{4}$ $4b^4 \times a \times 2ab^2 = 8a^2b^6$
Solve...	Work out the number value of the letter (or letters if it is simultaneous equations)
Work out...	Work out the number answer to the question

SCIENCE

Key Word	Definition
	Required Practicals
Accuracy	A measurement result is considered accurate if it is judged to be close to the true value
Anomalies	Anomaly is anything that strays from the ordinary. It is something that is different from what is usual or expected.
Anomalous result	An anomalous result is a result that doesn't fit in with the pattern of the other results. It is an anomaly. Taking many repeat measurements or having a large sample size to analyse will improve accuracy.
Calibration	Marking a scale on a measuring instrument. This involves establishing the relationship between the measuring instrument and standard values, which must be applied. For example, placing a thermometer in melting ice to see whether it reads zero, in order to check if it has been calibrated correctly.
Categoric	Categoric variables have values that are labels, e.g. names of
Continuous	A variable which can have any numerical value. Continuous variables give you the most information and can be plotted as a line graph. Examples of continuous variables are length, temperature, time, weight, voltage, and many more
Control	Control variable is one which may, in addition to the independent variable, affect the outcome of the

SCIENCE

Key Word	Definition
	investigation and therefore has to be kept constant or at least monitored.
Data	Information, either qualitative or quantitative, that has been collected.
Dependent	Dependent variable is the variable of which the value is measured for each and every change in the independent variable.
Discontinuous variation	A characteristic of any species with only a limited number of possible values shows discontinuous variation. For example: gender (male or female) eye colour.
Evidence	Data which has been shown to be valid
Exponential	A set of numbers that increase more and more rapidly.
Fair test	A test which controls all but one variable when attempting to answer a scientific question. Only changing one variable allows the person conducting the test to know that no other variable has affected the results of the test.
Hypothesis	An educated guess, or a guess you make based on information you already know. After you make a hypothesis, then you the science experiment to see what happens. This lets you discover if your hypothesis was correct or incorrect.
In vitro	In vitro experiments are done in glassware such as test tubes and Petri dishes.
Independent	The independent variable is the one that is changed by the scientist

SCIENCE

Key Word	Definition
Interval	The quantity between readings, eg a set of 11 readings equally spaced over a distance of 1 metre would give an interval of 10 centimetres.
Light microscope	Device that uses visible light and a series of lenses to produce an enlarged image of an object.
Mean	Device that uses visible light and a series of lenses to produce an enlarged image of an object.
Measurement error	The difference between a measured value and the true value.
Pipette	For transferring or measuring out small quantities of liquid, especially in a laboratory.
Precision	Precise measurements are ones in which there is very little spread about the mean value. Precision depends only on the extent of random errors – it gives no indication of how close results are to the true value
Prediction	A prediction is a statement suggesting what will happen in the future, based on observation, experience or a hypothesis
Probability	The extent to which something is likely to be the case.
Random error	These cause readings to be spread about the true value, due to results varying in an unpredictable way from one measurement to the next. Random errors are present when any measurement is made, and cannot be corrected. The effect of random errors can be reduced by making more measurements and calculating a new mean.

SCIENCE

Key Word	Definition
Range	Range is the difference between the highest and lowest values in a set of data.
Range	The maximum and minimum values of the independent or dependent variables; important in ensuring that any pattern is detected. For example, a range of distances may be quoted as either: 'From 10 cm to 50 cm' or 'From 50 cm to 10 cm'.
Repeatable	A measurement is repeatable if the original experimenter repeats the investigation using same method and equipment and obtains the same results. Previously known as reliable.
Reproducible	A measurement is reproducible if the investigation is repeated by another person, or by using different equipment or techniques, and the same results are obtained. Previously known as reliable.
Sketch graph	A line graph, not necessarily on a grid, that shows the general shape of the relationship between two variables. It will not have any points plotted and although the axes should be labelled, they may not be scaled
Systematic error	These cause readings to differ from the true value by a consistent amount each time a measurement is made. Sources of systematic error can include the environment, methods of observation or instruments used. Systematic errors cannot be dealt with by simple repeats. If a systematic error is suspected, the data collection should be repeated using a different

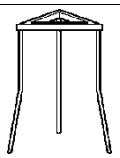
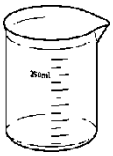
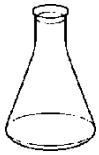
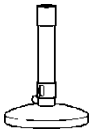
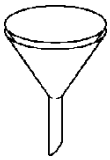
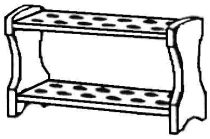
SCIENCE

Key Word	Definition
	technique or a different set of equipment, and the results compared
Trend	A trend is a change or development towards something new or different.
True value	This is the value that would be obtained in an ideal measurement.
Uncertainty	The interval within which the true value can be expected to lie, with a given level of confidence or probability, e.g. 'the temperature is 20 °C ± 2 °C, at a level of confidence of 95%'.
Valid conclusion	A conclusion supported by valid data, obtained from an appropriate experimental design and based on sound reasoning.
Validity	In its purest sense, this refers to how well a scientific test or piece of research actually measures what it sets out to, or how well it reflects the reality it claims to represent. Ways of improving the validity of an experiment, including controlling more variables, improving measurement technique, increasing randomisation to reduce sample bias, blinding the experiment, and adding control or placebo groups.
Variables	A variable is anything that can change or be changed. An experiment usually has three kinds of variables: independent, dependent, and controlled
Zero error	Any indication that a measuring system gives a false reading when the true value of a measured quantity is zero, e.g. the needle on an ammeter failing to

SCIENCE

Key Word	Definition
	return to zero when no current flows. A zero error may result in a systematic uncertainty.

SCIENCE

Equipment	Name	Equipment	Name
	Test tube		Measuring cylinder
	Boiling tube		Tripod
	Beaker		Gauze
	Conical flask (i.e. cone-shaped)		Bunsen burner
	Crucible		Filter funnel (with paper)
	Tongs		Test tube holders
	Mortar and pestle		Thermometer
	Pipe clay triangle		Test tube holder
	Stand boss and clamp		Balance
	Dropping pipette		Evaporating basin
	Glass rod		Spatula

BIOLOGY

Key Word	Definition
Paper 1: Topic 1: Cell Biology	
Active transport	The movement of particles, e.g. mineral ions, from a **HIGH** concentration to a **LOW** concentration, **AGAINST** the concentration gradient, using **ENERGY**
Amino Acid	The building blocks that make up a protein molecule
Amylase	A carbohydrase enzyme that breaks down starch into simple sugars
Bile	Alkaline substance produced in the liver and stored in the gall bladder. It neutralises stomach acid and breaks down fats into small droplets
Carbohydrase	Enzymes that break down carbohydrates into simple sugars
Cell membrane	A selectively permeable (it 'chooses' what passes through it) membrane surrounding the cell and controlling the entry and exit of materials.
Cellulose	The main substance that makes up the cell walls and fibres of plants.
Chloroplasts	Where photosynthesis occurs
Cloning	A scientific method by which genetically identical copies are made of animals or plants.
Cuttings	Part of a plant stem, leaf, or root cut off and used for producing a new plant. An artificial propagation method.
Cytoplasm	Where chemical reactions take place

BIOLOGY

Key Word	Definition
Differentiation	When a cell becomes a specialised cell
Diffusion	The movement of particles from an area HIGH concentration to an area of LOW concentration down a concentration gradient (passive, no energy required).
Diploid cell	Diploid is a cell or organism that has paired chromosomes, one from each parent. In humans, cells other than human sex cells, are diploid and have 23 pairs of chromosomes.
Emulsification (in digestion)	The breakdown of fat globules into tiny droplets, which provides a larger surface area on which the lipase (enzyme) can act to digest the fats into fatty acids and glycerol. Emulsification is assisted by the action of the bile salts (see bile).
Enzyme	Enzymes are proteins that function as biological catalysts. So, they are molecules that speed up a chemical reaction without being changed or used by the reaction.
Epidermal tissues	Layers of cells at the top of the leaf and the bottom of the leaf
Eukaryotic	Cell with a nucleus
Guard cells	Cells that open and close the stomata to reduce water loss
Haploid	Haploid is a cell or organism that has a single set of chromosomes. Organisms that reproduce asexually are haploid. In humans, only their egg and sperm cells are haploid.

BIOLOGY

Key Word	Definition
Lipase	An enzyme that breaks down lipids into fatty acids and glycerol
Lipids	Fats and oils
Mitochondria	The main job of mitochondria is to perform cellular respiration. This means it takes in nutrients from the cell, breaks it down, and converts it into energy. This energy is then in turn used by the cell to carry out various functions. Located in the cytoplasm.
Mitosis	A type of cell division which produces **2 GENETICALLY IDENTICAL** copies (**DAUGHTER** cells) of **1** original (**PARENT**) cell. Everything in the cell is duplicated. The two new cells have the same **DNA**, functions, and genetic code. Needed for **GROWTH & REPAIR**
Nucleus	Contains **DNA**
Organelle	An organelle is one small part of a cell that has a very specific function or job. The nucleus itself is an organelle. The different parts of a cell, especially the ones that are separated from the rest of the cell by a membrane, are known as organelles.
Osmosis	The movement of **WATER** from an area of higher water concentration to an area of lower water concentration across a (selective or partially) permeable membrane. Passive (**NO** energy required)
Palisade mesophyll	Layer of cells in the leaf that contain lots of chloroplasts for photosynthesis

BIOLOGY

Key Word	Definition
Partially permeable	Also called semi-permeable. A partially permeable membrane allows water and other small molecules to pass through, but not larger molecules such as starch.
Permanent Vacuole	Plants only - Contains cell sap
Phloem	Plant tissue that transports **SUGARS UP** and **DOWN** a plant
Prokaryotic	Cell without a nucleus
Protease	An enzyme that breaks down proteins into amino acids
Ribosomes	Where proteins are made (protein synthesis)
Root hair cells	A specialised cell that increases the surface area of the root epidermis to improve the uptake of water and minerals.
Speciation	A process within evolution explaining how new kinds of plant or animal species is created. Speciation occurs when a group within a species separates from other members of its species. The demands of a different environment or the characteristics of the members of the new group will change the new species from their ancestors by **NATURAL SELECTION**
Spongy mesophyll	Layer of cells in the leaf that allow gases to exchange
Stem cell	Cells that are undifferentiated but can turn into any type of cell. In simple terms stem cells are cells that have not decided what they will be when they grow up. Stem

BIOLOGY

Key Word	Definition
	cells can grow up to be any cell in the body until they become specialised.
Stomata	Small holes underneath the leaf to allow gases to move in and out of the leaf
Sub-cellular structures	Small structures inside a cell e.g. nucleus
Tissue culture	Tissue culture is the growth of tissues or cells separate from an animal or plant.
Xylem	Plant tissue that transports **WATER** and dissolved mineral ions **UP** the plant

Paper 1: Topic 2: Organisation

Aorta	The artery that leaves the heart from the left ventricle and carries oxygenated blood to the body
Arteries	Blood vessels that carry blood away from the heart. They usually carry oxygenated blood and have a pulse
Atria	The upper chambers of the heart
Capillaries	The smallest blood vessels. They run between individual cells and have a wall that is only one cell thick
Cell	Basic unit of life. Unicellular organisms only have one cell. Multicellular organisms have many cells.
Coronary arteries	The blood vessels that supply oxygenated blood to the heart muscle
Epidermal	The name given to cells that make up the epidermis or outer layer of an organism
Haemoglobin	The red pigment that carries oxygen around the body in the red blood cells

BIOLOGY

Key Word	Definition
Plasma	The clear yellow-liquid part of the blood that carries dissolved substances and blood cells around the body
Platelets	Fragments of cells in the blood that play a vital role in the clotting mechanism of the blood
Pulmonary artery	The large blood vessel that takes deoxygenated blood from the right ventricle of the heart to the lungs
Pulmonary vein	The large blood vessel that carries oxygenated blood from the lungs back to the left atrium of the heart
Red blood cells	Biconcave cells that contain the red pigment haemoglobin and carry oxygen around the body in the blood
Statins	Drugs used to lower blood cholesterol levels and improve the balance of high- to low-density lipoproteins in the blood
Stent	A metal mesh placed in a blocked or partially blocked artery. They are used to open up the blood vessel by the inflation of a tiny balloon
Tissue	A group of similar cells that carry out the same function, e.g. muscle tissue.
Translocation	The movement of sugars from the leaves to the rest of the plant through the phloem
Transpiration	The loss of water vapour from the leaves of plants through the stomata when they are opened to allow gas exchange for photosynthesis. It involves evaporation from the surface of the cells and diffusion through the stomata
Urea	The waste product formed by the breakdown of excess amino acids in the liver

BIOLOGY

Key Word	Definition
Veins	Blood vessels that carry blood away from the heart. They usually carry deoxygenated blood and have valves to prevent the backflow of blood
Vena cava	The large vein that brings deoxygenated blood from the body into the heart
Ventricles	Lower chambers of the heart that contract to force blood out of the heart
White blood cells	Blood cells involved in the immune system of the body. They engulf pathogens and make antibodies and antitoxins
Paper 1: Topic 3: Infection and Response	
Antibiotics	Medicines that cure bacterial infections by killing bacteria
Antibodies	Produced by white blood cells to help kill pathogens
Antigen	An antigen is a molecule (usually a protein) expressed by a bacteria or virus that is recognised as foreign which can stimulate the production of antibodies and combine specifically with them. Usually an antigen is on the cell surface of a bacterium or virus.
Cilia	The fine hair-like projections from certain cells such as those in the respiratory tract that sweep in unison and help to sweep away fluids and particles.
Communicable	Infectious - You can catch it and pass it on
Double-blind trial	A clinical trial where both the patient and the doctor do not know if the patient has been given a real drug or the placebo (fake drug)

BIOLOGY

Key Word	Definition
Gonorrhoea	STD with symptoms of a thick yellow/green discharge and pain when urinating
HIV	Virus that causes a flu-like illness but damages the immune system and develops into AIDS
Malaria	Disease caused by a protist where mosquitos are the vector
Measles	Viral disease with symptoms of a fever and red skin rash
Pathogen	Microorganism that causes disease, e.g. bacteria, fungi, virus, protist
Phagocytosis	White blood cells engulf and digest pathogens
Placebo	Something that looks like the drug but actually contains no active ingredients
Rose black spot	Fungal plant disease where purple/black spots develop on the leaves which turn yellow and drop off
Salmonella	Bacterial disease which causes food poisoning
Tobacco mosaic virus (TMV)	Plant virus causing discolouration of the leaves that affects the growth of the plant due to lack of photosynthesis
Vaccination	Inserting small amounts of dead or inactive forms of a pathogen to stimulate antibody production
Vector	An organism that transports a disease from person to person

Biology Only

Agar gel	Agar is commonly used in the laboratory to help feed and grow bacteria and other microorganisms. It acts as a

BIOLOGY

Key Word	Definition
	culture that provides nutrients and a place for these items to grow, but since it is indigestible to the microorganisms, they cannot eat and destroy it.
Aphids	An aphid is a small, soft-bodied insect that survives by sucking the sap from plants and consuming it. They can cluster thickly, depriving garden plants of the sap needed to carry nutrients through tissues, causing wilting, poor fruiting, and even plant death.
Culture medium	Nutrient broth solution, or culture medium, allows a liquid or gel to provide all the nutrients needed for bacteria to grow successfully.
Hybridomas	A hybrid cell used as the basis for the production of antibodies in large amounts. Hybridomas are produced by injecting a specific antigen into a mouse, collecting an antibody-producing cell from the mouse's spleen, and fusing it with a tumour cell called a myeloma cell.
IVF	In vitro fertilisation (IVF) is one of several techniques available to help people with fertility problems have a baby.
Monoclonal antibodies	Identical copies of a specific type of antibody.

Paper 2: Topic 5: Homeostasis and Response

Coordination centres	Receive and process information from receptors. E.g. brain
Effectors	Muscles or glands which bring about a response
Endocrine system	Consists of glands that release hormones into the blood to get to a target organ to cause a response

BIOLOGY

Key Word	Definition
Follicle stimulating hormone (FSH)	Hormone released by the pituitary gland. Causes maturation of the egg in the ovary.
(HT) Glucagon	Released from the pancreas in response to low blood glucose levels and causes glycogen to be broken down into glucose and released back into the blood
Homeostasis	The regulation of internal conditions to maintain optimum conditions in response to changes
In vitro fertilisation (IVF)	Where egg cells are fertilised outside of the body with sperm cells
Insulin	Released from the pancreas in response to high blood glucose levels and causes glucose to move from the blood into the cells. It causes glucose to be converted into glycogen for storage in the liver
Luteinising hormone (LH)	Hormone released by the pituitary gland. Causes the egg to be released from the ovary.
Neuron	Nerve cells. They carry an electrical message or impulse when stimulated.
Neurotransmitter	Chemical involved in passing nerve impulses from one nerve cell to the next across a synapse.
Oestrogen	Released by the ovaries. Stops FSH being released and stimulates LH to be released
Receptors	Cells that detect changes in the environment
Reflex action	An automatic and rapid action
Stimulus	A change in the environment

BIOLOGY

Key Word	Definition
Synapse	A tiny gap at the junction between two nerve cells, which nerve signals must cross.
Type 1 diabetes	When the pancreas does not produce enough insulin
Type 2 diabetes	When the body cells no longer respond to insulin
Biology Only	
Auxin	Auxin is a plant hormone produced in the stem tip that promotes cell elongation.
Cerebellum	The cerebellum receives information from the sensory systems, the spinal cord, and other parts of the brain and then regulates motor movements. The cerebellum coordinates voluntary movements such as posture, balance, coordination, and speech, resulting in smooth and balanced muscular activity.
Cerebral cortex	The outer layer of the brain.
Dialysis	Medical treatment in which blood is removed from the body and filtered before being returned.
Gravitropism	Growth of plant roots downwards as a result of gravity.
Hyperopia	long-sighted can see distant objects clearly, but they cannot focus properly on near objects.
Medulla	The part of the brain controlling breathing, heart rate and peristalsis.
Myopia	Short-sightedness - can see near objects clearly, but cannot focus properly on distant objects.

BIOLOGY

Key Word	Definition
Phototropism	Growth of plant shoots towards the light.
Tropism	A tropism is a growth response to a one-sided stimulus. There are two main types of tropisms: positive tropisms - the plant grows towards the stimulus; negative tropisms - the plant goes away from the stimulus
Vasoconstriction	A response to being too cold. The process involves the narrowing of blood vessels at the skin surface to reduce heat loss through the surface of the skin.
Vasodilation	In the heat, blood vessels close to the surface of the skin enlarge. Vasodilation is the widening of blood vessels.

Paper 2: Topic 6: Inheritance, Variation and Evolution

Binomial system	Naming organisms by their genus and species
Evolution	A change in the inherited characteristics of a population over time through the process of natural selection
Extinction	There are no remaining individuals of a species still alive
Fossils	The 'remains' of organisms from millions of years ago, which are found in rocks
Genetic engineering	A process which involves modifying the genome of an organism by introducing a gene from another organism to give a desired characteristic
Meiosis	A process where a single cell divides twice to produce four genetically varied daughter cells containing half (haploid) the original amount of genetic information. These cells are our sex cells – sperm in males, eggs in females.

BIOLOGY

Key Word	Definition
Natural selection	A process which gives rise to phenotypes best suited to their environment
Selective breeding	The process by which humans breed plants and animals for particular genetic characteristics
Variation	Differences in the characteristics of individuals in a population

Paper 2: Topic 7: Ecology

Abiotic factors	Non-living factors that can affect a community e.g. light, temperature, soil pH
Adaptations	Features that enable organisms to survive in the conditions in which they normally live. They could be behavioural, structural or functional
Biogas	A type of biofuel (methane) derived from the action of bacteria on animal manure or other organic waste.
Biotic factors	Living factors that can affect a community e.g. availability of food, new predators arriving, new pathogens
Decomposer	The process of breaking down material to release nutrients back into the soil.
Ecosystem	Interaction of a community of living (biotic) and non-living (abiotic) parts of their environment
Interdependence	Each species in a community depending on one another e.g. food, shelter, seed dispersal, pollination. If one species is removed, it can affect the whole community
Predator	Consumer that kills and eats other animals
Producer	Starts off a food chain. Usually a green plant or alga that photosynthesises. Eaten by primary consumers

BIOLOGY

Key Word	Definition
Quadrat	Square frame used to count organisms to estimate a population, e.g. random sampling
Transect	A straight line where samples are taken at regular intervals using a quadrat
Biology Only	
Decay	The rate of decay is the speed at which dead matter is broken down by decomposers.
Trophic levels	The trophic level is the position that an organism occupies in a food chain - what it eats, and what eats it
Paper 2: Topic 8: Key Ideas	
Embedded in other Topics	

CHEMISTRY

Key Word	Definition
Paper 1: Topic 1: Atomic Structure and the Periodic Table	
Alkali metal	Elements in Group 1 of the periodic table
Aqueous solution	The mixture made by adding a soluble substance to water
Atom	The smallest part of an element that can still be recognised as that element
Atomic number	The number of protons (which equals the number of electrons) in an atom. It is sometimes called the proton number
Balanced symbol equation	A symbol equation in which there are equal numbers of each type of atom on either side of the equation
Biofuel	Fuel made from animal or plant products
Chromatography	The process whereby small amounts of dissolved substances are separated by running a solvent
Compound	A substance made when two or more elements are chemically bonded together
Electron	A tiny particle with a negative charge. Electrons orbit the nucleus of atoms or ions in shells
Electronic structure	A set of numbers to show the arrangement of electrons in their shells (or energy levels)
Element	A substance made up of only one type of atom. An element cannot be broken down chemically into any simpler substance
Group	All the elements in the columns (labelled 1 to 7 and 0) in the periodic table

CHEMISTRY

Key Word	Definition
Halogens	The elements found in Group 7 of the periodic table
Ion	A charged particle produced by the loss or gain of electrons
Isotope	Atoms that have the same number of protons but different number of neutrons, i.e., they have the same atomic number but different mass numbers
Law of conservation of mass	The total mass of the products formed in a reaction is equal to the total mass of the reactants
Mass number	The number of protons plus neutrons in the nucleus of an atom
Neutron	A dense particle found in the nucleus of an atom. It is electrically neutral, carrying no charge
Noble gases	The very unreactive gases found in Group 0 of the periodic table. Their atoms have very stable electronic structures
Nucleus (of an atom)	The very small and dense central part of an atom that contains protons and neutrons
Periodic table	An arrangement of elements in the order of their atomic numbers, forming groups and periods
Product	A substance made as a result of a chemical reaction
Proton	A tiny positive particle found inside the nucleus of an atom
Reactant	A substance we start with before a chemical reaction takes place
Shell	An area in an atom, around its nucleus, where electrons are found

CHEMISTRY

Key Word	Definition
State symbol	The abbreviations used in balanced symbol equations to show if reactants and products are solid (s), liquid (l), gas (g) or dissolved in water (aq)
Symbol equation	An equation that helps you see how much of each substance is involved in a chemical reaction by showing the chemical symbols and formulae of all the reactants and products involved
Transition element	Element from the central block of the periodic table
Universal indicator	A mixture of indicators that can change through a range of colours to show how strongly acidic or alkaline liquids and solutions are
Word equation	A way of describing what happens in a chemical reaction by showing the names of all reactants and the products they form

Paper 1: Topic 2: Bonding, Structure and the Properties of Matter

Alloy	A mixture of two or more elements, at least one of which is a metal
Covalent bond	The bond between two atoms that share one or more pairs of electrons
Covalent bonding	The attraction between two atoms that share one or more pairs of electrons
Delocalised electron	Bonding electron that is no longer associated with any one particular atom
Dot and cross diagram	A drawing to show only the arrangement of outer shell electrons of the atoms or ions in a substance

CHEMISTRY

Key Word	Definition
Fullerene	Form of the element carbon that can exist as large cage-like structures, based on hexagonal rings of carbon atoms
Gases	Substances that have no fixed shape or volume and can be compressed easily
Giant covalent structure	A huge 3D network of covalently bonded atoms
Giant lattice	A huge 3D network of atoms or ions
Giant structure	See giant lattice
Intermolecular forces	The attraction between the individual molecules in a covalently bonded substance
Ionic bond	The electrostatic force of attraction between positively and negatively charged ions
Liquids	Substances that have a fixed volume, but they can flow and change their shape
Nanoscience	The study of very tiny particles or structures between 1 and 100 nanometres in size – where 1 nanometre = 10-9 metres
Particle theory	A theory that explains the properties of solids, liquids and gases based on the fact that all matter is made from tiny particles. It describes the movement of particles and the distance between them
Polymer	A substance made from very large molecules made up of many repeating units
Solids	Substances that have a fixed shape and volume that cannot be compressed

CHEMISTRY

Key Word	Definition
States of matter	The forms in which matter can exist. A substance can be solid, liquid or gas
Paper 1: Topic 3: Quantitative Chemistry	
Avogadro constant	The number of atoms, molecules, or ions in a mole of any substance (i.e., 6.02 × 10-23 per mol)
Burette	A long glass tube with a tap at one end and markings to show volumes of liquid; used to add precisely known volumes of liquids to a solution in a conical flask below it
Concentration	The amount of a substance dissolved in a given volume of liquid
Concordant	When you have two titration results that are within 0.1cm3 of each other. These precise results can then be used to calculate an accurate mean
End point	The point in a titration where the reaction is complete and titration should stop
Limiting reactant	The reactant in a chemical reaction that when used up causes the reaction to stop
Mole	The amount of substance that contains the same number of particles as there are atoms in 12 g of carbon-12 (contains the Avogadro's constant 6.0 $\times 10^{23}$ number of particles).
Percentage yield	The actual mass of product collected in a reaction divided by the maximum mass that could have been formed in theory, multiplied by 100
Relative atomic mass Ar	The average mass of the atoms of an element compared with carbon-12 (which is given a mass of exactly 12). The average mass must take into account

CHEMISTRY

Key Word	Definition
	the proportions of the naturally occurring isotopes of the element
Relative formula mass Mr	The total of the relative atomic masses, added up in the ratio shown in the chemical formula, of a substance
Titration	A method for measuring the volumes of two solutions that react together
Yield	Is the amount of product obtained in a chemical reaction. The absolute yield can be given as the weight in grams or in moles (molar yield).
Paper 1: Topic 4: Chemical Changes	
Acid	When dissolved in water, its solution has a pH value less than 7. Acids are proton (H+ ion) donors
Alkali	An alkali is a substance with a pH value of more than 7. Alkalis form chemical salts when they are combined with acids.
Anode	The positive electrode in electrolysis
Base	The oxide, hydroxide, or carbonate of a metal that will react with an acid, forming a salt as one of the products. (If a base dissolves in water it is called an alkali). Bases are proton (H+ ion) acceptors
Brine	Concentrated sodium chloride solution the can undergo electrolysis to produce chlorine gas, hydrogen gas and sodium hydroxide solution
Cathode	The negative electrode in electrolysis

CHEMISTRY

Key Word	Definition
Displacement reaction	A reaction in which a more reactive element takes the place of a less reactive element in one of its compounds or in solution
Electrolysis	The breakdown of a substance containing ions by electricity
Electrolyte	A liquid, containing free-moving ions, which is broken down by electricity in the process of electrolysis
Equilibrium	The point in a reversible reaction at which the forward and backward rates of reaction are the same. Therefore, the amounts of substances present in the reacting mixture remain constant
Half equation	An equation that describes reduction (gain of electrons) or oxidation (loss of electrons)
Half equation	An equation that describes reduction (gain of electrons) or oxidation (loss of electrons)
Inert	Unreactive
Ionic equation	An equation that shows only those ions or atoms that change in a chemical reaction
Metal ore	A rock that contains enough of a metal or metal compound that it is worth extracting the metal
Neutral	A solution with a pH value of 7 which is neither acidic nor alkaline. Alternatively, something that carries no overall electrical charge
Neutralisation	The chemical reaction of an acid with a base in which a salt and water are formed. If the base is a carbonate or hydrogen carbonate, carbon dioxide is also produced in the reaction

CHEMISTRY

Key Word	Definition
Ore	Rock which contains enough metal to make it economically worthwhile to extract the metal
Oxidation/oxidised	A reaction where oxygen is added to a substance / or when electrons are lost from a substance
pH / pH scale	A number which shows how strongly acidic or alkaline a solution is
Reactivity series	A list of elements in order of their reactivity
Reduction / reduced	a reaction in which oxygen is removed or electrons are gained
Salt	A compound formed when some or all of the hydrogen in an acid is replaced by a metal
Strong acids	These acids completely ionise in aqueous solutions
Weak acids	Acids that do not ionise completely in aqueous solutions

Paper 1: Topic 5: Energy Changes

Activation energy	The minimum energy needed for a reaction to take place
Bond energy	The energy required to break a specific chemical bond
Endothermic	A reaction that takes in energy from the surroundings
Exothermic	A reaction that transfers energy to the surroundings
Fuel cells	Sources of electricity that are supplied by an external source of fuel

CHEMISTRY

Key Word	Definition
Paper 2: Topic 6: The Rate and Extent of Chemical Change	
Anhydrous	Describes a substance that does not contain water
Catalyst	A substance that speeds up a chemical reaction by providing a different pathway for the reaction that has a lower activation energy. The catalyst is chemically unchanged at the end of the reaction
Climate change	The change in global weather patterns that could be caused by excess levels of greenhouse gases in the atmosphere
Closed system	A system in which no matter enters or leaves
Collision theory	An explanation of chemical reactions in terms of reacting particles colliding with sufficient energy for a reaction to take place
Equilibrium	The point in a reversible reaction at which the forward and backward rates of reaction are the same. Therefore, the amounts of substances present in the reacting mixture remain constant
Hydrated	Describes a substance that contains water in its crystals
Le Châtelier's Principle	When a change in conditions is introduced to a system at equilibrium, the position of equilibrium shifts so as to cancel out the change
Precise / precision	A precise measurement is one in which there is very little spread about the mean value. Precision depends only on the extent of random errors – it gives no

CHEMISTRY

Key Word	Definition
	indication of how close results are to the true (accurate) value
Reversible reaction	A reaction in which the products can re-form the reactants
Paper 2: Topic 7: Organic Chemistry	
Alkane	Saturated hydrocarbon with the general formula C_nH_{2n+2}, for example, methane, ethane, and propane
Alkene	Unsaturated hydrocarbon which contains a carbon–carbon double bond. Its general formula is C_nH_{2n}, for example, ethene, C_2H_4
Cracking	The reaction used in the oil industry to break down large hydrocarbons into smaller, more useful ones
Distillation	Separation of a liquid from a mixture by evaporation followed by condensation
Double bond	A covalent bond made by the sharing of two pairs of electrons
Fermentation	The reaction in which the enzymes in yeast turn glucose into ethanol and carbon dioxide
Flammable	Easily ignited and capable of burning rapidly
Fraction	Hydrocarbons with similar boiling points separated from crude oil
Fractional distillation	A way to separate liquids from a mixture of liquids by boiling off the substances at different temperatures, then condensing and collecting the liquids
Functional group	An atom or group of atoms that give organic compounds their characteristic reactions

CHEMISTRY

Key Word	Definition
General formula	A formula that represents the common structure of all compounds in a single class of chemicals. For example, the general formula of all alkanes is CnH2n+2
Homologous series	A group of related organic compounds that have the same functional group
Hydrocarbon	A compound containing only hydrogen and carbon
Mixture	When some elements or compounds are mixed together and intermingle but do not react together (i.e. no new substance is made). A mixture is not a pure substance
Oxidised	A substance that has had oxygen added to it/ or has lost electrons
Saturated hydrocarbon	Describes a hydrocarbon with only single bonds between its carbon atoms. This means that it contains as many hydrogen atoms as possible in each molecule
Thermal decomposition	The breakdown of a compound by heating it
Unsaturated hydrocarbon	A hydrocarbon whose molecules contains at least one carbon- carbon double bond
Viscosity	The resistance of a liquid to flowing or pouring; a liquid's 'thickness'
Paper 2: Topic 8: Chemical Analysis	
Addition polymerisation	A type of reaction where monomers join together, end to end, to form long polymer chains. The polymer produced is called an addition polymer

CHEMISTRY

Key Word	Definition
Monomers	Small reactive molecules that react together in repeating sequences to form a very large molecule (a polymer)
Nucleotides	The basic repeating units, or monomers, that join together to form DNA
Pipette	A glass tube used to measure accurate volumes of liquids
Polymer	A substance made from very large molecules made up of many repeating units
Rf (retention factor)	A measurement from chromatography: it is the distance a spot of substance has been carried above the baseline divided by the distance of the solvent front

Paper 2: Topic 9: Chemistry of the Atmosphere

Atmosphere	The relatively thin layer of gases that surround planet Earth
Bioleaching	A new technique that involves using bacteria to extract metals, such as copper, from low-grade ores
Blast furnace	The huge reaction vessels used in industry to extract iron from its ore
Carbon capture and storage	A technique that involves capturing carbon dioxide produced by burning fossil fuels and pumping it underground to be absorbed by porous rocks so that it is not released into the atmosphere
Carbon footprint	The total amount of carbon dioxide and other greenhouse gases emitted over the full life cycle of a product, service or event

CHEMISTRY

Key Word	Definition
Global dimming	A process that reduces the amount of sunlight reaching the Earth's surface. It is caused by particulates in the atmosphere reflecting light back into space before it can reach Earth
Incomplete combustion	When a fuel burns in insufficient oxygen, producing carbon monoxide as a toxic product
Life cycle assessment (LCA)	Carried out to assess the environmental impact of products, processes or services at different stages in their life cycle
Nitrogen oxides	Chemical compounds produced when high temperatures cause nitrogen gas in the air to react with oxygen. Nitrogen oxides are toxic and can cause acid rain
Non-renewable	Something which cannot be replaced once it is used up
Particulate	Small solid particle given off from motor vehicles as a result of incomplete combustion of its fuel
Thermal decomposition	The breakdown of a compound by heating it

Paper 2: Topic 10: Using Resources

Carbon steel	Alloy of iron containing controlled, small amounts of carbon
Galvanised	Iron or steel objects that have been protected from rusting by a thin layer of zinc metal at their surface
Neutralisation	The chemical reaction of an acid with a base in which a salt and water are formed. If the base is a carbonate or hydrogen carbonate, carbon dioxide is also produced in the reaction

CHEMISTRY

Key Word	Definition
Polymer	A substance made from very large molecules made up of many repeating units
Rusting	The corrosion of iron
Sacrificial protection	An effective way to prevent rusting whereby a metal more reactive than iron (such as zinc or magnesium) is attached to or coated on an object
Stainless steel	A chromium-nickel alloy of steel which does not rust
Steel	Alloys of iron with carbon and/or other elements. The properties of steel depend on the type and amounts of elements added
Thermosetting polymer	Polymer that can form extensive cross-linking between chains, resulting in rigid materials which are heat-resistant
Thermosoftening polymer	Polymer that forms plastics which can be softened by heating, then remoulded into different shapes as they cool down and set

PHYSICS

Key Word	Definition
Paper 1: Topic 1: Energy	
Biofuel	Energy resources made from plant material
Dissipated	Lost / spread out
Efficiency	A ratio of the useful energy output compared to the total energy input
Energy transferred	Same as work done
Geothermal	Thermal energy from underground rocks
Gravitational field strength	An object does not need to be touching the Earth to have a weight. Gravitational field strength (g) is measured in newtons per kilogram (N/kg). The Earth's gravitational field strength is 9.8 N/kg. This means that for each kg of mass, an object will experience 9.8 N of force
Hydroelectricity	Electricity generation from falling water
Joule	Unit of energy
Kinetic energy	Energy of movement
Mass	Measured in kg
Newton	Unit of force

PHYSICS

Key Word	Definition
Non-renewable	Energy resources that cannot be replaced before they run out
Potential energy	Stored energy (elastic, gravitational, chemical)
Power	How quickly energy can be transferred
Renewable	Energy resources that can be replaced before they run out
Specific heat capacity	The amount of energy needed to raise the temperature of 1kg of substance by 1 degree (J/kg/K)
Spring constant	A measure of the stiffness of an elastic material
Thermal conductivity	A measure of how well something can conduct thermal energy
Watt	The unit of power
Work done	Force x distance

Paper 1: Topic 2: Electricity

AC	Current whose direction changes from one way then back, repeatedly (alternates at a frequency of 50Hz).
Charge	Something that particles have (positive or negative), measured in Coulombs, C
Current	The rate of flow of charge, measured in amps, A
DC	Current whose direction is constant and unchanging.
Diode	A component that allows current through it in one direction only

PHYSICS

Key Word	Definition
LDR	A Light Dependent Resistor (resistance depends on the amount of light falling on it)
LED	A Light Emitting Diode
Ohm	The unit of resistance
Parallel circuit	A circuit with two or more loops
Potential difference	Another term for voltage (the amount of energy per unit charge), measured in volts, V
Resistor	A component that reduces the amount of current in a circuit
Series circuit	A circuit with one loop
Thermistor	A resistor that changes its resistance depending on the amount of heat falling on it)
Variable resistor	A resistor that can gradually change the amount of current

Physics Only

Electric field	The region around a charged particle where other charged particles experience a force

Paper 1: Topic 3: Particle Model of Matter

Density	Mass / volume (measured in kg/m3)
Gas pressure	The result of all particle collisions with the walls of the container.
Internal energy	Total kinetic energy and potential energy of all the particles in a system.

PHYSICS

Key Word	Definition
Latent heat	The energy needed for a substance to change state (J/kg).
Physical change	A change that can be reversed.
Specific latent heat of fusion	The amount of energy required to change the state of one kilogram of the substance, from solid to liquid, with no change in temperature.
Specific latent heat of vaporisation	The amount of energy required to change the state of one kilogram of the substance, from liquid to vapour, with no change in temperature.
Sublimate	Solid turning into a gas, bypassing the liquid phase.
Physics Only	
Pascals	The unit of pressure (1Pa = 1N/m2)
Paper 1: Topic 4: Atomic Structure	
Activity	The rate at which a source of unstable nuclei decays. Measured in Becquerels (Bq)
Alpha particle	A charged atom identical to the nucleus of the helium-4 atom, spontaneously emitted by some radioactive substances, consisting of two protons and two neutrons bound together, thus having a mass of four units and a positive charge of two.
Atomic number	The number of protons in a nucleus.
Beta particle	Forms when a neutron changes into a proton and a high-energy electron. The proton stays in the nucleus but the electron leaves the atom as a beta particle.

PHYSICS

Key Word	Definition
	When a nucleus emits a beta particle, these changes happen: the mass number stays the same. the atomic number increases by 1.
Contamination	The unwanted presence of materials containing radioactive atoms on other materials.
Count-rate	The number of decays recorded each second by a detector (eg Geiger-Muller tube).
Electron	Negatively charged particle (-1)
Energy levels	Energy levels (also called electron shells) are fixed distances from the nucleus of an atom where electrons may be found.
Gamma ray	Is an electromagnetic wave. It is at the small wavelength end of the electromagnetic spectrum. A gamma ray has no mass and no charge. Emitting a gamma ray makes no difference to the mass number. or the atomic number but will make the nucleus more stable.
Half-life	The time it takes for the number of radioactive isotopes in a substance to halve.
Ion	Ions are electrically charged particles formed when atoms lose or gain electrons
Irradiation	The process of exposing an object to nuclear radiation.
Isotope	Are forms of an element that have the same number of protons but different numbers of neutrons.
Mass number	The total number of protons and neutrons in a nucleus.

PHYSICS

Key Word	Definition
Neutron	Neutrally charged particle (0)
Nucleus	The centre of an atom/ion.
Proton	Positively charged particle (+1)
Radiation	A very high energy electromagnetic wave.
Radioactive decay	The process of a radioactive isotope emitting radiation.

Paper 2: Topic 5: Forces

Acceleration	The change in velocity over a certain time (m/s2)
Braking distance	The distance travelled from when the brakes are applied to when you stop.
Centre of mass	Where the all the weight of an object is considered to act from a single point.
(HT) Conservation of momentum	The total momentum after a collision is the same as the total momentum before.
Contact force	Between objects that are touching.
Displacement	The shortest distance between two points in a certain direction.
Elastic deformation	When something returns back to its original shape after a force has been removed.
Inelastic deformation	When something doesn't return back to its original shape after a force has been removed.

PHYSICS

Key Word	Definition
(HT) Inertia	The tendency of objects to continue in their state of rest or of uniform motion.
(HT) Inertial mass	A measure of how difficult it is to change the velocity of an object.
Limit of proportionality	The point at which a material stops being elastic and becomes inelastic.
(HT) Momentum	Mass x velocity (kg m/s)
Non-contact force	Between objects that are not touching.
Resultant force	The single overall force on an object when all forces are taken into account.
Scalar	A quantity with magnitude only.
Spring constant	A value for the stiffness of an elastic material (N/m)
Stopping distance	Braking distance + thinking distance
Thinking distance	The distance travelled in the time it takes for a message to travel from your brain to your foot, in order to brake.
Vector	A quantity with magnitude and direction.
Velocity	Speed in a certain direction (m/s)
Work done / energy transfer	Calculated by force x distance in the direction of the force (1Nm = 1J)

PHYSICS

Key Word	Definition
Physics Only	
Atmospheric pressure	Determined by the weight of air above.
(HT) Density	How heavy something is for its size (kg/m^3)
Fluid	A liquid or a gas.
Moment of a force	A turning force.
Rate of change of momentum	Also known as force.
Paper 2: Topic 6: Waves	
Amplitude	The height of a transverse wave from the midpoint to the crest/trough.
Compression	For a longitudinal wave, these are places where the particles are squashed together the most.
Crest	The top of a transverse wave.
Electromagnetic	The family of seven waves (radio, microwave, infrared, visible light, ultraviolet, x-ray, gamma)
Frequency	The number of complete waves passing a point every second, measured in Hertz, Hz.
Longitudinal	A wave where the oscillations are parallel to the direction of energy travel.
Medium	A substance that waves can pass through.
(HT) Oscillation	A vibration.

PHYSICS

Key Word	Definition
Rarefaction	For a longitudinal wave, these are places where the particles are spread out the most.
(HT) Refraction	The change in direction waves make when they pass from one medium to another.
Time period	The length of time for one wave to pass.
Transverse	A wave where the oscillations are at right angles to the direction of energy travel.
Trough	The bottom of a transverse wave.
(HT) Wave fronts	
Wave speed	
Wavelength	The distance between two identical points on a number of waves.
Physics Only	
Concave lens	A lens that is thinner in the middle.
Convex lens	A lens that is fatter in its middle.
Diffuse reflection	Upon reflection, all light rays reflect in different directions.
Echo sounding	The use of sound waves to determine distances.
Focal length	The distance from a lens to the point where all parallel light rays come together.
Perfect black body	All types of electromagnetic radiation are absorbed by an object.

PHYSICS

Key Word	Definition
Principal focus	The point where all the parallel lights rays come together.
P-waves	Primary waves which are longitudinal.
Real image	An image formed from real light rays. Can be projected.
Seismic waves	Sound waves passing through the Earth.
Specular reflection	All light rays are reflected in the same direction and are parallel to each other.
S-waves	Secondary waves which are transverse.
Translucent	Can be seen through partially.
Transparent	Can be seen through.
Ultrasound	Frequencies above 20kHz.
Virtual image	An image that is formed where one of the light rays appears to come from another place. Cannot be projected.
Paper 2: Topic 7: Magnetism and Electromagnetism	
Attract	To pull together (N and S poles)
(HT) Fleming's left-hand rule	The link between the magnetic force, the current in the wire, and the strength of the magnetic field.
Induce	To create.

PHYSICS

Key Word	Definition
Magnetic field	The region around a source of magnetism where other magnets or magnetic materials experience a force.
(HT) Magnetic flux density	The magnetic field strength, measured in Tesla, T.
Poles	The ends of a permanent magnet.
Repel	To push apart (N and N, S and S poles)
Solenoid	A coil of wire where the current passing through it creates a magnetic field.
Physics Only	
(HT) Alternator	Where the generator effect is used to generate alternating current.
(HT) Dynamo	Where the generator effect is used to generated direct current.
(HT) Generator effect	As above, but the conductor is now part of a complete circuit, and a current is now induced.
(HT) Induced potential	The potential difference created across the ends of a conductor moved through a magnetic field.
(HT) Turns ratio	The link between the number of coil turns on a transformer to the potential differences induced.
Paper 2: Topic 8: Space Physics (Triple Only)	
Big Bang theory	The idea that the Universe started from a single point and has been expanding ever since.
Black dwarf	A white dwarf that has cooled and is no longer releasing light or heat.

PHYSICS

Key Word	Definition
Black hole	The remains of a supernova. Gravity is so large that light itself cannot escape it.
Dark energy	Theoretical energy that is thought to be responsible for the expansion of the Universe, thought to make up approx. 68% of the Universe.
Dark matter	Theoretical invisible matter that accounts for approx. 27% of the Universe.
Fusion	The process of forcing Hydrogen nuclei together to form Helium nuclei.
Main sequence	The period of a star's life cycle where it is most stable and lives the longest.
Nebula	A cloud of gas and dust.
Neutron star	The remains of a supernova. Incredibly dense matter.
Protostar	A young star that releases light and heat through friction.
Red giant	A star that has run out of Hydrogen and is now fusing Helium together.
Red shift	The apparent change in the wavelengths of light from a star/galaxy that is receding from us.
Supernova	An exploding massive star.
White dwarf	The hot core of a star once all the outer layers have dispersed.

PRE

Keyword	Definition
	Existence of God
Agape	Christian selfless love
Anglican	a worldwide denomination including the Church of England
Apostles' Creed	statement of Christian belief
Ascension	Jesus going to heaven on 40th day after Easter
Atonement	making amends for wrongdoing. Idea of being at one with God
Baptism	ceremony of welcome to the religion
Catechism	a summary of Roman Catholic teaching
Church of England	Protestant Church set up by Henry VIII
Confirmation	initiation ceremony carried out by a bishop
Denomination	name for the different branches of the Christian Church
Ecumenical	relating the worldwide Christian Church community
Evangelism	preaching of faith to convert others
Fundamentalist	Christians who take the Bible literally
Gospel	name of the books about Jesus' life (Matthew, Mark, Luke and John)
Grace	unconditional love that god shows people who don't deserve it
Holy Land	Israel
Incarnation	God in human form

PRE

Keyword	Definition
Lord's prayer	prayer Jesus taught his disciples. Still used today
Messiah	the anointed one (Jesus) who is seen as the saviour by Christians
Methodist	a Protestant Christian group founded in 18th century by John Wesley
Miracles	events that have no scientific explanation; performed by Jesus according to the Gospels
Nicene Creed	statement of belief for all Christians
Omnipotent	all-powerful
Orthodox Church	a branch of the Christian Church
Penitence	feel regret for one's sins
Protestant	branch of Christianity that broke away from Roman Catholic Church
Quakers	branch of Christians aka Society of Friends
Reconciliation	the process of making conflicting people friendly again
Resurrection	the physical return of Jesus on the third day after his death
Roman Catholic	largest Christian group – led by the Pope in Rome
Salvation	the saving of a soul from sin
Secular	non-religious
St Paul	a man who taught and spread the teachings of Jesus
Trinity	belief in One God in three parts; God the Father, God the Son and God the Holy Spirit

PRE

Keyword	Definition
Buddhism	
Amitabha Buddha	Buddha worshipped by Pureland
Anatta	no permanent self or soul
Anicca – Impermanence	everything changes
Arhat – Theravada	someone who is enlightened
Ascetic	living a simple and strict lifestyle
Bodhisattva – Mahayana	someone who is enlightened
Buddha	one who has achieved enlightenment
Dependent Arising	the idea that all things arise and depend on each other for existence
Dharma (Dhamma)	the Buddha's teachings
Dukkha – first noble truth	suffering
Eightfold Path	8 ways to live as a Buddhists (middle way or wheel of life)
Enlightenment	gaining of true knowledge – freedom from cycle of birth, death and rebirth
Five Aggregates	parts that make up a person
Five precepts	moral principles for living an ethical life
Four Noble Truths	Buddha's teaching about suffering

PRE

Keyword	Definition
Four sights	old age, sickness, death and a holy man
Gompa	hall where Tibetan Buddhists meditate
Greed	one of the Three Poisons
Jataka	stories about the life of the Buddha
Karma	what goes around comes around
Karuna	loving compassion
Magga – fourth noble truth	follow 8-fold path
Mahayana	sub-groups of Buddhists including Zen, Tibetan and Pure Land
Meditation	practice of focusing and calming the mind
Metta	loving kindness
Monastery (vihara)	place where monks and nuns live
Nirodha – third noble truth	all suffering can be stopped
Nirvana (Nibbana)	state of complete enlightenment
Pali Canon	key Buddhists text/scripture
Parinirvana Day	festival to mark Buddha's death
Samatha Meditation	calming meditation
Samsara	cycle of birth, death and rebirth
Samudaya – second noble truth	there are causes of suffering

PRE

Keyword	Definition
Sanskrit	language of later Buddhist texts
Shrine	place where Buddha statue provides focal point for meditation
Six Perfections	qualities that Mahayana Buddhists use to live their life by
Stupa	building that contains statues and relics
Sunyata	nothing has a separate self or soul
Tanha	craving
Theravada	ancient Buddhist tradition
Three Poisons	main causes of suffering; greed, hatred and ignorance
Vipassana meditation	'insight' meditation
Wesak	festival that celebrates birth of Buddha
Zazen Meditation	Zen meditation; awareness of present

Relationships and Families

Adultery	sexual relationship where one or both of the people are married
Asexual	having no sexual feelings or expressions
Civil partnership	legal union between couples (often same-sex). Not of religious character but same rights as marriage
Cohabitation	a couple living together
Contraception	methods to prevent pregnancy e.g. condom
Divorce	legal termination of marriage
Faith schools	schools that educate and promote a certain belief

PRE

Keyword	Definition
Family planning	controlling how many children a couple has and when they have them
Gender discrimination	acting on prejudice based on gender
Gender prejudice	holding biased opinions based on gender
Heterosexual relationships	between a man and a woman
Homosexual relationships	between two members of the same sex
Human sexuality	refers to how people express themselves a sexual being
LGBTQ	lesbian, gender, bisexual, transgender, queer or questioning
Marriage	legal union between two people (this can now be same-sex in the UK). Sometimes religious but not always
Polygamy	having multiple partners
Rhythm method	form of contraception where sex is avoided at certain fertile times of the menstrual cycle (often preferred by Catholics)
Sexual stereotyping	having a fixed idea of how men and women behave
'the morning after pill'	taken after sex by the woman to prevent fertilised egg from developing
The pill	term for form of contraception (over 70 different types) that women take to stop the egg from being fertilised.

PRE

Keyword	Definition
Transgender	gender identity is different from biological gender assigned at both. 'Trans' is a term that is an umbrella term for many sub-definitions
	Religion and Life
Abortion	termination of a pregnancy
Big bang theory	event that took place roughly 13.8 billion years ago that was the first event in the formation of the universe
Conception	moment at which the egg fertilises the sperm
Creationist (young earth)	fundamentalist Christian that believe the world was literally created in 6 days and is around 6,000 years old
Day of Judgement	religious belief when all souls will be judged before God. Christianity says it's the day Jesus will return (Rapture/Second Coming)
Dependent arising	all things are linked and caused by something else. The universe is cyclical and has no fixed beginning
Dominion	Christian belief that Earth is for mankind to rule over
Enlightenment	state achieved when one is longer suffering. Will not be reborn into the cycle of birth, death, rebirth
Euthanasia	helping someone else to end their life, usually when they are terminally ill or there is no hope of recovery. Four types; active, passive, voluntary, involuntary
Evolution (Darwinian)	complex forms of life have developed and mutated from less complex ones. Survival of the fittest genes

PRE

Keyword	Definition
Foetus	development of an embryo in the womb during pregnancy
Genealogies	combination of the ages of the key people in the Bible from Adam and Eve to Jesus Genesis – first book of the Bible, containing creation story
Heaven/Hell	either symbolic state or literal place after death. Christian beliefs about the detail varies depending on denomination
Nibbana	state of a soul being free from suffering after Enlightenment
Origin of Species	Charles Darwin's book (1859) detailing theory of evolution
Poisoned arrow story	Buddhist parable suggesting it is pointless to focus on questions about the past as it does not aide with becoming enlightened now
Pro-choice	abortion should the decision of the mother
Pro-life	life is sacred and abortion should be banned or discouraged
Purgatory	Catholic place where one goes after death to pay for sins before entering heaven
Quality of Life	the belief that someone's enjoyment and standard of living is important
Samsara	birth, death and rebirth
Sanctity of Life	all life is sacred (and belongs to God)
Stewardship	Christian belief that the we must care for and look after God's world and everything in it
Vegan	no consumption of animals or animal related products e.g. eggs

PRE

Keyword	Definition
Vegetarian	no consumption of animals
Vivisection	experimentation on animals for medical purposes
Crime and Punishment	
Capital Punishment	the death penalty
Community service order	punishment; criminal has to do a set number of hours' work in the community
Conscience	sense of right and wrong; feeling guilty
Corporal punishment	physically hurting the criminal as punishment
Crime	breaking the law; can be against person, property or the state
Deterrence	aim of punishment to put others off doing it
Duty	something we are bound to do
Evil	something (someone) considered morally wrong; wicked.
Forgiveness	letting go of anger towards someone for a wrong they have done
Hate crime	a crime committed because of prejudice eg beating someone up for being gay. In UK, it can mean doubling a sentence if found guilty
Imprisonment	locking someone up as a punishment
Justice	making things fair again
Law	the rules which govern a country to keep it safe
Order	the enforcement of rules e.g. by police force
Parole	release of a criminal from prison, but continue to monitor their behaviour

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Keyword	Definition
Probation order	punishment; monitoring of behaviour with the threat of greater punishment if found offending again
Protection	aim of punishment to keep people safe
Reformation	aim of punishment to help a person see how they can behave better
Reparation	aim of punishment to make up for or compensate victim
Retribution	aim of punishment to get someone back for what they have done
Victim	the one against whom a crime is committed
Young offender	person under 18 who commits a crime