



Knowledge Organiser

Year 10 Term 1 and 2



Look



Cover



Write



Check



Correct

Day	Knowledge Organiser	Subjects	Hand in day
Monday			Masters of Recall, Maths S band, Option B and English
Tuesday			Maths E band, Option A, Science and French
Wednesday			Hist/Geog
Thursday			
Friday			
Saturday			
Sunday			

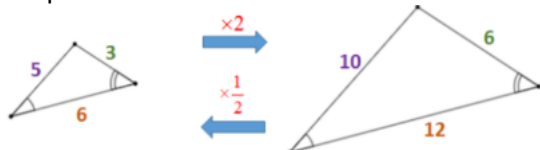
*'Successful and unsuccessful people do not vary greatly in their abilities. They vary in their **desires to reach their potential.**' John Maxwell*

ACADEMIC EXCELLENCE, AMAZING EXPERIENCE

English	An Inspector Calls	Year 10	Term 1
Week 1: disciplinary vocabulary	Week 2: academic writing	Week 3: academic writing	
<p>catharsis: where the audience experiences an emotional release when something violent or dramatic happens.</p> <p>proxemics: the use of space and distance between characters on stage.</p> <p>omniscient character: a character in a play who is all-seeing and all-knowing.</p> <p>euphemism: when an unpleasant or offensive word or phrase is represented by a less offensive word or phrase, e.g., 'women of the town' instead of 'prostitutes'.</p> <p>polemic: a strong verbal or written attack on someone or something.</p>	<p>ACADEMIC VERBS</p> <p>The author critiques, alludes to, attacks, characterises, satirises, denounces, provokes the reader to..., challenges, compels...</p> <p>The text... unravels, reveals, unveils, illuminates, highlights...</p> <p>TENSION/STRUCTURE</p> <p>...creates tension for the reader...</p> <p>...builds to the moment when...</p> <p>This is a dramatic climax for the reader...</p> <p>In the opening, the writer establishes...</p> <p>...is a moment of shift because...</p>	<p>LINKS/DEVELOPMENT</p> <p>...is influenced by...</p> <p>This moment is a clear echo of...</p> <p>...mirrors the events of...</p> <p>...drawn from the writer's experience of...</p> <p>CHARACTER JOURNEY</p> <p>The character undergoes a profound change when...</p> <p>This is a critical moment for the character...</p> <p>...is a key juncture in the character's journey...</p> <p>The character experiences a moment of realisation when...</p> <p>...forces the character to...</p>	
Week 4: structure	Week 5: quotations	Week 6: quotations	
<p>non-linear narrative: where a story is told out of chronological order, often using flashbacks and flash forwards.</p> <p>filler: do not have a conventional meaning, they are used in speech to allow time to think, create a pause or to hold a turn in conversation. This can be known as a 'voiced pause'. E.g., er, erm, um, ah.</p> <p>foreshadowing: hints or suggestions in the text that something will happen in the future.</p> <p>interjection: when someone speaks over another speaker – this can be appropriate or inappropriate depending on the situation.</p>	<p>Birling</p> <ul style="list-style-type: none"> 'we are in for a time of steadily increasing prosperity' 'the way some of these cranks talk and write now, you'd think everybody has to look after everybody else' 'the famous younger generation who know it all' <p>Inspector</p> <ul style="list-style-type: none"> 'but each of you helped to kill her. Remember that' 'there are millions and millions and millions of Eva Smiths and John Smiths still left with us, with their lives, their hopes and fears, their suffering, and chance of happiness, all intertwines with our lives, with what we think and say and do. We don't live alone.' 	<p>Sheila</p> <ul style="list-style-type: none"> 'but these girls aren't cheap labour – they're people' 'it's the only time I've ever done anything like that, and I'll never, never do it again to anybody' 'we all started like that – so confident, so pleased with ourselves until he began asking questions' <p>Eric</p> <p>'I'm not very clear about it, but afterwards she told me she didn't want me to go in by that – well, I was in that state when a chap easily turns nasty – and I threatened to make a row.'</p> <p>Mrs Birling</p> <p>'she was claiming elaborate fine feelings and scruples that were simply absurd in a girl in her position'</p>	

English	A Christmas Carol	Year 10	Term 2
Week 1: context	Week 2: disciplinary vocabulary	Week 3: characters	
<p>Dickens's childhood: his dad got into debt and sent to debtors' prison. Dickens's mother and 7 children moved into prison with Charles living alone and working with child labourers.</p> <p>Dickens's intentions: criticism of the Victorian Era's class system and how the upper and middle classes treated the lower, with Scrooge representing the higher classes and the Cratchits the lower. There was a huge divide between the rich and the poor as well as a significant difference of how they were treated.</p> <p>disabled children: many of Dickens's children died. Reflective of Tiny Tim. Many children and disabled children were judged and looked down upon.</p>	<p>contrast: an obvious difference between two or more things.</p> <p>transformation: a change in the appearance of a character. A person is normally improved.</p> <p>narrative voice: the perspective the story is told from. There is an omniscient narrator in A Christmas Carol.</p> <p>foreboding: a feeling that something bad will happen; fearful apprehension</p> <p>allegory: a story, poem, or picture that can be interpreted to reveal a hidden meaning, typically a moral or political one.</p>	<p>Ebenezer Scrooge: miserable, bitter, cold-hearted</p> <p>Bob Cratchit: poorly paid clerk, loyal family man</p> <p>The Ghost of Jacob Marley: Scrooge's ex business partner</p> <p>Fred (Scrooge's nephew): joyful, generous, friendly and loyal</p> <p>The Ghost of Christmas Past: childlike yet aged</p> <p>The Ghost of Christmas Present: giant, jolly spirit</p> <p>The Ghost of Christmas Yet to Come: a silent hooded phantom</p> <p>Belle: Scrooge's ex fiancée</p> <p>Tiny Tim: Bob's son, disabled from birth, ill, and walks with a crutch, well loved</p> <p>Fezziwig: Scrooge's former employee, generous and jovial</p>	
Week 4: key plot points	Week 5: themes	Week 6: key quotations	
<p>Stave 1: Scrooge makes Bob Cratchit work in the cold, refuses to support the charity workers, declines an invitation from Fred and is visited by Marley.</p> <p>Stave 2: Ghost of Christmas Past wakes Scrooge and shows him his childhood, his apprenticeship and his failed engagement.</p> <p>Stave 3: Ghost of Christmas Present takes him to the Cratchit's home, he is saddened by the ill Tiny Tim. He is also shown how others celebrate Christmas together.</p> <p>Stave 4: Ghost of Christmas Yet to Come terrifies Scrooge with visions of his death.</p> <p>Stave 5: Christmas Day and Scrooge is delighted to find he has the chance to repent. He buys a turkey for the Cratchits and attends his nephew's party.</p>	<p>redemption: the idea of being saved from sin or evil. Scrooge: greedy, selfish miser to a generous and good-natured character by the end.</p> <p>social injustice: Scrooge refuses to help the poor, the characters of Ignorance and Want are suffering, and the thieves are so desperate they steal from dead Scrooge.</p> <p>generosity: the ideas of generosity and compassion that we associate with Christmas to highlight Scrooge's transformation. Scrooge changes from a miserly man, contrasting with the spirit of Christmas, to someone who is full of joy.</p> <p>family: illustrates Scrooge's transformation from being malice, misanthropic and cold to philanthropic and caring. Images of isolation from his family eventually disintegrate and form a new image of love and unity.</p>	<ul style="list-style-type: none"> • 'He was as tight-fisted as a grindstone' (About Scrooge) • 'Are there no prisons, no workhouses for the poor?' (Scrooge) • 'A lonely boy was sat reading near a feeble fire' (About Scrooge) • 'Tell me Tiny Tim will live...' (Scrooge to the Ghost of Christmas Present) • 'I will honour Christmas in my heart, and try keep it the whole year round' (Scrooge) • 'I'll raise your salary Bob and endeavour to assist your struggling family' (Scrooge) • 'It was always said of him that he knew how to keep Christmas well' (About Scrooge) 	

Maths	Developing Algebra & Similarity	Year 10	Term 1
<div><div><div>variable</div><div>7x + 8</div><div>coefficient</div></div><div>variable: a symbol for a value we do not know. It can be a range of values.</div><div>coefficient: the amount of a variable.</div><div>substitute: replace a variable with a value.</div><div>like terms: have the same variable and power.</div><div>simplify: we simplify by adding, subtracting, multiplying or dividing. e.g. $m^3 + m^3 = 2m^3$ but $m^3 \times m^3 = m^6$</div></div>	<div><div>base: the number or variable that is repeatedly multiplied when using an index.</div><div>index (or power): represents how many times to repeatedly multiply the base.</div><div><div>$= 3 \times 3 \times 3 \times 3 \times 3$</div><div><div>BASE</div><div>3</div><div>5</div><div>INDEX</div></div></div></div> <div><div>Laws of Indices</div><div><div>$a^m \times a^n = a^{m+n}$</div><div>$a^m \div a^n = a^{m-n}$</div><div>$(a^m)^n = a^{mn}$</div></div><div><div>Examples</div><div>$3^8 \times 3^2 = 3^{10}$</div><div>$\frac{3^8}{3^2} = 3^8 \div 3^2 = 3^6$</div><div>$(3^8)^2 = 3^{16}$</div></div></div>	<div><div>Week 3: Expanding, Factorising, Solving</div><div>expand: rewrite the expression without brackets. E.g. $4(y + 3)$ means $4y + 12$</div><div>factorise: rewrite the expression with brackets. E.g. $4y + 12$ means $4(y + 3)$</div><div>solution: a value we can put in place of a variable that makes the equation true.</div><div>Solve: find a numerical value that satisfies an equation</div></div>	
<div><div>Week 4: Inequalities</div><div>Inequality – compares two values that are not equal.</div><div><div><div>larger</div><div>$>$</div><div>smaller</div></div></div><div>Greater than: symbol is $>$ and is shown on a number line with a hollow circle.</div><div>$n > -1$</div><div>$n \leq 3$</div><div>$-1 < n < 3$</div><div>Less than: symbol is $<$ and is shown on a number line with a hollow circle.</div><div>Greater or equal: symbol is $\geq$ and is shown on a number line with a shaded circle.</div><div>Less or equal: symbol is $\leq$ and is shown on a number line with a shaded circle.</div></div>	<div><div>Week 5: Subject of the formula</div><div>subject: the subject of a formula is the variable that is being worked out.</div><div><div>$A = bh$</div><div>$A = \frac{1}{2}bh$</div></div><div>These formulas circled have a subject of A</div><div>Rearrange: to change the form of the equation to display it in a different way. This is sometimes called changing the subject.</div><div><div>$\frac{A}{h} = \frac{bh}{h}$</div><div>$\frac{A}{h} = b$</div></div><div>“Rearrange the formula to make <i>b</i> the subject”</div></div>	<div><div>Week 6: Solving Quadratics</div><div>Quadratic: a quadratic equation/expression is an equation/expression of degree 2, meaning that the highest exponent (power) of this function is 2 E.G. $x^2 + 5x + 6$</div><div>$x^2 + 9x + 18 = 0$ To solve by factorising:</div><div><div>Factors of 18:</div><div><div>1, 18</div><div>2, 9</div><div>3, 6</div></div></div><div>$(x + 3)(x + 6) = 0$ $x = -3$ or $x = -6$</div><div><div>1. Calculate the factors of the ‘C’ term</div><div>2. Identify the pair of factors which would add or subtract to find the ‘B’ term</div><div>3. Factorise the quadratic</div><div>4. Solve each bracket</div></div></div>	

Maths	Developing Algebra & Similarity	Year 10	Term 2
Week 1: FDP Basics $Tenth = \frac{1}{10} = 0.1 = 10\%$ $Hundredth = \frac{1}{100} = 0.01 = 1\%$ $Half = \frac{1}{2} = 0.5 = 50\%$ $Third = \frac{1}{3} = 0.\dot{3} = 33.\dot{3}\%$ $Quarter = \frac{1}{4} = 0.25 = 25\%$ $Fifth = \frac{1}{5} = 0.2 = 20\%$	Week 2: Percentages Increase by a percent: percentage value is found and added to the original amount. Decrease by a percent: percentage value is found and subtracted from the original amount. Multiplier: decimal used to calculate a percentage of an amount or increase/decrease an amount by a percentage. Percentage change: comparison between 2 values expressed as a percentage of the original.	Week 3: Interest interest: a percentage added to an amount of money. Simple interest: A type of interest where the percentage of money added is the same amount each time Example: <u>£300 is invested for 2 years at 4% per year simple interest.</u> <u>Work out the total interest.</u> $1\% \text{ of } £300 = £3$ $4\% \text{ of } £300 = £12$ $£12 \times 2 = £24$	
Week 4: Ratio colon: these two dots are a colon : We say 'to' when we read it. ratio: a part to part comparison.  The ratio blue to white is 1:3. "For every 1 blue part, there are 3 white parts." equal parts: In a ratio all parts are of equal size. "The ratio 1:3 represents 4 equal parts in total"  equivalent ratios: use multiplicative relation to create ratios with the same value. 2 : 3 is equal to 4 : 12	Week 5: Ratio and Fractions fractions and equivalent ratios: a ratio can always be written as an equivalent fraction because they both work with equal parts. The ratio blue to white is <u>2</u> : 3  There are 5 equal parts The fraction that is blue is $\frac{2}{5}$ The fraction that is blue is $\frac{3}{5}$	Week 6: Ratio and Scale similar shapes: when one shape is an enlargement of another then the two shapes are similar . The shapes have corresponding sides that are proportional. corresponding: in the same position on two similar shapes.  scale factor: a multiplier which shows how much a shape is enlarged by. "The ratio of the lengths of Triangle A to Triangle B is 1:2"	

Maths

Maths Supplement

Year 10

Term 1 and 2

Rearranging a Complex Formula

$$\frac{a}{3} = \frac{2-7x}{x-5}$$

$\times 3$ $\times 3$

$\times(x-5)$ $\times(x-5)$

$$a(x-5) = 3(2-7x)$$

expand *expand*

$$ax - 5a = 6 - 21x$$

$+5a$ $+5a$

$+21x$ $+21x$

$$ax + 21x = 6 + 5a$$

factorise

$$x(a + 21) = 6 + 5a$$

$\div a + 21$ $\div a + 21$

$$x = \frac{6 + 5a}{a + 21}$$

Difference of Two Squares (DOTS)

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

Examples:

$$\begin{aligned} 9x^2 - 16 \\ &= (3x)^2 - 4^2 \\ &= (3x + 4)(3x - 4) \end{aligned}$$

$$\begin{aligned} 4x^2 - 81y^2 \\ &= (2x)^2 - (9y)^2 \\ &= (2x + 9y)(2x - 9y) \end{aligned}$$

Compound Interest

Compound Interest: A type of interest where the percentage of money added changes each time depending on the money that they have in their account at the end of each year

Formula:

Where P is the principal amount, r is the interest rate over a given period and n is number of times that the interest is compounded:

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

Combining Ratios

Combining Ratios Means to write separate ratios with a common variable as one combined ratio

If $x : y = 3 : 4$ and $x : z = 7 : 8$.

Find the ratio $x : y : z$

$$\begin{array}{ccc} x : y & & x : z \\ \text{3 : 4} & & \text{7 : 8} \\ \times 7 & \curvearrowright & \times 3 \\ \text{21 : 28} & & \text{21 : 24} \end{array}$$

$$\begin{aligned} x : y : z \\ \text{21 : 28 : 24} \end{aligned}$$

Ratio and Algebra

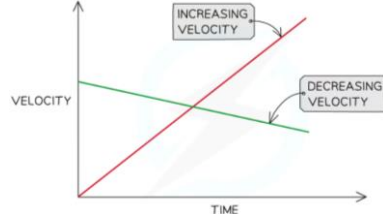
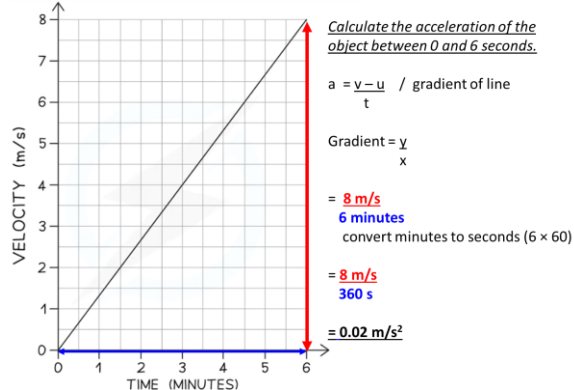
There is a link between a ratio in algebra and an algebraic equation

$$\begin{aligned} x : y &= 4 : 3 \\ 3x &= 4y \end{aligned}$$

Week 1: Speed and Acceleration

speed	the rate at which an object moves
speed (m/s)	$\text{speed (m/s)} = \frac{\text{distance(m)}}{\text{time (s)}}$
acceleration	the rate of change in increasing velocity measured in m/s ²
acceleration (m/s²)	$\text{acceleration (m/s}^2\text{)} = \frac{\text{change in velocity}}{\text{time (s)}}$
negative acceleration	the rate of change in decreasing velocity measured in m/s ²
uniform acceleration	an object's speed is increasing at a constant rate
scalar	a quantity that has a magnitude only e.g. speed, distance
vector	a quantity that has a magnitude and an associated direction e.g. velocity, displacement
displacement	the overall distance travelled by an object from a fixed point
distance	a measure of how far an object moves - does not include an object's direction (this is a scalar quantity)

Week 2: Motion Graphs

distance-time graph	a graph that shows how the distance travelled by an object changed with time
tangent	a straight line touching a curve at a given point used to calculate the gradient
velocity-time graph	a graph used to show how the velocity of a moving object changes over time
velocity	the speed at which an object is moving in a particular direction - the symbol for velocity is v and it is measured in m/s (this is a vector quantity because it has a magnitude and a direction)
increasing / decreasing velocity on a graph	
How to calculate acceleration from a velocity-time graph	

Week 3: Equations of Motion

equation of motion	an equation that links velocity, acceleration, distance, and time - used to calculate the final velocity, initial velocity, acceleration, or displacement	
	$v^2 - u^2 = 2as$	
	kinetic energy (J) = 0.5 × mass (kg) × speed ² (m/s)	
	$E_k = \frac{1}{2}mv^2$	
<u>International System of Units (SI)</u>		
Variable	Symbol	SI Unit
initial velocity	u	m/s
final velocity	v	m/s
acceleration	a	m/s ²
displacement	s	m
time	t	s
energy in the kinetic store	energy (J) stored in objects that are moving	
Newton's third law	<i>"for every action there is an equal and opposite reaction"</i> it is more useful to think of the law as <i>"forces always come in pairs"</i>	
force arrow	forces are vectors; we can show their magnitude and direction using an arrow	
Newton's first law	<i>"an object will continue to stay at rest or move with uniform velocity unless a force acts on it"</i> a resultant force is needed to change the motion (speed or direction) of an object	

Week 4: Work and Power		Week 5: Forces in Action		Week 6: Gravitational Field and Potential Energy	
Newton's second law	the acceleration that a resultant force produces on an object depends upon 1) the size of the resultant force 2) the mass (inertia) of the object Newton's second law equation: force (N) = mass (kg) × acceleration (m/s ²) F=ma	compress	forces can compress objects	gravitational field	a region where a mass experiences an attractive force
doing work	using a force to transfer energy between stores	stretch	forces can stretch objects (tension)	gravitational field strength (g)	also known as gravity constant - the gravitational field strength on Earth is 10 N/kg, however it varies on different celestial bodies Gravity = mass × gravitational field strength (N) (kg) (N/kg) W=mg
joules (J)	the unit of measurement for energy	bend	forces can bend objects	acceleration due to gravity	also known as the acceleration of free fall - on Earth this is always 10 m/s ²
newton-metre (Nm)	one joule of work is done when a force of one newton causes a movement of one metre - this means that work done can also be measured in newton-metres (Nm) 1J = 1Nm	plastic	materials that do not return to their original shape after a force is applied e.g. modelling clay	gravitational potential energy	when you lift an object in a gravitational field you transfer chemical energy from your muscles to the gravity store; this is called gravitational potential energy <div> <div>chemical (muscles)</div> <div>doing work</div> <div>Gravitational Potential (object)</div> </div>
power (W)	the rate at which energy is transferred, measured in watts (W) power (W) = $\frac{\text{work done (J)}}{\text{time (s)}}$	elastic	materials that can return to their original shape when a force is removed e.g. springs		GPE = mass × height × gravitational field strength (J) (kg) (m) (N/kg) E_g = mhg
resultant force	an overall force that can 1) change the speed of an object 2) change the direction of motion of an object 3) change both of the above	Hooke's law	the extension of a spring is proportional to the force until you reach the limit of proportionality Hooke's law equation: force (N) = spring constant (N/m) × extension (m) linear relationship		
			a graph that plots force against extension has a straight line, showing a linear relationship, until the limit of proportionality is reached		
		limit of proportionality	the point beyond which Hooke's law is no longer true when stretching a material		
		elastic limit	the point at which a material does not return to its original length - it is permanently deformed		
		spring constant (N/m)	a measure of the stiffness of a spring up to its limit of proportionality		

Science

Physics Supplement

Year 10 Term 1

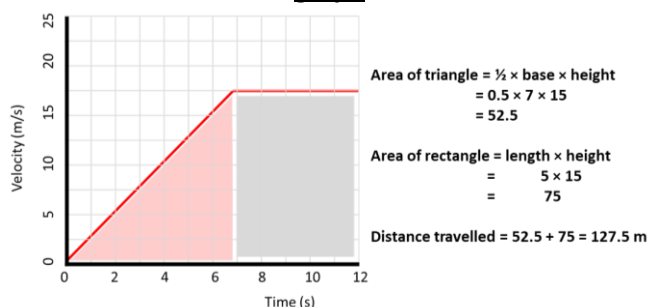
Velocity-Time Graphs

area of a triangle $\frac{1}{2} \times \text{base} \times \text{height}$

area of a rectangle $\text{length} \times \text{height}$

distance travelled the area under a velocity-time graph

Calculating distance travelled using a velocity-time graph



Free body diagrams

free body diagram shows the forces acting on a single object - objects are represented as dots or boxes

resultant forces the overall force when two or more forces are added together as vectors

Pythagoras theorem $a^2 + b^2 = c^2$

component (of a force) one of two forces that can be used to make up a resultant

Inertia

inertia the tendency of an object to continue in its current state (at rest or in uniform motion) unless acted on by a resultant force

equilibrium an object is in equilibrium when all forces cancel – the resultant force is zero

objects moving in a circle can have a steady speed velocity is constantly changing (because direction of motion is constantly changing)

terminal velocity the velocity that a moving object achieves then the resultant force is zero

Momentum

momentum a quantity relating to a moving object that is calculated by multiplying its mass by its velocity

momentum (kg m/s) = mass (kg) × velocity (m/s)

law of conservation of momentum in a collision momentum before is equal to momentum afterwards, momentum is conserved

elastic collision a collision in which kinetic energy is conserved

inelastic collision a collision in which kinetic energy is not conserved

Turning Forces

moment (Nm) = force (N) × distance (m)

principle of moments an object is balanced if the anticlockwise moments are equal to the clockwise moments about the pivot

effort the force that you exert on a lever

load the force that the lever exerts on the load

mechanical advantage the ratio of the load to the effort

mechanical advantage = load ÷ effort

gears work like levers that rotate

Hydraulics

pressure force per unit area

pascal (pa) the unit of measurement for pressure

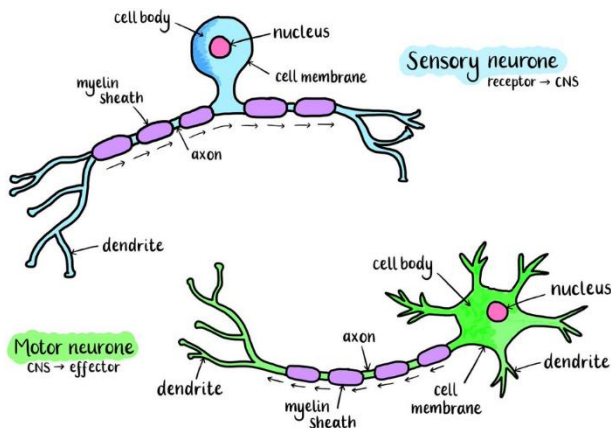
pressure (Pa) = $\frac{\text{force normal to the surface (N)}}{\text{area of that surface (m}^2\text{)}}$

hydraulic machine a machine that uses a liquid to transmit a force - this works because it is almost impossible to compress the particles of a liquid

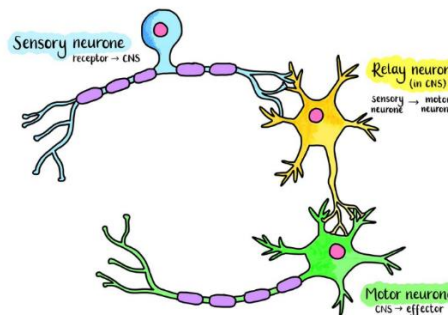
force multiplier a device that increases the effect of a force e.g. a hydraulic machine

Week 1: The Nervous System

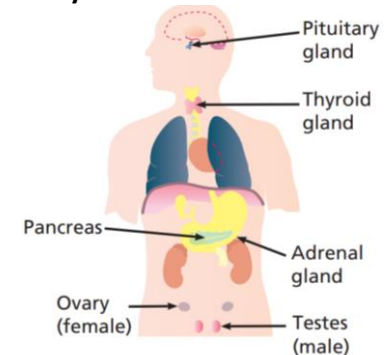
stimulus	a change in the environment
receptor	a group of specialised cells that detects a stimulus
sensory neuron	transmits electrical impulses from the receptor to the central nervous system
central nervous system (CNS)	composed of the brain and spinal cord, this is where nervous information is processed
motor neuron	transmits electrical impulses from the central nervous system to the effector
effector	muscles and glands which respond to impulses from the nervous system
steps in a coordinated response	stimulus → receptor → sensory neuron → CNS → motor neuron → effector → response


Week 2: The Nervous System

dendrite	part of a neuron that conducts a nervous impulse towards the cell body
axon	part of a neuron that conducts a nervous impulse away from the cell body
myelin sheath	a fatty insulating layer around the axon of sensory and motor neurons
relay neuron	neurons that carry electrical impulses from sensory neurones to motor neurones
reflex action	a rapid, automatic nervous response that does not involve the brain
	the pathway followed by a nervous impulse during a reflex action: stimulus → receptor → sensory neuron → relay neuron → motor neuron → effector → response

reflex arc


Measuring reflex action time – practical investigation


Week 3: The Endocrine System
The Endocrine System


endocrine gland	gland which produces and secretes a hormone
hormone	a chemical messenger which travels in the blood plasma
target organ	an organ a hormone has an effect on
homeostasis	maintenance of a constant internal environment
ovulation	the release of a mature ovum (egg) from an ovary
follicle stimulating hormone (FSH)	a female hormone that causes a follicle to mature - it also stimulates the ovaries to release oestrogen
oestrogen	a female hormone that causes the lining of the uterus to build up
luteinising hormone (LH)	a female hormone that causes ovulation
progesterone	a female hormone that maintains the uterus lining during pregnancy

Week 4: Controlling Reproduction

contraception	a method used to prevent pregnancy
non-hormonal contraception	barrier methods of contraception to prevent a sperm meeting an ovum
hormonal contraception	use of hormone to disrupt the female menstrual cycle to prevent a pregnancy
conceive	to become pregnant
infertile / infertility	unable to conceive naturally
fertility treatment	a technique used to increase a woman's chances of conceiving
fertilisation	the fusion of sex cell nuclei

How does IVF work?

1. Give the female FSH and LH to cause many ova to mature and release.
2. Collect the ova from the female and fertilise by sperm from the male in a dish in a lab.
3. The fertilised egg develops into an embryo.
4. At the stage when they are a tiny ball of cells, one or two embryos are inserted into the female uterus.

Week 5: Controlling Body Temperature

thermoregulation	the control of body temperature in warm-blooded animals
thermoregulatory centre	a part of the brain responsible for regulating body temperature
normal body temperature	~37°C in humans
vasoconstriction	narrowing of blood vessels, decreasing blood flow through the capillaries near the surface of the skin
vasodilation	widening of blood vessels, increasing blood flow through capillaries near the surface of the skin
shiver	the rapid contraction and relaxation of muscles, causes cells to respire more quickly and transfer energy by heating

Physiological response to being too hot:

- Body hairs lie flat on skin
- Sweat glands produce sweat
- Blood vessels vasodilate

Physiological response to being too cold:

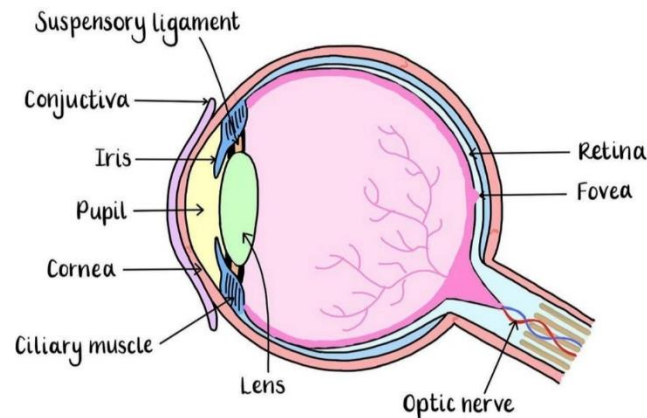
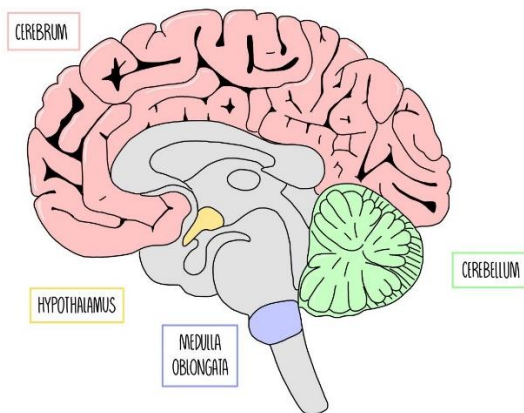
- Body hairs rise to trap an insulating layer of air
- Sweat is not produced
- Blood vessels vasoconstrict
- Shivering starts

Week 6: Controlling Blood Glucose Levels

glucose	a simple sugar used in respiration - $C_6H_{12}O_6$
insulin	a hormone which stimulates the liver to turn glucose into glycogen, decreasing blood glucose levels - produced in the pancreas
pancreas	an endocrine gland that produces the hormones insulin and glucagon for the homeostasis of blood glucose levels
diabetes	a medical condition which affects a person's control of blood glucose levels
type 1 diabetes	a disorder in which the pancreas fails to produce enough insulin
type 2 diabetes	a person's body cells no longer respond to insulin produced by the pancreas - obesity is a risk factor for type 2 diabetes
glucagon	a hormone which stimulates the liver and muscle tissues to turn glycogen into glucose, increasing blood glucose levels - produced in the pancreas
glycogen	animals store glucose as glycogen in their liver and muscle tissues.

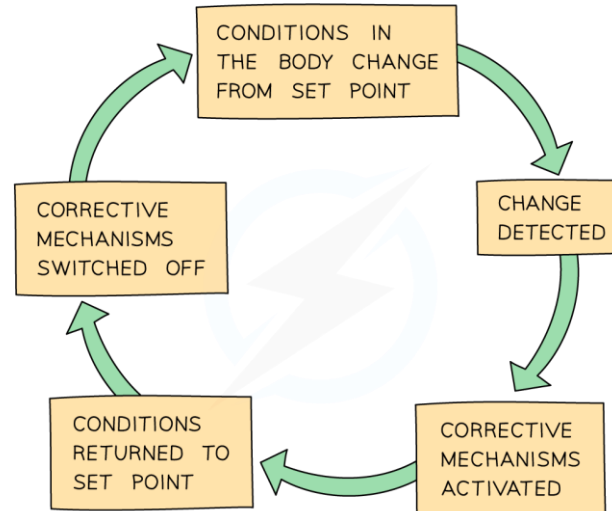
The Nervous System (Eye and Brain)

central nervous system (CNS)	brain and spinal cord
peripheral nervous system (PNS)	neurones (sensory and motor) that connect the CNS to the rest of the body
causes of PNS or CNS damage	injury / disease; genetics; ingesting toxic substances (e.g. lead)



Negative Feedback & Infertility Treatment

Memorise the stages of a negative feedback cycle.



Stages of *in-vitro* fertilisation (IVF)

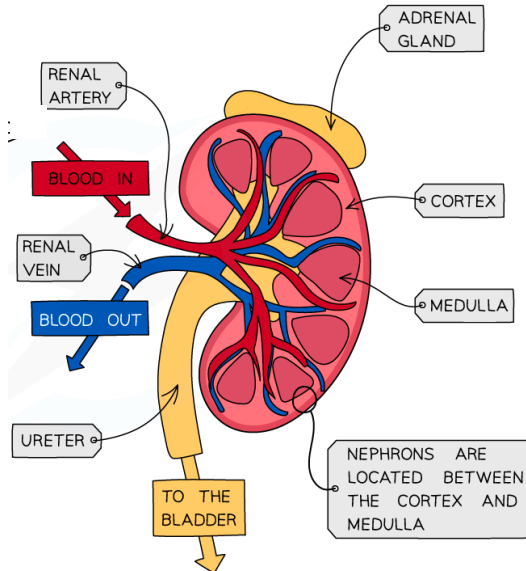
Stage1	Give the female FSH and LH to cause many ova to mature and release.
Stage2	Collect the ova from the female and fertilise by sperm from the male in a dish in a lab.
Stage3	The fertilised egg develops into an embryo.
Stage4	At the stage when they are a tiny ball of cells, one or two embryos are inserted into the female uterus.

Plant Hormones and their uses

tropism	plants detect stimuli in their environment and respond by growth in a particular direction
phototropism	means growing towards the light - happens in the shoots of plants
gravitropism	growing in the same direction as gravity - happens in the roots of plants
auxin	a plant hormone that allows growth away from or towards a stimulus (light or gravity)
auxins	stimulate growth by causing cell elongation
ethene	causes plant fruits to ripen by stimulating starch to convert into sugar
gibberellins	promote growth (stem elongation); end dormancy stage of seeds and buds
uses of plant hormones	<ul style="list-style-type: none"> • killing weeds • promote root growth • delay ripening • ripening fruit • producing seedless fruit • controlling dormancy

Kidneys and Maintaining Water Balance

Memorise the parts of the kidney.



water loss from the body

- sweating
- urine
- water vapour (exhaling)

excretion

removal of waste products from the body

lysis

water moves by osmosis into a cell causing them to swell and burst

kidney

filter urea out of the blood and produce urine constantly; regulates salt and water concentration in body

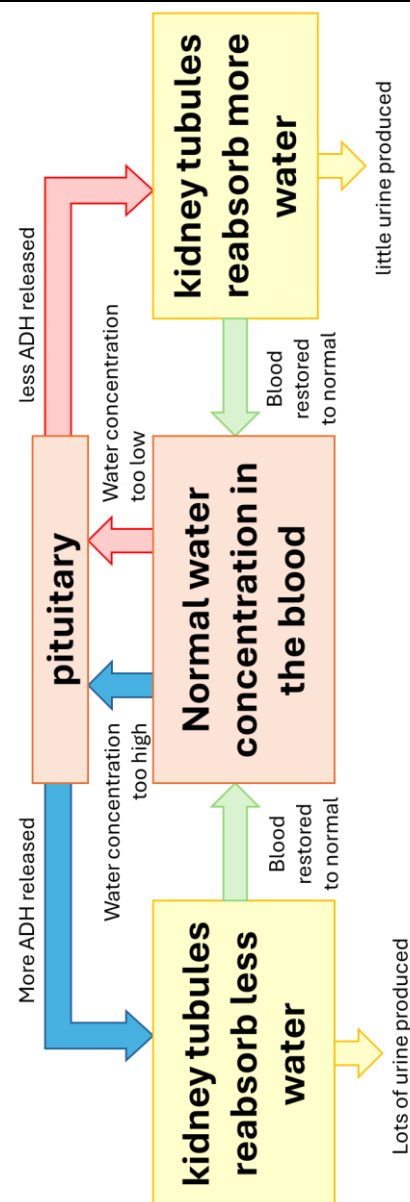
bladder

stores urine until you urinate

urea

a toxic waste substance

Controlling Urine Production



Osmotic Challenges

recommended water intake

2 litres per day

thirst response

caused by an increase of salt concentration in the water potential of your body

dehydration

a condition where you have not taken enough water into your body - symptoms: dark, concentrated urine, headache / dizziness, lack of energy

hypertonic

contains high levels of glucose and salts

hypotonic

contains low levels of glucose and salts

isotonic

equal concentration of glucose and salt as blood plasma

anti-diuretic hormone (ADH)

a hormone that causes the kidneys to reabsorb water into the blood

French		Year 10	Term 1																								
Week 1: Expressing opinions Definite articles: ‘the’ – in French this is le (m), la (f), les (pl) and is used with a noun designating a specific person, place or thing and is used for giving opinions. Indefinite articles: ‘a’ – in French this is un (m), une (f), des (pl) and is used with unspecified nouns Partitive articles: ‘some/any’ – in French this is du (m), de la (f), des (pl) and is used for unknown quantities or unaccountable things. However, when we say what we play / do, this changes e.g. j’adore jouer au basket mais je déteste faire de l’équitation.		Week 2: Ma vie en ligne There are many regular -er verbs in French. Conjugation is the transformation of an infinitive into a tense. <table><tr><th colspan="2">jouer (to play)</th></tr><tr><td>je joue</td><td>I play</td></tr><tr><td>tu joues</td><td>you (sing) play</td></tr><tr><td>il / elle / on joue</td><td>he/she plays we play</td></tr><tr><td>nous jouons</td><td>we play</td></tr><tr><td>vous jouez</td><td>you (pl) play</td></tr><tr><td>ils /elles jouent</td><td>they (m/f) play</td></tr></table> N.B. envoyer (to send) is irregular and does not follow this pattern and in these forms y changes to ie j’envoie il envoie elles envoient		jouer (to play)		je joue	I play	tu joues	you (sing) play	il / elle / on joue	he/she plays we play	nous jouons	we play	vous jouez	you (pl) play	ils /elles jouent	they (m/f) play										
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Week 3: Ma vie en ligne <div>To give opinions using c’est (it is) the adjective that follows must always be in the masculine form for example: c’est ennuyeux / amusant / nul</div> c’est inquiétant it is worrying The following terms are often used to express contrasting points of view: <table><tr><td>cependant</td><td>however</td></tr><tr><td>mais</td><td>but</td></tr><tr><td>malgré cela</td><td>in spite of that</td></tr><tr><td>même si</td><td>even if</td></tr><tr><td>toutefois</td><td>(and) yet</td></tr><tr><td>pourtant</td><td>nevertheless</td></tr></table>		cependant	however	mais	but	malgré cela	in spite of that	même si	even if	toutefois	(and) yet	pourtant	nevertheless														
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Week 4: Tu as une vie active ? <table><tr><td>s’il pleut</td><td>if it rains</td></tr><tr><td>je fais...</td><td>I do...</td></tr><tr><td>au lieu de</td><td>instead of</td></tr><tr><td>ensemble</td><td>together</td></tr><tr><td>dans une équipe</td><td>in a team</td></tr><tr><td>je lis un livre</td><td>I read a book</td></tr><tr><td>j’ai un cours de...</td><td>I have a ... lesson</td></tr><tr><td>j’ai bientôt un concours</td><td>I have a competition soon</td></tr></table> <div>Some French expressions use <i>faire (to do or to make)</i> where ‘to go’ is used in English. E.g. faire une promenade to go for a walk faire du vélo to go cycling faire de la natation to go swimming</div>		s’il pleut	if it rains	je fais...	I do...	au lieu de	instead of	ensemble	together	dans une équipe	in a team	je lis un livre	I read a book	j’ai un cours de...	I have a ... lesson	j’ai bientôt un concours	I have a competition soon	Week 5: Negatives La négation is how we refer to negatives in French. <div>To form a negative in French, the phrase is made up of two parts which <i>sandwich</i> the conjugated verb in the sentence.</div> <div></div> In a present tense structure there is only one verb, so the two parts of the negative structure come either side of it. pronoun + negative (1) + verb + negative (2) je ne fais rien = I do nothing / I don’t do anything N.B. After a negative ‘ des ’ always becomes ‘ de ’.									
s’il pleut	if it rains																										
je fais...	I do...																										
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Week 6: En direct <table><tr><td>une chaîne</td><td>a channel</td></tr><tr><td>un peu de tout</td><td>a bit of everything</td></tr><tr><td>chez moi</td><td>at mine</td></tr><tr><td>dans ma chambre</td><td>in my room</td></tr><tr><td>en streaming</td><td>streaming</td></tr><tr><td>sur un grand écran</td><td>on a big screen</td></tr><tr><td>sur mon portable</td><td>on my phone</td></tr><tr><td>avant le collège</td><td>before school</td></tr><tr><td>après les cours</td><td>after school (lessons)</td></tr><tr><td>quand j’ai du temps</td><td>when I have time</td></tr><tr><td>tout seul</td><td>alone (m)</td></tr><tr><td>toute seule</td><td>alone (f)</td></tr><tr><td>avec les membres de ma famille</td><td>with family members</td></tr></table>		une chaîne	a channel	un peu de tout	a bit of everything	chez moi	at mine	dans ma chambre	in my room	en streaming	streaming	sur un grand écran	on a big screen	sur mon portable	on my phone	avant le collège	before school	après les cours	after school (lessons)	quand j’ai du temps	when I have time	tout seul	alone (m)	toute seule	alone (f)	avec les membres de ma famille	with family members
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French		French Supplement		Year 10	Term 1
Week 1: Expressing opinions		Week 2: Ma vie en ligne		Week 3: Ma vie en ligne	
c'est-a-dire in other words <u>Adverbs</u> complètement completely entièrement entirely parfaitement perfectly simplement simply <u>Adjectives</u> formidable terrific commun common indispensable essential suffisant sufficient		<u>Verbs</u> allumer to turn on / turning on attaquer to attack / attacking casser to break / breaking diffuser to broadcast / broadcasting harceler to bully / harass s'inscrire à to enrol in / enrolling recharger to recharge / recharging souffrir to suffer unir to unite/ join / joining		<u>Adjectives</u> numérique digital puissant(e) powerful technique technical direct direct <u>Nouns</u> (des) achats purchases (un) appel (a) call (un) commentaire (a) comment/remark (un) consommateur (a) consumer/customer (les) contenus (the) contents (la) puissance (the) power	
Week 4: Tu as une vie active ?		Week 5: Tu as une vie active ?		Week 6: En direct	
<u>Nouns</u> les écouteurs headphones une victoire a victory une concurrence a competition un concours a competition le genre type/kind/sort le terrain ground la vitesse speed		<u>Verbs</u> annuler to cancel / cancelling commander to ask / asking dessiner to draw / drawing lire to read / reading nager to swim / swimming perdre to lose / losing rire to laugh / laughing sortir to go out / going out		<u>Adjectives</u> gratuit free inquiétant worrying sûr safe <u>nouns</u> un appareil device une publicité (pub) an advert la communauté the community	

French		Year 10	Term 2																																				
Week 1: Dans le futur		Week 2: Le futur proche																																					
<p>aujourd’hui today</p> <p>ce matin this morning</p> <p>cet après-midi this afternoon</p> <p>vers...heures towards...o’clock</p> <p>à...heures at...o’clock</p> <p>There are two ways of telling the time in French: the traditional 12-hour clock method and the 24-hour clock method, which is often used in French, particularly to discuss travel times.</p> <p>To give the time, using the traditional 12-hour clock, use the hour + the word heures followed by the minutes.</p> <p>E.g. vers trois heures vingt-cinq (towards 3.25)</p>		<p>The futur proche (near future tense) describes what is <i>going to happen with certainty</i>.</p> <p>To form the futur proche, use the present tense of aller (to go) plus an <i>infinitive</i>.</p> <table><tr><th>Pronoun +</th><th>present tense of aller (auxiliary) +</th><th>infinitive (example)</th></tr><tr><td>je</td><td>vais</td><td>regarder (to watch)</td></tr><tr><td>il/elle/on</td><td>va</td><td>faire (to do)</td></tr><tr><td>nous</td><td>allons</td><td>partir (to leave)</td></tr><tr><td>ils/elles</td><td>vont</td><td>aller (to go)</td></tr></table>		Pronoun +	present tense of aller (auxiliary) +	infinitive (example)	je	vais	regarder (to watch)	il/elle/on	va	faire (to do)	nous	allons	partir (to leave)	ils/elles	vont	aller (to go)																					
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Week 3: Perfect tense with avoir		Week 4: Perfect tense with être																																					
<p>To form the perfect (past) tense, you need:</p> <p>1) the pronoun and present tense of avoir or être – this is the auxiliary verb</p> <p>2) the past participle of the main verb</p> <table><tr><th>English</th><th>Subject pronoun</th><th>Avoir – to have</th></tr><tr><td>I</td><td>j’</td><td>ai</td></tr><tr><td>he/she/</td><td>il/elle/on</td><td>a</td></tr><tr><td>we</td><td>nous</td><td>avons</td></tr><tr><td>they</td><td>ils/elles</td><td>ont</td></tr></table> <p>2. Now add your chosen past participle:</p> <table><tr><th>-er verb: parler</th><th>-ir verb: choisir</th><th>-re verb: vendre</th></tr><tr><td>parlé (<i>spoke</i>)</td><td>choisi (<i>chose</i>)</td><td>vendu (<i>sold</i>)</td></tr></table> <p>See supplementary knowledge for more on this.</p>		English	Subject pronoun	Avoir – to have	I	j’	ai	he/she/	il/elle/on	a	we	nous	avons	they	ils/elles	ont	-er verb: parler	-ir verb: choisir	-re verb: vendre	parlé (<i>spoke</i>)	choisi (<i>chose</i>)	vendu (<i>sold</i>)	<p>Not all verbs use avoir as the auxiliary verb. Some use être. Two verbs that take être in the perfect tense are ‘aller (to go)’ and ‘rester (to stay)’.</p> <p>To form this, follow this rule.</p> <p>1.You must choose a part of être in the present tense</p> <table><tr><th>English</th><th>Subject pronoun</th><th>être – to have</th></tr><tr><td>I</td><td>je</td><td>suis</td></tr><tr><td>he/she/we</td><td>il/elle/on</td><td>est</td></tr><tr><td>we</td><td>nous</td><td>sommes</td></tr><tr><td>they</td><td>ils/elles</td><td>sont</td></tr></table> <p>2. Form the past participle in the same way however apply the following; add an ‘e’ for feminine and ‘s’ for plural agreements.</p>		English	Subject pronoun	être – to have	I	je	suis	he/she/we	il/elle/on	est	we	nous	sommes	they	ils/elles	sont
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Week 5: Our society		Week 6: En famille																																					
<p>je me définis comme I define myself as</p> <p>mon genre my gender</p> <p>masculin masculine</p> <p>féminin feminine</p> <p>non-binaire non-binary</p> <p>transgenre transgender</p> <p>queer queer</p> <p>gay gay</p> <p>hétéro straight</p> <p>lesbienne lesbian</p> <p>bisexual(le) bisexual</p>		<p>je vis avec... I live with</p> <p>je me couche I go to bed</p> <p>je me lave I wash (myself)</p> <p>je me lève I get up</p> <p>je mets mes vêtements I get dressed</p> <p>je travaille I work</p> <p>je vais au lit I go to bed</p> <p>(très) tard (very) late</p> <p>(très) tôt (very) early</p> <p>après after</p> <p>ensuite next</p> <p>puis then</p>																																					

French		French Supplement	Year 10	Term 2																					
Week 1: Dans le futur		Week 2: Le futur proche	Week 3: Irregular past participles																						
<p>ça va être it is going to be</p> <p><u>Adverbs</u></p> <p>entièrement entirely</p> <p>apparemment apparently</p> <p><u>Adjectives</u></p> <p>super-intéressant really interesting</p> <p>formidable terrific</p> <p>joyeux happy/joyful</p> <p>étonnant amazing/incredible</p> <p>pareil/le the same</p>		<p>When you are talking in the future tense and want to talk about what you and someone else are going to do, it is better to order it this way; ‘mes amis et moi / ma famille et moi’ - my friends and me (I) / my family and me (I)’. </p> <p>You then will not need to use the pronoun. The above replaces the pronoun. You follow this by the present tense of aller and then the infinitive.</p> <p>E.g.</p> <p>Mes amis et moi allons partir à cinq heures ce soir.</p> <p>My friends and me (like saying we) are going to leave at 5 o’clock tonight.</p>	<p>Some verbs are irregular, meaning their past participles need learning off by heart as they do not follow a pattern.</p> <table><tr><th>Verb</th><th>Past participle</th><th>English</th></tr><tr><td>boire</td><td>bu</td><td>drunk</td></tr><tr><td>faire</td><td>fait</td><td>done/made</td></tr><tr><td>lire</td><td>lu</td><td>read</td></tr><tr><td>prendre</td><td>pris</td><td>taken</td></tr><tr><td>voir</td><td>vu</td><td>seen</td></tr><tr><td>vouloir</td><td>voulu</td><td>wanted</td></tr></table>		Verb	Past participle	English	boire	bu	drunk	faire	fait	done/made	lire	lu	read	prendre	pris	taken	voir	vu	seen	vouloir	voulu	wanted
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vouloir	voulu	wanted																							
Week 4: Perfect tense negatives		Week 5: Emphatic pronouns	Week 6: En famille																						
<p>To form a negative in the perfect tense, the two parts of the negative structure go around the auxiliary (the part of avoir / être). This is the section of the structure that must be sandwiched by the negative as it is the first verb in the structure.</p> <p>je n’ai pas fait I didn’t do</p> <p>je ne suis jamais bu I never stayed</p> <p>je ne suis pas allé(é) I didn’t go</p> <p>elle n’a pas regardé she didn’t watch</p> <p>nous n’avons jamais joué we never played</p> <p>Remember if the auxiliary starts with a vowel ne becomes n’.</p>		<p>Emphatic pronouns are used after prepositions such as pour, avec, sans and à.</p> <p>pour moi for me</p> <p>pour nous for us</p> <p>avec toi with you</p> <p>avec elles with them</p> <p>à lui to him</p> <p>à vous to you</p> <p>sans elle without her</p> <p>sans eux without them</p> <p>E.g. Pour moi, le courage est très important mais le respect est le plus important à lui.</p> <p>For me, courage is very important but respect is the most important to him.</p>	<p>je m’occupe </p>																						

History		Paper 2. Unit A- Britain: Health and the people: c1000 to the present day	Year 10	Term 1
Week 1: Factors that influence medicine		Week 2: Factors that influence medicine		Week 3: Medieval medicine
<p>superstition and religion: religious beliefs have both encouraged and inhibited change.</p> <p>the role of individual: people have influenced medicine and public health. For example, during the Renaissance, individuals such as Vesalius and Harvey increased knowledge of anatomy.</p> <p>communication: books and the invention of the printing press have helped to spread medical ideas.</p> <p>chance: sometimes, new discoveries are made by chance.</p>		<p>war: new surgical techniques can be tried out during wartime because there are so many serious injuries to treat</p> <p>government: in modern medicine, government has played a crucial role. Since the creation of the NHS in the 1940s, the government uses a large part of the taxes it collects to fund the service and to pay for medical research and vaccination programmes.</p> <p>science and technology: developments in science and technology improvements have transformed medicine in the last 200 years.</p>		<p>Hippocrates: he was a famous Greek doctor developed the Theory of the Four Humours. This theory shaped Medieval medicine. The humours were; phlegm, blood, yellow bile and black bile.</p> <p>Galen: he was a famous Roman doctor who created the Theory of Opposites. This theory shaped Medieval medicine.</p> <p>miasma: a common explanation was that bad air caused illness. Some people linked the bad air to the dirty streets in towns and smelly toilets.</p> <p>astrology: the study of the stars and planets, interpreted as having an influence on human affairs and the natural world</p>
Week 4: Medieval medicine		Week 5: Renaissance medicine		Week 6: Renaissance medicine
<p>purgative: a substance given to make you sick.</p> <p>herbalist: someone who uses herbs and plants to create remedies.</p> <p>physician: a trained doctor.</p> <p>barber surgeon: a surgeon who operates on people and cuts hair.</p> <p>The Black Death: a disease that reached England in 1348 and killed over 1/3 of the population.</p>		<p>Renaissance: the revival of European art and literature under the influence of classical models in the 14th–16th centuries.</p> <p>The Great Plague: the plague returned to England in 1665. This outbreak killed 100,000 people in London.</p> <p>anatomy: the branch of science concerned with the bodily structure of humans, animals, and other living organisms, especially as revealed by dissection and the separation of parts.</p> <p>Andreas Vesalius: he studied the human body closely using dissection. He is best known for his book On the Fabric of the Human Body, published in 1543.</p>		<p>Ambroise Paré: he changed ideas about surgery. Paré used an ointment which had been used in Roman times and found that the wounds treated with this mixture healed better.</p> <p>William Harvey: he discovered the principle of the circulation of the blood through the body.</p> <p>John Hunter: he had a large collection of animal and human body parts and argued that amputation should only be done as a last resort.</p> <p>Edward Jenner: created a smallpox vaccination using cow pox. It the world's first vaccine.</p>

History	<u>Paper 2.</u> Unit A- Britain: Health and the people: c1000 to the present day	Year 10 Term 2
Week 1: Industrial Medicine: Germ Theory Spontaneous Generation: a theory that decaying matter causes germs. Germ Theory: developed in 1961 and explained that germs cause diseases. Louis Pasteur: a French chemist who developed Germ Theory. Robert Koch: added to Germ Theory by proving that specific germs cause specific diseases, i.e. anthrax.	Week 2: Industrial Medicine: hospitals and surgery Florence Nightingale: a nurse who improved the cleanliness of British hospitals after the Crimean War. James Simpson: a Scottish doctor who discovered that chloroform was an effective general anaesthetic (a substance which reduces pain). Joseph Lister: a surgeon who used carbolic acid as an effective antiseptic. This reduced infections after surgery. antiseptic: an antiseptic removes bacteria from a wound to prevent infection.	Week 3: Industrial Medicine: public health Laissez Faire: a lack of government involvement. cesspit: a supposedly sealed, underground tank used to collect and store wastewater and sewage. Edwin Chadwick: a lawyer who carried out research into the living conditions in different parts of the country. He argued that the government should ensure a clean water supply for everyone and invest in proper sanitation systems. 1848 Public Health Act: created in response to Chadwick's report. It set up a Central Board of Health to oversee the improvement of public health.
Week 4: Industrial Medicine: diseases epidemic: a widespread occurrence of an infectious disease in a community at a particular time. cholera: a disease caused by contact with another person and/ or by drinking water contaminated with faeces from a cholera victim. John Snow: he investigated the causes of cholera and persuaded the local council to remove the handle from the Broad Street Pump. The Great Stink: public health crisis in London during the summer of 1858, caused by the intense and foul smell coming from the River Thames due to untreated sewage and industrial waste.	Week 5: Industrial Medicine: sewage Joseph Bazalgette: he was given 3 million from the government to design the London sewage system. London sewage system: construction started in 1858 and completed in 1875. The sewage system intercepted the waste from nearly 1 million houses before it had the chance to flow into the river Thames. 1975 Public Health Act: This act made it compulsory for local authorities to provide clean water and dispose of waste properly to avoid polluting drinking water.	Week 6: Modern medicine: penicillin penicillin: the first antibiotic, discovered by Alexander Fleming in 1928. antibiotic: a medicine that inhibits the growth of or destroys microorganisms. staphylococcus: a nasty germ which had over 30 different strains and caused a wide variety of illnesses and diseases. Penicillin could kill staphylococcus. mass production: penicillin was first mass-produced in 1942. By 1944, the Allies had produced 2.3 million doses in time for the Normandy landings.

Geography	Paper 2: Urban Issues	Year 10	Term 1
Week 1: Importance of Rio <ul style="list-style-type: none">Rio de Janeiro is a city in Brazil. Brazil is an NEE. It is in South America. regional importance: samba schools and tourism. national importance: steel works, Petrobras, oil industry support economy. international importance: hosted the 2016 Summer Olympics and 2014 FIFA World Cup.	Week 2: Rio’s changing population <ul style="list-style-type: none">In Rio the population grew from about 5.9 million (1991) to 6.7 million (2022). natural increase: when birth rate is higher than death rate. It is an NEE (access to contraception is not equal for everyone). rural to urban migration: occurs because people move for jobs, healthcare and education.	Week 3: Rio’s social opportunities <ul style="list-style-type: none">Urban growth in Rio has created social opportunities such as education opportunities (97% literacy rate).Urban growth in Rio has created health opportunities (the people per doctor in Rio is 3.4 doctors per 1000 people).These opportunities exist because as the population has grown the government has had to invest more money into infrastructure such as schools and hospitals.In the favelas literacy rate drops to 80% and people per doctor drops to 0.5 doctors per 1000 people in the favelas.	
Week 4: Rio’s economic opportunities <ul style="list-style-type: none">Urban growth in Rio has created economic opportunities such as the oil company Petrobras having its headquarters in Rio and employing around 20,000 people in the city.These opportunities exist because a growing city has a growing number of young people which is attractive to businesses who need workers and customers.In the favelas 50% of youth are unemployed.	Week 5: Rio’s challenges <ul style="list-style-type: none">Urban growth has created challenges in Rio. favelas: slum houses (houses built on the edge of cities from scrap material e.g. wood/metal). <ul style="list-style-type: none">The homicide (murder) rate in Rio is 36.2 per 100,000.In the Rochina Favelas 84% of people are accessing electricity illegally and without paying.An economic challenge in Rio is informal jobs. 33% of people in Rio work in informal jobs.However, the national average in Brazil is 37% of people working in informal jobs.An environmental challenge in Rio is congestion and air pollution. 5000 people a year die from asthma-related illness.	Week 6: Urban planning urban planning: addressing the challenges of urban growth by improving an urban area <ul style="list-style-type: none">The Favela Bairro project which brought daycares to Favelas. This had advantages such as allowing children to learn basic skills such as reading and writing. However, there were 200,000 residents and only 150 spaces.Another in Rio was the cable car scheme (Complexo Do Alamo) it planned to give those living in the Favelas access to work and school through a public transport link. However, only 8% of residents signed up and once funding ran out the cable car stopped working.	

Geography	Paper 2: Urban Issues	Year 10	Term 2
Week 1: Importance of Sheffield	Week 2: Sheffield's opportunities	Week 3: Socio-economic challenges	
<ul style="list-style-type: none"> Sheffield is an example of a UK city. It is located in South Yorkshire. <p>international importance: Sheffield steel has a global reputation for being a well made product.</p> <p>national importance: Sheffield steel provides thousands of jobs in advanced manufacturing industries such as aerospace engineering.</p>	<ul style="list-style-type: none"> The Mela Festival is an example of cultural mix, which is a social opportunity. Meadowhall is an example of recreation, which is a social opportunity, The Advanced Manufacturing Research Centre (which employs 600 people) is an example of employment, which is an economic opportunity, Supertram is part of an integrated transport link, which is an economic opportunity. Grey to green is part of urban greening, which is an environmental opportunity. 	<ul style="list-style-type: none"> socioeconomic challenges: Problems affecting people's social and economic well-being, such as unemployment, poverty, low incomes, and poor access to education or healthcare. ex-industrial parts of Sheffield have higher life expectancy than areas which were not ex-industrial (Burngreave 75, Fullwood. 85). This is called 'health inequality'. ex-industrial parts of Sheffield have lower school outcomes than areas which were not ex-industrial (Mercia 2 grades above, Yewlands 1 grade below) this is called 'education inequality'. 	
Week 4: Environmental challenges	Week 5: Urban regeneration	Week 6: Sustainable cities	
<p>derelict buildings: buildings that are abandoned, neglected, and no longer in use.</p> <p>rural-urban fringe: the area where the countryside meets the edge of a town or city.</p> <p>commuter settlements: towns or villages where many people live but travel elsewhere for work. An example in Sheffield is Birley Heights.</p> <p>urban sprawl: the spread of a town or city into the surrounding countryside.</p>	<p>regeneration: the process of improving an area by investing in new housing, businesses, services, and infrastructure.</p> <p>The Heart of the City scheme cost £470 million.</p> <ul style="list-style-type: none"> Leah's Yard are former steel workshops which have been converted into independent shops. Pound's Park is a park in Sheffield city centre. The Raddison Blu hotel is a luxury hotel built in Sheffield city centre. 	<ul style="list-style-type: none"> Freiburg is a city in Germany which is trying to achieve urban sustainability in different ways. <p>water conservation: reduces water use and manages runoff to prevent flooding and waste, e.g. permeable surfaces and rainwater harvesting in Freiburg's Vauban district.</p> <p>energy conservation: reduces energy consumption and carbon emissions through efficient design and renewable energy, e.g. solar panels on homes in Vauban.</p> <p>urban transport systems: reduce car use, traffic, and air pollution by promoting sustainable travel, e.g. Freiburg's tram network, cycle lanes, and car-free areas.</p>	

RS Core GCSE	Christian Beliefs	Year 10	Term 1
Week 1: creation Catholic: based in Rome and lead by the Pope Orthodox: split from Catholic Christianity in 1054CE an practiced in Easter Europe Protestant: split from Catholic Christianity in the 16tyh Century and branched into different denominations e.g. Baptist creation: bringing the world into existence; the belief that the world is God’s loving creation. 	Week 2: fundamental and liberal Christians Liberal Christians: these Christians may see parts of the Bible as a metaphor. This means that they may allow for many different interpretations of the same story. Fundamental Christians: these Christians interpret the Bible literally, as it is the divine word of God. They may see the Bible as an accurate historical document. Essential scripture: “In the beginning God created the heavens and the earth.” “Let there be light,” and there was light	Week 3: nature of God omnipotent: the belief that God is ‘all powerful’. omnibenevolent: the belief that God is ‘all loving’. omniscient: the belief that God is ‘all knowing’. just: the belief that God is fair. eternal: the belief that God has no beginning or end. 	
Week 4: the Holy Trinity Trinity: the belief that God as One includes God also being manifest in three Persons: the Father, Son and Holy Spirit Father: the first Person of the Trinity, the belief in God as creator and sustainer of the universe. The Son: the second Person of the Trinity; Jesus believed to be God incarnate. The Holy Spirit: the third Person of the Trinity; believed to be present with believers since Pentecost and active on earth.  The Oneness of God: the belief that God is one singular divine being.	Week 5: problem of evil evil: the opposite of good; a cause of suffering and against the will of God. Original Sin: belief human nature is flawed, and that we all have the tendency to sin; this came from Adam & Eve’s eating of the forbidden fruit. sin: behaviour which is against God's laws and wishes/against Christian principles of morality. suffering: an effect of evil; undergoing pain and hardship.	Week 6: the Afterlife heaven: belief that after death Christians can enter a state of being with God for eternity. hell: belief in a place of eternal suffering, or a state after death of being in separation from God. judgement: the belief that God will decides whether each person should receive eternal life or eternal punishment based on their earthly life. 	

RS Core GCSE		Christian Beliefs		Year 10	Term 2
Week 1: Incarnation		Week 2: Crucifixion		Week 3: Resurrection and Ascension	
<p>Incarnation: literally 'in flesh', or 'enfleshed;' belief that God took on human form in the person of Jesus.</p> <p>Scripture:</p> <ul style="list-style-type: none"> “He became incarnate from the Virgin Mary and was made man.” Nicene Creed “The Word became flesh and made his dwelling among us.” 		<p>Crucifixion: the death of Jesus; a form of the death penalty used by the Romans.</p> <p>treason: the crime of betraying one's country</p> <p>Scripture:</p> <ul style="list-style-type: none"> “Jesus said, 'Forgive them, Father! They do not know what they are doing.'” “Father why have you forsaken me” “Father, into your hands I commit my spirit” 		<p>Resurrection: being raised from the dead; the event three days after the crucifixion when it is believed that God raised Jesus from the dead.</p> <p>Scripture:</p> <ul style="list-style-type: none"> “Why do you look for the living amongst the dead? He is not here; he has risen!” <p>Ascension: going or being taken up; the event forty days after the resurrection when Jesus returned to glory in heaven.</p> <p>Scripture:</p> <ul style="list-style-type: none"> “While he was blessing them, he left them and was taken up into heaven.” 	
Week 4: salvation and atonement		Week 5: essential scripture		Week 6: essential scripture	
<p>salvation: the saving of the soul and being able to enter eternal life in heaven.</p> <p>There are 3 different types of salvation:</p> <p>salvation through law: some Christians believe that people can achieve salvation by following God's teachings and carrying out good deeds that will please God.</p> <p>grace: the unconditional and generous love that God shows to people who do not deserve it.</p> <p>spirit: the Holy Spirit helps Christians to follow the teachings of God, and God recognises that everyone will sin but that they will turn to God in repentance.</p> 		<p>Scripture:</p> <p>"Go therefore and make disciples of all the nations, baptizing them in the name of the Father and the Son and the Holy Spirit."</p> <p>Jesus said: "I and the Father are one."</p> <p>"The Word became flesh and made his dwelling among us."</p>	<p>Topic:</p> <p>Trinity</p> <p>Ascension</p> <p>Life of Jesus</p> <p>Trinity</p> <p>Incarnation</p> <p>Trinity</p> <p>Incarnation</p>	<p>Scripture:</p> <p>"Jesus said, 'Forgive them, Father! They don't know what they are doing.'"</p> <p>"In the beginning God created the heavens and the earth."</p> <p>"Let there be light," and there was light</p>	<p>Topic:</p> <p>Crucifixion</p> <p>Forgiveness</p> <p>Creation</p> <p>Omnipotent</p> <p>Creation</p> <p>Omnipotent</p>

PSHE	Digital Footprint	Year 10	Term 1
Week 1: fact vs. fiction	Week 2: biased writing	Week 3: sleep and screen time	
<p>fake news: false news stories, often of a sensational nature, created to be widely shared or distributed for the purpose of generating revenue, or promoting or discrediting a public figure, political movement, company, etc.</p> <p>click bait: content whose main purpose is to attract attention and encourage visitors to click on a link to a particular web page.</p> <p>discrimination: the unjust or prejudicial treatment of different categories of people, especially on the grounds of ethnicity, age, sex, or disability.</p>	<p>bias: prejudice for or against one person or group, especially in a way considered to be unfair.</p> <p>Bias in writing can be defined as:</p> <ul style="list-style-type: none"> • A prejudice against something an author is writing about. • Favouritism for something an author is writing about. • An author letting feelings or emotions cloud his/her objectivity about something he/she is writing about. 	<p>screen time: the time allotted to or occupied by a particular subject, actor, etc., on film or television.</p> <p>wellbeing: the state of being comfortable, healthy, or happy.</p> <p>mental health: a person's condition with regard to their psychological and emotional well-being.</p>	
Week 4: hate speech	Week 5: trolling	Week 6: online gambling	
<p>free speech: the right to express any opinions without censorship or restraint.</p> <p>hate speech: abusive or threatening speech or writing that expresses prejudice based on ethnicity, religion, sexual orientation, or similar grounds.</p> <p>mental wellbeing: when an individual is happy, content and can cope with the normal stresses of life.</p>	<p>online trolling: trolling is when someone post or comments online to deliberately upset others.</p> <p>body image: A person's perception of how attractive their body is, how we feel we look and how this influences our behaviour.</p> <p>viral: (of an image, video, piece of information, etc.) circulated rapidly and widely from one internet user to another.</p> <p>meme: an image, video, piece of text, etc., typically humorous in nature, that is copied and spread rapidly by internet users, often with slight variations.</p>	<p>online scams: enticing offers that are “too good to be true” and when clicked on can cause malware to interfere and compromise information.</p> <p>gambling: the practice or activity of betting: the practice of risking money or other stakes in a game or bet.</p> <p>The law: the minimum legal age for gambling in the UK is 18 years old. This applies to adult gaming centres, betting shops, bingo halls, casinos, racetracks, and online gambling.</p> <p>Examples of gambling can include: Arcades, gaming machines, social gambling (groups of friends playing cards)</p>	

PSHE	Careers	Year 10	Term 2
Week 1: exploring careers	Week 2: course options	Week 3: employability	
<p>career: an occupation undertaken for a significant period of a person's life and with opportunities for progress.</p> <p>job: a paid position of regular employment.</p> <p>goal: the object of a person's ambition or effort; an aim or desired result.</p> <p>transferable skills: are skills and abilities that are relevant and helpful across different areas of life: socially, professionally and at school. They are 'portable skills'.</p>	<p>apprenticeships: an Apprenticeship is a combination of on and off the job learning and development.</p> <p>vocational Qualification: these give learners the skills and knowledge to do a particular job, work in industry, or acquire general skills to do a variety of jobs.</p> <p>T-Levels: a new 2-year courses which are taken after GCSEs and are broadly equivalent in size to 3 A Levels. T Levels offer students practical and knowledge-based learning at a school or college and on-the-job experience through an industry placement of at least 315 hours – approximately 45 days.</p>	<p>employability: the quality of being suitable for paid work.</p> <p>reference: A work reference is usually from a current or previous employer. It is sometimes called a factual reference. Work references can be basic or detailed.</p> <p>cover letter: A cover letter is a one-page business letter that you submit when applying to a job, along with your resume. As a piece of persuasive writing, your cover letter will aim to convey to the employer why you're a great candidate for the role.</p>	
Week 4: employability	Week 5: jobs of the future	Week 6: working conditions	
<p>CV: a brief account of a person's education, qualifications, and previous occupations, typically sent with a job application.</p>	<p>decline: become smaller, fewer, or less; decrease.</p> <p>artificial Intelligence - or AI for short: is technology that enables a computer to think or act in a more 'human' way.</p> <p>labour Market: the availability of employment and labour, in terms of supply and demand.</p>	<p>equality: the fair treatment of people regardless of their protected characteristics. At school or in the workplace, equality means making sure people are given equal opportunities, equal pay and are accepted for their differences.</p> <p>A new Equality Act came into force on 1 October 2010. It brings together over 116 separate pieces of legislation into one single Act. The Act provides a legal framework to protect the rights of individuals and advance equality of opportunity for all.</p>	

Art and Design		Key Concepts	Year 10	Term 1
Week 1: development		Week 2: experimentation	Week 3: recording	
<p>development: the process by which a student explores and expands upon their initial ideas and concepts to create a more refined and sophisticated piece of artwork.</p> <p><i>Typically, the development process in an Art GCSE involves</i></p> <ul style="list-style-type: none"> • <i>Research</i> • <i>Reflection</i> • <i>Progression</i> 		<p>experimentation: the process of exploring and testing different techniques, materials, styles, and ideas within the realm of visual arts.</p> <p>Trying out various drawing, painting, sculpting, or mixed media techniques.</p> <p>Exploring different artistic styles, such as realism, abstraction, or surrealism. Testing the effects of various materials, such as acrylics, watercolours, clay, or found objects. Incorporating new technologies or digital tools into their artistic practice. Experimenting with composition, colour theory, and other elements of sign.</p>	<p>recording: the process of observing and documenting visual information. This can involve various techniques such as sketching, painting, photography, or digital media to capture scenes, objects, or ideas.</p> <p>Recording is a fundamental aspect of art coursework as it allows students to develop their observational skills, experiment with different mediums, and gather reference material for further exploration and development in their artwork. It's often a starting point for generating ideas and exploring different aspects of the artistic process.</p>	
Week 4: final presentation		Week 5: primary source	Week 6: secondary source	
<p>presentation: a demonstration or display of a student's artistic work, ideas, and processes.</p> <p>Here are a few common elements of an art GCSE presentation:</p> <ol style="list-style-type: none"> 1. <i>Portfolio</i> 2. <i>Artist statement</i> 3. <i>Development work</i> 4. <i>Research: students</i> 5. <i>Evaluation</i> 6. <i>Presentation format</i> 		<p>primary source: original artifacts, or other sources that provide first-hand evidence or information about a particular artwork, artist, historical period, or artistic movement.</p> <p>artwork: the artwork itself is a primary source material. It provides direct evidence of the artist's creative expression, style, technique, and subject matter.</p>	<p>secondary source: resources that provide information or interpretation about artwork, artists, movements, or historical contexts, but are not original or primary sources themselves.</p> <p>These materials are created by individuals who did not directly witness or participate in the events or creations they describe.</p>	

Art and Design		Key Concepts	Year 10	Term 2
Week 1: development		Week 2: experimentation	Week 3: recording	
<p>Development in art can manifest in various ways, often reflecting shifts in an artist's style, technique, subject matter, or conceptual approach over time.</p> <p>Here are several ways artists demonstrate development in their work:</p> <ul style="list-style-type: none"> • <i>Evolution of style</i> • <i>Exploration of themes</i> • <i>Technical mastery</i> • <i>Innovation and experimentation</i> • <i>Maturation of conceptual framework</i> • <i>Response to external influences</i> 		<p>Experimentation in your art coursework can manifest in various ways, depending on the artist's intentions and the medium they work with.</p> <p>Here are some ways artists can showcase experimentation in their artwork:</p> <ul style="list-style-type: none"> • <i>Exploration o mediums</i> • <i>Technique variation</i> • <i>Subject matter</i> • <i>Scale and format</i> • <i>Colour and composition</i> • <i>Critique and reflection</i> 	<p>Displaying records in your art coursework can take various forms depending on the medium, the artist's intention, and the concept they are exploring.</p> <p>Here are several ways artists might incorporate records into their work:</p> <ul style="list-style-type: none"> • <i>Painting/drawing</i> • <i>Sculpture</i> • <i>Mixed media</i> • <i>Photography</i> • <i>Digital art</i> • <i>Performance art</i> 	
Week 4: final presentation		Week 5: sketchbooks	Week 6: critical thinking	
<p>In GCSE Art, final pieces are crucial as they typically represent the culmination of a student's artistic exploration and development throughout the course.</p> <p>Overall, final pieces play a vital role in GCSE Art as they encapsulate students' artistic journey, creative expression, and growth, while also serving as a means of assessment.</p>		<p>Sketchbooks hold immense importance for artists across various disciplines and levels of expertise.</p> <p>Here are several reasons why sketchbooks are crucial to artists:</p> <ul style="list-style-type: none"> • Idea generation • Experimentation • Observational drawing • Documentation and record • Problem-solving 	<p>Critical thinking is fundamental to the practice of art for several reasons:</p> <ul style="list-style-type: none"> • Interpretation • Analysis • Problem-solving • Decision-making • Reflection critical • Empathy and perspective • <p>It empowers both artists and viewers to engage thoughtfully with art.</p>	

Child Development	Stages of Development	Year 10	Term 1
Week 1: physical development holistic development: children’s overall development physical development: is the growth and skills that children develop to make movements, balance, and coordination. milestone: skills that are expected at different ages. spatial awareness: knowing where your body is in relation to things around you. cruising: how babies move, walking by holding onto furniture.	Week 2: fine motor skills milestones fine motor: small movements often made using hands, such as picking up a spoon or using a pencil At birth <ul style="list-style-type: none">hands are firmly closed, often fold their thumb under fingers 1 year <ul style="list-style-type: none">Clasps hands together, points using index finger 2 years <ul style="list-style-type: none">Draws lines, dots, and circles, separates interlocking toys 3 years <ul style="list-style-type: none">fastens large zip, begins to show preference for dominant hand 4 years <ul style="list-style-type: none">Begins to fasten buttons, uses spoon and fork well to eat, Jumps with both feet	Week 3: gross motor skills milestones: gross motor: large movements such as running balancing & throwing. At birth <ul style="list-style-type: none">lies with head to one side, head lags when pulled to sitting position 1 year <ul style="list-style-type: none">Sits down from standing, cruise around, is more mobile 2 years <ul style="list-style-type: none">runs with control, throws, and kicks a ball 3 years <ul style="list-style-type: none">can walk backwards and	
Week 4: cognitive development cognitive development: thinking, memory & understanding concepts such as time, colour & numbers. object permanence: the ability to understand that objects when placed out of sight are still in existence. trial by error: seeing what happens after an action has been made & learning from it.	Week 5: communication and language communication and language development: Talking, listening & understanding. Reading & writing for older children. receptive language: what children can understand expressive language: what children can say	Week 6: emotional development primitive reflexes: movements that new-borns automatically make. asymmetric tonic neck: a reflex if the baby’s head is turned to one side, the knee and arm on the other side bend. social & emotional development: relationships with others, managing feelings, confidence & self-control. attachment: a close bond between the child & their parents. bonding: the process by which children & parents develop a strong loving relationship.	

Child Development	Factors that influence Development	Year 10	Term 2												
Week 1: nature Examples of a natural factor that effect development: inherited characteristics: –some are linked to genetic make-up. e.g., height, physical strength, face shape, eye colour. genetic make-up: chromosomes and genes that contain information to make cells. genetic factors: genes and chromosomes sometimes change or have missing or extra parts. biological influences: as well as our genetic make-up, there are other biological factors that might affect a child before or after they are born.	Week 2: nurture The term nurture is used to describe everything about a child’s life after they are born. These are the environmental influences that will affect a child as they grow and develop. Key examples of nurture factors that impact development: <ul style="list-style-type: none">• Where and how the child is looked after• The children’s relationships with people in their lives• The opportunities they have• Event that might impact them e.g., moving or family bereavement	Week 3: biological factors biological influences: as well as our genetic make-up, there are other biological factors that might affect a child before or after they are born. Examples of inherited or health conditions: muscle structure: some children develop serious health problems because of their genes. An example of this disease is Duchenne muscular dystrophy. medical conditions: most are linked to genetic inheritance. E.g., diabetes, asthma, sickle cell anaemia. learning difficulties are most likely because of genetic inheritance. E.g., autistic spectrum conditions, dyslexia													
Week 4: environmental factors environmental factors are the things that a child experiences that can affect their development. There are many different factors, so we will split them into different areas: location, socio-economic situation, family and lifestyle, opportunities for exercise, stimulation, relationships location: where you grow up can make a difference to your development.	Week 5: environmental factors socio economic: research has shown that how much money a family has can make a difference to development. Examples include: <ul style="list-style-type: none">• Struggling to afford healthy food• Living in poverty effecting mental health• Stress and depression family and lifestyle: how well parents meet their children’s need can make a difference to development. Examples include abuse, Drug/alcohol abuse, opportunities for exercise, diet. neglect: parent or carers are unable to look after their children properly.	Week 6: effects of biological factors The effects of biological factors can be for short term or long term. This depends on the biological factor and how much support the family and the child receive. <table><tr><th>Short- term</th><th>Impact on child</th><th>Example</th></tr><tr><td>Limited learning opportunities</td><td>Impact on listening or moving skills</td><td>Not being able to join in on physical activities</td></tr><tr><td>Limited concentration</td><td>Feeling poorly, tired or distracted</td><td>A child not sleeping might find nursery hard</td></tr><tr><td>Insecure parental attachment</td><td>Parents may find it hard to bond with the child.</td><td>A child may cry a lot, and this may reduce bonding time</td></tr></table>		Short- term	Impact on child	Example	Limited learning opportunities	Impact on listening or moving skills	Not being able to join in on physical activities	Limited concentration	Feeling poorly, tired or distracted	A child not sleeping might find nursery hard	Insecure parental attachment	Parents may find it hard to bond with the child.	A child may cry a lot, and this may reduce bonding time
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D&T	3D Design	Year 10	Term 1
Week 1: what are the course components?	Week 2: what are the assessment objectives (AOs) ?	Week 3: exploring relevant sources	
<p>Component 1: a portfolio of work that demonstrates a range of skills, knowledge, and understanding developed throughout the course. This counts for 60 % of the final grade.</p> <p>Component 2: an exam element that makes up 40% of the final grade. It involves responding to a set of tasks provided by the exam board, culminating in a final practical exam. The practical exam is completed within a 10 hour supervised time period.</p>	<p>AO1: Develop ideas through investigations, demonstrating critical understanding of sources.</p> <p>AO2: Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.</p> <p>AO3: Record ideas, observations and insights relevant to intentions as work progresses.</p> <p>AO4: Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.</p>	<p>research: looking into different sources to gather information and inspiration. This can include studying other designers, exploring historical and cultural contexts, and analysing real-world examples.</p> <p>sources: anything that inspires you or provides useful information, such as books, websites, museum visits, nature, and even your own experiences.</p>	
Week 4: primary and secondary sources	Week 5: exploring relevant sources	Week 6: analyse, discuss, and evaluate images, objects, and artefacts	
<p>primary sources: direct inspirations such as observing a building in real life, visiting a design museum, or interviewing a designer about their work.</p> <p>secondary sources: include textbooks, documentaries, and online articles that provide background information and context about different design styles, techniques, and historical movements.</p>	<p>books and articles: reading about design principles, famous designers, and various techniques.</p> <p>online resources: websites, videos, and tutorials that teach you about 3D design.</p> <p>museums and galleries: visiting places where you can see 3D design work and other sources of inspiration in person.</p> <p>nature and everyday objects: observing the world around you for shapes, structures, and forms that inspire your designs.</p>	<p>This involves a deeper look into existing 3D designs to understand them better:</p> <p>analyse: look closely at the details. What materials are used? What techniques are applied? What is the design trying to convey?</p> <p>discuss: talk about your observations with classmates or teachers. Share your thoughts and hear different perspectives.</p> <p>evaluate: make a judgment about the work. Do you think it's successful? Why or why not? What could be improved?</p>	

D&T	3D Design	Year 10	Term 2
Week 1: making and recording independent judgements	Week 2: media, processes, techniques and technologies	Week 3: drawings 1	
<p>Here, you develop your own opinions and document your design process:</p> <p>making independent judgements: think critically about the designs you see and create. Decide what you like and don't like based on your own understanding and taste.</p> <p>recording judgements: keep a sketchbook or journal where you note down your thoughts, ideas, and reflections. This can include sketches, written notes, and any other way you like to document your design journey.</p>	<p>media: the materials you use, like clay, cardboard, plastic, or digital tools.</p> <p>processes: the steps you take to create something. For example, you might start with a sketch, then make a model, and finally create a physical or digital version.</p> <p>techniques: the specific ways you use your tools and materials. For example, different ways of cutting, shaping, or joining materials together.</p> <p>technologies: includes any machines, software, or tools that help you create your designs. This could be anything from 3D printers to design software like Onshape.</p>	<p>sketching: quick, freehand drawings that capture the basic shapes and ideas.</p> <p>technical drawing: precise drawings that use tools like rulers and compasses to create accurate representations.</p> <p>orthographic projection: a method that shows different views of an object (e.g., front, top, side) on the same plane.</p> <p>perspective drawing: drawings that show objects in three dimensions with depth, using vanishing points.</p>	
Week 4: drawings 2	Week 5: annotations 1	Week 6: annotations 2	
<p>rendering: adding shading, texture, and colour to drawings to make them look more realistic.</p> <p>thumbnail sketches: small, quick sketches that explore different layout or composition ideas.</p> <p>exploded view: shows the components of an object separately but in alignment, to illustrate how they fit together.</p>	<p>Annotations are notes that you make about your work. These notes can include:</p> <p>initial thoughts: your first ideas and inspirations for a project.</p> <p>practical considerations: Notes about the materials you will use, how you will make your design, and any challenges you might face.</p> <p>communication of intentions: explaining what you want to achieve with your design.</p>	<p>Annotations are notes that you make about your work. These notes can include:</p> <p>responses to sources: how other artworks, designers, or sources have influenced your ideas.</p> <p>critical reflection: thinking about what is working well in your design and what might need improvement.</p> <p>self-evaluation: assessing your own work and progress.</p>	

DIT	Component 1	Year 10	Term 1
Week 1: user interfaces	Week 2: audience needs	Week 3: design principles	
<p>user interface: is a piece of software that allows users to interact with their devices</p> <p>software: allows users to complete tasks or to create something. There are different types of software to control hardware and applications such as word processing</p> <p>hardware: is the name for physical components of a device that you can actually touch, such as the mouse and keyboard.</p>	<p>operating systems: control the whole operation of a computer system such as mobile phones or tablet computers</p> <p>platforms: is the name given to the computer (hardware) and operating system (software) on which applications can be run</p> <p>keyboard shortcuts: are combinations of keystrokes or a sequence of keystrokes which commands the software.</p>	<p>motor needs: relates to users who have limited function in their movement, muscle control or mobility</p> <p>cognitive needs: cover a wide range of disabilities, including developmental delays, learning disabilities, brain injuries and dementia.</p>	
Week 4: efficiency	Week 5: planning techniques	Week 6: proposal and plan	
<p>design principles: are rules that should be followed when designing a product. This can include rules about colours, fonts and languages used</p> <p>house style: refers to a set of rules that an organisation follows on all their documents to ensure they are all consistent.</p>	<p>icons: are small computer graphics. This is usually an image representing an application or file. When selected, it will complete a task</p> <p>breadcrumbs: is the term used to describe a user interface component that makes navigation easy and instinctive</p> <p>predetermined: defines something that is set in advance such as a drop-down list of values.</p>	<p>project methodology: is a term used to define the phrases and processes that should be completed within a project and the order that they are completed in</p> <p>waterfall methodology: requires one whole task or section to be completed before another task begins. All the projects requirements are analysed, then designed, implemented, tested and evaluated at the same time within each stage.</p>	

DIT	Component 1	Year 10	Term 2
Week 1: complex user interface	Week 2: design principles	Week 3: design principles	
<p>navigate: is how a user works their way around the software</p> <p>sensors: detect and respond to the environment around them</p> <p>intuitive: means easy to understand. In the context of a user interface a user should be able to understand and interact with an interface instinctively using trial and error.</p>	<p>consistency: items are placed in the same position across all screens</p> <p>matching user expectations: users have developed expectations about how the user interface should look</p> <p>placement of items: consider which items on the page are important and less important. Important items are placed in a prominent position to demand the attention of the user.</p>	<p>Grouping related tasks together: grouping related items together reduces the amount of navigating the user has to do and enables them to complete tasks more quickly</p> <p>Navigational components: the ability to find your way around is one of the more important aspects of a user interface</p> <p>colour: humans have perceptions of different colours and when we see a colour on screen, we are instantly able to determine what it means. For example, green is used when your interaction with the user interface has been successful and you can continue.</p>	
Week 4: design principles	Week 5: communication technologies	Week 6: error handling	
<p>sound: humans have perceptions of sound, often when we hear a sound we can distinguish what it means and then react to it</p> <p>symbols: from a young age we recognise different shapes and symbols. These can be used to indicate to the user if their interaction has been successful or unsuccessful</p> <p>visuals: images and graphics can be used to represent what something does in a user interface. For example if we see a picture of a printer we tend to associate this as being the print button.</p>	<p>Ad hoc network: a type of wireless network that does not rely on fixed hardware such as routers in wired networks</p> <p>personal area network (PAN): is a computer network used for data communication between devices</p> <p>encrypted: means that information or data has been scrambled so that it cannot be understood without translation key.</p>	<p>tethering: is where a smartphone acts as an access point, allowing other devices to connect to it using wired or wireless connectivity, in order to share its mobile broadband connection to the internet</p> <p>personal hotspot: is using a phone's internet connectivity when connected to a device to access the internet from laptop</p> <p>USB: Universal Serial Bus is a standard for connecting sockets on computers, connecting devices such as mice, keyboards, printers, external hard drives, etc.</p>	

Enterprise	Component 1	Year 10	Term 1
Week 1: enterprise	Week 2: market	Week 3: goods and services	
<p>micro-enterprise: consists of up to 10 people where employees often complete a variety of tasks and job roles</p> <p>small enterprise: employs between 11 and 49 people, different individuals often have specific roles within the business</p> <p>medium-sized enterprise: employs between 50 and 249 people, often have much larger profits than micro and small enterprises and have large teams that all have specific skill-sets.</p>	<p>market: customers an enterprise is targeting</p> <p>business to business (B2B): an enterprise sells its goods to another enterprise. The goods may be raw materials, equipment, consumables (items that are used up and then replaced) or items for resale</p> <p>business to consumer (B2C): an enterprise sells its products, goods and services directly to individuals for their own use. Such individuals are known as consumers.</p>	<p>goods: tangible items for example candles, food and stationery</p> <p>services: a task completed by the enterprise for the customer for example car washing.</p>	
Week 4: sectors and industries	Week 5: ownership	Week 6: characteristics and skills	
<p>primary: concerned with the extraction of raw materials or natural resources from the land. Examples of businesses that operate in the primary sector would be farming, mining, fishing or oil production</p> <p>secondary: is concerned with manufacturing. This would involve taking the raw materials from the primary sector and converting them into new products for example car manufacturers.</p>	<p>sole trader: a legal and individual owner of the enterprise, only need a small amount of money to run their business</p> <p>partnership: two or more people working as a partnership means the responsibility for business decisions is shared between the partners, and so are the debts and profits</p> <p>limited liability partnership: a partnership in which some or all partners have limited liabilities</p> <p>social enterprise: a business that ploughs its profits back into a strong social or environmental mission.</p>	<p>characteristics: a feature or quality belonging typically to a person, serving to identify them</p> <p>skills: the ability, coming from one's knowledge, practice, or ability to do something well.</p>	

Enterprise	Component 1	Year 10	Term 2
Week 1: primary research	Week 2: secondary research	Week 3: data	
<p>questionnaire/survey: using a set of qualitative and quantitative questions, e.g. face-to-face, telephone, post, on a website/social media site</p> <p>visits or observations: looking at and recording how people behave in situations</p> <p>interviews or focus groups: talking to people to find out their views and experiences</p>	<p>online research: using existing information found online via websites to collect information</p> <p>books, journals, trade magazines: using existed printed information, like newspapers</p> <p>company materials: using flyers, posters, leaflets and newsletters that exist to gather information, this is particularly useful when analysing competitors for example their price points</p> <p>market and government reports and statistics: the government commission lots of research and publish their findings.</p>	<p>qualitative data: is non-numerical data that describes qualities, opinions or feelings</p> <p>quantitative data: is numerical data that can be easily measured, it provides statistics.</p>	
Week 4: competitive behaviour	Week 5: customer expectations	Week 6: situational analysis	
<p>competitor: other businesses who offer the same or similar goods and services to your customers</p> <p>price: is one of the first ways services or goods offered can be compared</p> <p>quality: is an important feature that can encourage a customer to choose one over another. How long does something last.</p>	<p>customer expectations: what the customer expects when engaging with an enterprise</p> <p>customer needs: the wants or requirements a customer has for goods or services</p> <p>customer loyalty: is when a customer returns to an enterprise to continue buying good or services because they like that enterprise or will gain additional reward.</p>	<p>situational analysis: gathering information on the internal and external environments to assess what is contributing to overall effectiveness of an enterprise</p> <p>PEST analysis: is a situational analysis tool that helps an enterprise analyse the external factors that may affect an enterprise, including political, economic, social and technological factors</p> <p>SWOT analysis: is a situational analysis tool which helps an enterprise analyse the internal factors within an enterprise (the strengths and weaknesses) and also consider where they may find new opportunities to develop the enterprise and what may pose threats to the enterprise (Strenths, Weaknesses, Opportunities and Threats).</p>	

Health and Social Care			Year 10	Term 1													
Week 1: What is Health and Social care?		Week 1: What is Health and Social care?		Week 2: The rights of service users													
<p>Health Care: the treatment, control or prevention of a disease, illness, injury or disability.</p> <p>Social Care: providing assistance within activities of daily living.</p>		<p>Examples of both health and social care</p> <table><tr><th>Health care settings:</th><th>Social care settings</th></tr><tr><td><ul style="list-style-type: none">Dental practiceGP surgeryHealth centreHospitalNursing homeOpticiansPharmacyWalk-in centre</td><td><ul style="list-style-type: none">Community centreDay centreFoodbankHomeless shelterResidential homeRetirement homeSocial services departmentSupport group</td></tr></table>		Health care settings:	Social care settings	<ul style="list-style-type: none">Dental practiceGP surgeryHealth centreHospitalNursing homeOpticiansPharmacyWalk-in centre	<ul style="list-style-type: none">Community centreDay centreFoodbankHomeless shelterResidential homeRetirement homeSocial services departmentSupport group	<p>You need to know the rights of service users and an example of each:</p> <table><tr><th>User rights</th><th>Example</th></tr><tr><td>Choice</td><td>users have the right to choose the medical treatment they want to receive.</td></tr><tr><td>Confidentiality</td><td>users have the right for personal details not to be shared with others.</td></tr><tr><td>Consultation</td><td>users have the right to be asked for their opinion on their type of care.</td></tr></table>		User rights	Example	Choice	users have the right to choose the medical treatment they want to receive.	Confidentiality	users have the right for personal details not to be shared with others.	Consultation	users have the right to be asked for their opinion on their type of care.
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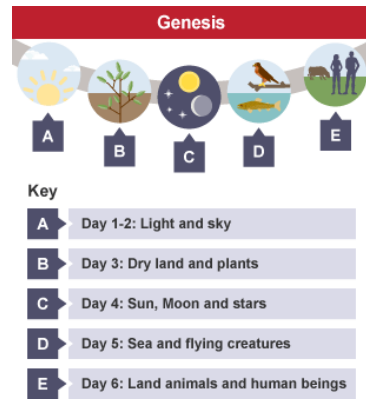
Health and Social Care		Year 10	Term 2
Week 4: Benefits of applying person-centred values:	Week 4: Benefits of applying person-centred values:	Week 5: The importance of verbal communication	
Benefits for service providers <ul style="list-style-type: none"> • clear guidelines of standards • improves job satisfaction • maintains/improves quality of life • supports rights to choice and consultation • supports development of skills • enables sharing of good practice 	Benefits for service users <ul style="list-style-type: none"> • ensures standardisation of care • improves quality of care • maintains/improves quality of life • supports development of strengths 	Key skills of effective communication in Health and Social care <ul style="list-style-type: none"> • adapting communication to meet the needs of the service user or situation • clarity • empathy • patience • using appropriate vocabulary • tone • volume • pace • willingness to contribute to team working 	
Week 6: The importance of non-verbal communication.	Week 1: Supporting individual rights	Week 2: Supporting individual rights	
Key skills of effective non-verbal communication in Health and Social care: <ul style="list-style-type: none"> • adapting communication to meet the needs of the service user or situation • eye contact • facial expressions • gestures • positioning • positive body language • sense of humour 	<p>As a health and social care worker you have to ensure a patients 'individual rights' are met. This includes:</p> <p>trust: social care worker sharing information on a 'need to know' basis.</p> <p>empowerment: doctor and patient having a discussion about treatment options before making a choice.</p>	<p>As a health and social care worker you have to ensure a patients 'individual rights' are met. This includes:</p> <p>individual needs are met: providing a worksheet in larger font for a visually impaired child in your class.</p> <p>self esteem: praising a child's achievement after completing a task in school.</p>	

Hospitality and Catering		Year 10	Term 1
Week 1: hospitality and catering providers	Week 2: different types of establishments	Week 3: different types of accommodation	
<p>hospitality: the friendly and generous reception and entertainment of guests, visitors, or strangers.</p> <p>catering: the business of providing food and drink services for events, parties, or other gatherings.</p> <p>establishment: any business or place that provides food, beverages, and/or accommodation services to customers, such as a restaurant, hotel, or café.</p>	<p>commercial residential: businesses that provide accommodations for people to stay overnight.</p> <p>commercial non-residential: businesses that offer services or goods but do not provide accommodations.</p> <p>non-commercial residential: places where people live and do not operate for profit.</p> <p>non-commercial non-residential: places that do not operate for profit and where people do not live.</p>	<p>accommodation: any facility that provides lodging, such as hotels, motels, bed and breakfasts, and guesthouses, where guests can stay temporarily.</p> <p>hotels: offer a range of rooms and services, often including restaurants, pools, and other amenities.</p> <p>bed and Breakfasts (B&Bs): small establishments offering overnight stays and breakfast, usually in a more personal, home-like setting.</p> <p>guesthouses: similar to B&Bs but may offer more services and meals beyond breakfast.</p>	
Week 4: different types of accommodation	Week 5: standards of accommodation	Week 6: standards of restaurants	
<p>hostels: budget accommodations with shared rooms and facilities.</p> <p>resorts: large facilities providing extensive recreational activities, dining, and accommodation.</p> <p>camping sites: areas designated for outdoor stays in tents, caravans, or campervans.</p> <p>serviced apartments: Fully furnished apartments available for short or long-term stays, with services similar to a hotel.</p>	<p>star rating: system that classifies accommodation based on its quality and range of services, with higher stars indicating superior standards.</p> <p>amenities: facilities and features provided by the accommodation, such as Wi-Fi, pools, gyms, and room service, which enhance the guest experience.</p> <p>cleanliness: standard of hygiene and sanitation maintained throughout the accommodation, including guest rooms, common areas, and facilities.</p> <p>customer service: quality of assistance and support provided to guests by the accommodation staff, influencing overall guest satisfaction.</p>	<p>hygiene: practices and conditions that help to maintain health and prevent the spread of diseases.</p> <p>service quality: measure of how well the service provided meets the customers' expectations.</p> <p>food safety: procedures and practices that ensure the food served is safe to eat.</p> <p>menu planning: process of designing a menu that meets customer preferences, nutritional requirements, and dietary restrictions while also considering cost, seasonality, and ingredient availability.</p>	

Hospitality and Catering		Year 10	Term 2
Week 1: standards of restaurants	Week 2: providers/provisions	Week 3: types of service	
<p>customer satisfaction: level of contentment customers feel about the dining experience.</p> <p>ambiance: overall atmosphere of a restaurant that affects customer comfort and enjoyment.</p> <p>presentation: visual appeal of food when served, including plating techniques and garnish that enhance the dining experience.</p> <p>consistency: ability to deliver the same quality of food and service repeatedly.</p>	<p>provider: a place that provides a service for someone.</p> <p>commercial provider: the business aims to make profit from the hospitality and catering provision that they provide.</p> <p>non-commercial provider: the service provider doesn't aim to make a profit from the service they provide.</p>	<p>service: the way food and drinks are provided to customers, including the methods and practices used to deliver these items and the overall experience created for the guests.</p> <p>plating: the arrangement and presentation of food on a plate, which is important for creating an appealing visual experience for the customer.</p> <p>customer experience: the overall impression and satisfaction of a guest based on the quality of service, including the friendliness and efficiency of the staff, the ambiance of the venue, and the quality of the food and drinks.</p>	
Week 4: types of service	Week 5: job roles	Week 6:	
<p>table service: food is served to customers at their table by waitstaff. This includes:</p> <ul style="list-style-type: none"> silver service: a formal style where food is served from a platter to the guest's plate. plated service: food is pre-plated in the kitchen and served directly to the guest. gueridon service: food is prepared or cooked at the table from a moveable trolley. 	<p>front of house: the members of the team that the customers see. For example:</p> <ul style="list-style-type: none"> waiter/waitress receptionist <p>back of house: the members of the team that the customers do not see. For example:</p> <ul style="list-style-type: none"> kitchen brigade cleaners 	<p>kitchen brigade: a structured system of kitchen organization and hierarchy used in professional culinary settings, particularly in fine dining restaurants.</p> <p>hospitality brigade: a structured hierarchy and organisation of roles within the broader hospitality industry, encompassing various sectors beyond just the kitchen.</p>	

Music	Musical Elements	Year 10	Term 1
Week 1: melody	Week 2: melody cont.	Week 3: melody cont.	
<p>anacrusis: a note (or notes) that come before the first strong beat in a passage of music. Sometimes called the up beat or pick up.</p> <p>conjunct: stepwise movement in a melodic line i.e. scalar</p> <p>disjunct: angular musical movement that moves in leaps or contains intervals</p> <p>arpeggio/broken chord: when the notes of a chord are played separately and in succession, either ascending or descending.</p> <p>scalar: when the musical line moves in steps, just like a scale</p>	<p>range: refers to the span of pitches on an instrument or in a piece of music, from the lowest to the highest pitch</p> <p>sequence: repetition of a melodic or harmonic phrase in the same part, but at a higher or lower pitch</p> <p>imitation: when a melodic idea is copied in another, while the first line continues</p> <p>repetition: when sounds, sequences, melodies rhythms or sections are repeated</p> <p>contrast: when there is a difference in the music e.g. melodic, rhythmic or harmonic</p>	<p>leitmotif: a musical idea associated with a person, place or object</p> <p>motif: a short musical idea</p> <p>interval: the distance between any two notes</p> <p>inversion: turning a melodic idea or interval upside down</p> <p>octave: the distance from one note to the next note with the same letter name</p>	
Week 4: melody cont.	Week 5: melody cont.	Week 6: articulation	
<p>Semitone: the smallest interval between two notes e.g. C to C#</p> <p>microtone: an interval smaller than a semitone</p> <p>chromatic movement: when the melodic movement is in semitones, like the chromatic scale</p> <p>pentatonic: a five-note scale</p> <p>blue notes: the flattened notes in a blues scale</p>	<p>trill/ornamentation/decoration: decorate or embellish the music</p> <p>countermelody: an extra melody played at the same time</p> <p>answering phrase: a second phrase of music</p> <p>thematic: the main musical idea</p> <p>fanfare: typically played on brass instruments, a loud call to attention like an announcement</p>	<p>accent: additional stress of emphasis placed on a particular note</p> <p>detached: separation of one note to the next</p> <p>legato: an instruction for the music to be played smoothly</p> <p>slurred: a style of playing two or more notes without separation; the notes are played smoothly</p> <p>staccato: an instruction to play the notes short and detached</p> <p>tongued: a performance technique used by wind instruments to articulate and control the start, end and separation of notes</p>	

Music	Musical Elements cont	Year 10	Term 2
Week 1: dynamics	Week 2: texture	Week 3: texture cont.	
<p>fortissimo (ff): very loud</p> <p>forte (f): loud</p> <p>mezzo forte (mf): quite loud</p> <p>mezzo piano (mp): quite quiet</p> <p>piano (p): quiet</p> <p>pianissimo (pp): very quiet</p> <p>crescendo (<): gradually getting louder</p> <p>diminuendo (>): gradually getting quieter</p> <p>sforzando (sfz): with force, a sudden emphasis</p>	<p>monophonic: a single melodic line without accompaniment. Soloist or multiple voices in unison</p> <p>homophonic: sounding together; a chordal style or melody and accompaniment</p> <p>polyphonic: a more complex texture where two or more independent melodic lines are performed at the same time</p> <p>imitation: when a musical idea is copied in another part</p> <p>canon: a device where a melody is repeated exactly in another part while the initial melody is still being played.</p>	<p>Alberti bass: a type of accompaniment that uses broken chords, typical of the Classical era. The notes of the chord are lowest, highest, middle, highest e.g. C, G E G</p> <p>chordal: a texture where the parts move together producing a series of chords, like in a hymn or chorale</p> <p>countermelody: a new melody heard at the same time as the original</p> <p>descant: a decorative melodic line, higher in pitch than the main melody</p> <p>drone: sustained or repeated note(s) that continue throughout a passage of music</p>	
Week 4: texture cont.	Week 5: Structure & Form	Week 6: Structure & Form cont.	
<p>layered: when layers of sounds or musical lines are added one at a time to gradually build a fuller texture</p> <p>melody and accompaniment: the tune is the main focus of interest and it is supported by another part(s)</p> <p>round: multiple voices sing the exact same melody, but each voice begins at a different time</p> <p>stab chords: staccato chords that add dramatic punctuation to a piece of music</p> <p>unison: two or more parts sound the same pitch at the same time</p> <p>walking bass: a bass line, common in blues and jazz, that 'walks' up and down the notes of scale/arpeggio</p>	<p>12 bar blues: a repeating chord progression used in Blues music I,I,I,I,IV,IV,I,I,V,IV,I,I)</p> <p>32 bar song form: a song form consisting of four 8-bar sections, i.e. AABA</p> <p>binary form: two part structure e.g. AB</p> <p>break: an instrumental or percussion section that provides a 'break' from the rest of the song</p> <p>bridge: a passage that links two other musical sections together</p>	<p>Call and response: a short musical idea (the call) followed by an answering phrase (the response)</p> <p>chorus: a section of a song that is usually repeated at least twice, with the same lyrics and music each time</p> <p>coda: the final section of a movement of piece of music</p> <p>contrast: when sections of a piece of music are different (e.g. melodic contrast, change of key, different tempo)</p> <p>fill: a short musical idea that fills the 'gaps' in the music at the end of a phrase, often played on drums</p>	

RS Option GCSE	Theme B Religion and Life	Year 10	Term 1									
Week 1: quality of life/ abortion abortion: the deliberate ending of a pregnancy. The Abortion Act 1967: this applies to England, Scotland, and Wales. Before a legally induced abortion can take place, two doctors must agree that: <ul style="list-style-type: none">the woman is less than 24 weeks pregnant,it is necessary to prevent grave damage to the woman's physical or mental health, or any of her existing children Scripture: “...in the image of God, he created them; male and female he created them”	Week 2: euthanasia euthanasia: assisting with the ending of life for a person who is terminally ill or has degenerative illness; often known as assisted suicide. sanctity of life: belief that life is sacred/special because it was created by God, or because we are each unique individual. quality of life: the standard of health, comfort and happiness/fulfilment experienced by a person or group. 	Week 3: euthanasia hospice: this is where specialist medical staff look after the terminally ill. Palliative drugs are used to help ensure that the person does not suffer any more pain than is necessary. active euthanasia - something is done to a person to make them die more quickly, e.g., giving drugs with the intention of bringing about death. passive euthanasia - any form of treatment that might extend a person's life is withdrawn. This is legally allowed in the UK, and so would not be called euthanasia.										
Week 4: afterlife afterlife: beliefs about what happens to ‘us’ after our body has died; in many religions this relates to life after death or immortality in some form. death: the end of the physical, bodily life. The Parable of the Sheep and Goats (Matthew 25:31-46) The biblical story of the sheep and the goats explains the idea of judgement. The sheep represent all who have helped those in need or have given back to the world in some way. The goats represent those who have acted in an unkind or selfish way. 	Week 5: origins of the universe creation: bringing the world into existence; the belief that the world is God’s loving creation. Big Bang: scientific theory about the origins of the universe; belief that the universe began almost 14 billion years ago with a reaction of particles from a singularity followed by a process of inflation and expansion. awe and wonder: sense of wonderment at nature; often linked to the feeling that God is involved/revealed through it. evolution: scientific theory of the development of species which involves a process of natural selection and survival of the fittest.	Week 6: origins of the universe Essential scripture: <ul style="list-style-type: none">“In the beginning God created the heavens and the earth.”“Let there be light,” and there was light.  Key <table><tr><td>A</td><td>Day 1-2: Light and sky</td></tr><tr><td>B</td><td>Day 3: Dry land and plants</td></tr><tr><td>C</td><td>Day 4: Sun, Moon and stars</td></tr><tr><td>D</td><td>Day 5: Sea and flying creatures</td></tr><tr><td>E</td><td>Day 6: Land animals and human beings</td></tr></table> 	A	Day 1-2: Light and sky	B	Day 3: Dry land and plants	C	Day 4: Sun, Moon and stars	D	Day 5: Sea and flying creatures	E	Day 6: Land animals and human beings
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RS Option GCSE	Theme B Religion and Life	Year 10	Term 2
Week 1: stewardship	Week 2: animal rights	Week 3: the role of animals	
<p>natural resources: resources which are found in nature – fossil fuels (e.g., coal, oil, natural gas), plants etc.</p> <p>pollution: contamination of an environment with harmful substances.</p> <p>scientific: knowledge based on what can be observed (e.g., regularities in nature) and experimentation.</p> <p>stewardship: duty given by God to humankind to look after the created world, and all life within it.</p> <p>dominion: belief that humans have been given control/charge of the world.</p> <p>environment: the world around us; this can be made up natural or artificial surroundings.</p>	<p>Scripture:</p> <ul style="list-style-type: none"> “God took the man and put him in the Garden of Eden to work it and take care of it.” stewardship “Everything that lives and moves about will be food for you. Just as I gave you the green plants, I now give you everything.” dominion “The earth is the Lord's, and everything in it, the world, and all who live in it.” stewardship <p>The Christian Declaration on Nature drawn up at Assisi in 1986 teaches that humans have the role of protecting all created things, not abusing, or destroying them.</p> 	<p>medical testing (vivisection): the practice of performing operations on animals for the purpose of experimentation or scientific research.</p> <p>cosmetic testing: cosmetic testing on animals is a type of animal testing to test the safety of products used by humans.</p> <p>Scripture:</p> <ul style="list-style-type: none"> “Look at the birds of the air; they do not sow or reap or store away in barns, and yet your heavenly Father feeds them. Are you not much more valuable than they?” “The righteous care for the needs of their animals.” <p>responsibility: having a duty or obligation to act in a certain way</p>	
Week 4: revision	Week 5: revision	Week 6: revision	
<p>Catholic: based in Rome and lead by the Pope</p> <p>Orthodox: split from Catholic Christianity in 1054CE and practiced in Eastern Europe</p> <p>Protestant: split from Catholic Christianity in the 16th Century and branched into different denominations e.g., Baptist</p> <p>creation: bringing the world into existence; the belief that the world is God's loving creation.</p>	<p>Trinity: the belief that God as One includes God also being manifest in three Persons: The Father, Son, and Holy Spirit</p> <p>Father: the first Person of the Trinity, the belief in God as creator and sustainer of the universe.</p> <p>The Son: the second Person of the Trinity; Jesus believed to be God incarnate.</p> <p>The Holy Spirit: the third Person of the Trinity; believed to be present with believers since Pentecost and active on earth.</p>	<p>Liberal Christians: these Christians may see parts of the Bible as a metaphor. This means that they may allow for many different interpretations of the same story.</p> <p>Fundamental Christians: these Christians interpret the Bible literally, as it is the divine word of God. They may see the Bible as an accurate historical document.</p>	

GCSE PE	Chapter 1	Year 10	Term 1
Week 1: Functions of the skeleton and types of bones	Week 2: Bones that articulate at joints	Week 3: Movement at joints	
<p>Long bone – long and thin to look at. Allow gross movements and production of red blood cells happens here. Examples – Humerus, Femur, Radius, Ulna.</p> <p>Short bone – short and fat to look at. Allows fine movements and acts as a shock absorber. Example – Talus.</p> <p>Flat bone – Flat to look at. Provides protection of vital organs. Examples – Sternum, Patella, Scapula, Cranium.</p> <p>Functions of the skeleton – SS MM PB (structure/shape, support, mineral storage, movement, protection, blood cell production).</p>	<p>Joint – A place where two or more bones meet.</p> <p>Synovial joint – a place where two or more bones meet to allow movement.</p> <p>Head/Neck – Cranium and Vertebral column Shoulder – Scapula and Humerus Elbow – Humerus, Radius and Ulna Hip – Femur and Pelvis Knee – Femur, Tibia and Fibula. Patella floats in front Ankle – Talus and Tibia Chest – Sternum and Rib cage</p>	<p>Rotation – when a limb rotates along its long axis.</p> <p>Circumduction – turning or circular motion around a joint.</p> <p>Abduction – When the limb is taken away from the mid line of the body.</p> <p>Adduction – When the limb is moved towards the mid line of the body.</p> <p>Plantar flexion – When the angle between the toes and the tibia increases. The pointing action.</p> <p>Dorsi flexion – When the angle between the toes and the tibia decreases.</p>	
Week 4: Features of synovial joints	Week 5: Antagonistic pairs	Week 6: Muscular contractions	
<p>Synovial fluid – prevents friction by lubricating the joint.</p> <p>Cartilage – located on the end of bones to reduce friction between bones. Acts as a shock absorber.</p> <p>Synovial membrane – secretes and releases synovial fluid.</p> <p>Bursae – small sacs of synovial fluid to prevent the tendon damaging the joint.</p> <p>Ligaments – connect bone to bone.</p> <p>Tendon – connect muscle to bone.</p>	<p>Antagonistic pair – two muscles working together to create movement.</p> <p>Agonist – the prime mover. The muscle causing the action.</p> <p>Antagonist – the muscle not causing the movement (the relaxing muscle).</p> <p>Examples of antagonistic pairs: Elbow – Biceps and Triceps Knee – Quadriceps and Hamstrings Hip – Hip flexor and Gluteals Ankle – Tibialis anterior and gastrocnemius Shoulder – Latissimus dorsi and deltoid</p>	<p>Isotonic – when the muscles contract and there is visible movement.</p> <p>An isotonic contraction either contracts concentrically or eccentrically.</p> <p>Concentric – when the muscle contracts and gets shorter and fatter in shape.</p> <p>Eccentric – when the muscle contracts and gets longer and thinner in shape.</p> <p>Isometric – when the muscles contract and there is no visible movement.</p>	

GCSE PE	Chapter 1	Year 10 Term 2
Week 1: Pathway of air and gaseous exchange	Week 2: Mechanics of breathing	Week 3: Lung volumes (spirometer traces)
<p>Pathway of air: Nose/Mouth → Trachea → Bronchi → Bronchioles → Alveoli</p> <p>Gaseous exchange – a process of diffusion where gas moves from a high concentration to a lower concentration.</p>	<p>Inhalation – breathing in, brought about by a change in air pressure.</p> <p>Intercostal muscles contract, rib cage moves up and out, diaphragm moves downwards.</p> <p>Exhalation – breathing out, expulsion of air from the lungs reducing the volume of the chest cavity.</p> <p>Intercostal muscles relax, rib cage moves downwards, diaphragm moves upwards.</p> <p>During exercise the pectorals and sternocleidomastoid are used to speed up the process.</p>	<p>Tidal volume – the normal amount of air breathed in and out per breath. Increases during exercise.</p> <p>Inspiratory reserve volume – the maximum amount of air breathed in after a normal breath. Decreases during exercise.</p> <p>Expiratory reserve volume – the maximum amount of air breathed out after a normal breath. Decreases during exercise.</p> <p>Residual volume – The amount of air left in the lungs even after maximum expiration. Stays the same during exercise.</p>
Week 4: Redistribution of blood and blood vessels	Week 5: Structure of the heart	Week 6: Heart rate, stroke volume and cardiac output
<p>Vasoconstriction – the internal diameter of the blood vessel narrows to restrict blood flow.</p> <p>Vasodilation – the internal diameter of the blood vessel increases to increase the blood flow.</p> <p>Veins – carry blood towards the heart at low pressure, have valves to prevent backflow of blood, have a large internal lumen, have thin walls.</p> <p>Arteries – carry blood away from the heart at high pressure, have thick muscular walls, have a small internal lumen.</p> <p>Capillaries -one cell thick, very thin walls large network of them.</p>	<p>The heart – a muscular pump made of cardiac muscle.</p> <p>Atrium – top two chambers of the heart.</p> <p>Ventricles – bottom two chambers of the heart.</p> <p>Systole – the heart is contracting. Blood is being pushed up and out of the ventricles and pumped to the lungs or body.</p> <p>Diastole – The heart is relaxing and filling with blood.</p>	<p>Heart rate – the amount of times the heart beats per minute. Increases during exercise.</p> <p>Maximum heart rate = 220 - age</p> <p>Cardiac output – the amount of blood pumped out of the heart per minute. Increases during exercise.</p> <p>Stroke volume – the amount of blood pumped out of the heart per beat. Increases during exercise.</p>

GCSE PE	Supplement	Year 10	Term 1 + 2
Week 1: Pathway of blood 1. Deoxygenated blood enters the right side of the heart through the vena cava and in to the atrium . 2. Diastole happens, the blood goes through a valve in to the right ventricle . 3. Systole happens and the blood is pumped up and out of the pulmonary artery to the lungs. 4. The blood becomes oxygenated through gaseous exchange. 5. The blood re-enters the left hand side of the heart through the pulmonary vein . 6. The blood goes in to the left atrium . 7. Diastole happens, the blood goes through a valve and in to the left ventricle . 8. Systole happens, the blood is pushed up and out of the aorta and to the body .	Week 2: Aerobic and anaerobic Aerobic – exercise occurring in the presence of enough Oxygen. Low to medium intensity. 60 to 80% of maximum heart rate. Lasts for over a minute. <u>Equation:</u> Glucose + Oxygen → Energy + Water + Carbon Dioxide Anaerobic – exercise occurring in the absence of enough Oxygen. High intensity. 80 to 90% of maximum heart rate. Lasts for less than a minute. <u>Equation:</u> Glucose → Lactic acid + energy	Week 3: EPOC and recovery methods EPOC - Excess post exercise oxygen consumption. Caused by anaerobic exercise. Signs – increased breathing rate on completion of activity to repay the oxygen debt. Ice baths/massages – break down the lactic acid. Not accessible straight away by all performers. Help to prevent DOMS. Manipulation of diet – replenishing water and eating protein to build and repair muscles. Cool down – maintain elevated breathing and heart rate, stretching for up to 30 seconds to break down lactic acid.	
Week 4: Immediate, short, long term effects of exercise Immediate – instantly, in the moment. Increased breathing rate, increased body temperature, increased heart rate. Short term – 24 to 26 hours after exercise. Nausea, DOMS, fatigue. Long term – months and years after regular exercise. Body composition may change, increased muscular strength, increased flexibility, increased balance.	Week 5:	Week 6:	

Sports studies		TA1		Year 10		Term 1																									
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Sports studies	TA 1+2	Year 10	Term 2
Week 1: Factors affecting popularity of sport	Week 2: Factors affecting popularity of sport	Week 3: Factors affecting popularity of sport	
<p>Number of people participating: the more people participate in sport the more it generates interest. These further drives participation.</p> <p>Provision of facilities: if there are more facilities in an area for certain sports it will allow participation and increase its popularity</p> <p>Environmental or climatic conditions: the environment and climate effect the popularity / participation. These spaces are not available to many people due to cost/location. E.g. Mountains are needed for skiing/snowboarding.</p>	<p>Range of media coverage: the more media coverage a sport has the more popular it will become. (e.g. sky TV)</p> <p>High level sporting success and role models: the greater success an individual or team has, the more popular the sport becomes.</p> <p>Social acceptability of a sport: some sports are seen as acceptable/unacceptable. This effects their popularity. E.g. boxing or MMA are deemed to be violent.</p>	<p>Positive role models: popular role models increase the popularity of their sport. It is important that role models from sport include: males, females, ethnic minorities and disability groups</p> <p>Live spectator opportunities: the more live spectator opportunities to watch sport will increase its popularity (e.g. number of local football clubs/stadiums).</p>	
Week 4: current emerging sports in the UK	Week 5: Olympic creed / symbol	Week 5: The Olympic values	
<p>Emerging sports: sports introduced/that are new to the UK in recent years. They are growing in popularity.</p> <p>For example:</p> <p>Parkour</p> <p>Footgolf</p> <p>Quidditch</p> <p>Lacrosse</p> <p>Ultimate frisbee</p> <p>Kabaddi</p> <p>Pickleball</p>	 <p>The Olympic creed: <i>"The most important thing is not to win but to take part, just as the most important thing in life is not the triumph but the struggle. The essential thing is not to have conquered, but to have fought well".</i></p> <p><i>Pierre De Coubertin</i></p> <p>The five interlocking rings: represents the closeness (union) between the five continents.</p>	<p>Respect: this includes respect for yourself and your body, for other people, for rules and regulations, for sport and for the environment.</p> <p>Excellence: doing the best we can, on the field of play or in our professional life. The important thing is not winning, but taking part, making progress and enjoying the healthy combination of body, will and mind.</p> <p>Friendship: is at the heart of the Olympic movement. It encourages us to see sport as an instrument for mutual understanding between individuals, and between people all over the world.</p>	