



2023-2024

Year 10 Cycle 1

100% Book

Name:

Tutor group:

Your 100% book and knowledge organisers

2

Knowledge organisers contain **critical** knowledge you must know. This will help you recap, revisit and revise what you have learnt in lessons in order to remember this knowledge for the long-term.

Students remember 50% more when they test themselves after learning.

You must have this 100% book for every lesson – it is part of your equipment.

You must keep your 100% books (even after you have finished the cycle or the year).

How do I use my 100% book for self-quizzing?



1) Write today's date and the title from the knowledge organiser and underline with a ruler



2) Write out the keywords leaving two lines between each word



3) Cover the definitions apart from the first: read it, cover it, say it in your head, check it



4) If you got it right, move on and quiz yourself on the rest in your head, one by one



5) Cover up all the definitions and write them out from memory



6) Check your answers using green pen

- Tick any definitions which are correct
- Correct any definitions not completely correct



Correcting spelling, punctuation and grammar

Your work will be marked across all subjects to help you improve your literacy. This is the code that will be used.

Correcting your spelling, punctuation and grammar	
Sp + underlined word	The underlined word is spelt incorrectly. Look, cover, write then check. Do this at least three times so you spell it correctly.
A circle around part of a word or a space	Your punctuation is incorrect, or something is missing (including capital letters).
? + wobbly line	You haven't explained your ideas clearly enough.
/	You need to start a new sentence here. Remember: full stop, capital letter.
//	You need to start a new paragraph here. Remember: new paragraphs for time, place, topic, person (TiPToP).
^	A word is missing where the arrow is pointing.

Year 10 – Cycle 1 – Art & Design

1	Still life	A painting or sculpture of anything that does not move
2	Composition	The artistic arrangement of elements within an artwork
3	Chiaroscuro	Extreme contrast between light and shadow for dramatic effect
4	Contemporary art	Art produced in the second half of the 20 th Century or in the 21 st Century
5	Foreground	The part of the artwork which depicts an area closer to the viewer
6	Middle ground	The middle distance in an artwork
7	Background	The part of the artwork which depicts an area furthest from the viewer
8	Reductive drawing	Technique where darkness is laid onto paper and removed to show the light parts of an image
9	Monochrome	Artwork that only includes one colour
10	Photomontage	Collage constructed from photographs
11	Photomanipulation	Transforming a photograph using various methods
12	Plate	The surface upon which you have created your design
13	Block-printing	Process of printing designs by engraving blocks or another surface
14	Gouge	Tool used for removing lino in the block printing process
15	Incise	Mark or decorate an object or surface with cuts or gouges
16	Brayer	Roller that is used in printmaking to evenly spread-out ink
17	Offset	Transferring ink from a printed page onto another surface
18	Invert	An image where up and down or left and right are reversed

Year 10 – Cycle 1 – Business GCSE – Section 1: Business Basics

1	Entrepreneur	Someone who is willing to risk starting a new business
2	Factors of production	The resources a business uses to provide their goods and services: land, labour, capital, enterprise
3	Opportunity cost	The sacrifice made when making a decision between two options
4	Secondary sector	Second stage of the production process, turning raw materials into products
5	Tertiary sector	Final stage of production, providing a service to customers
6	Interest rates	The cost of borrowing money or the reward for saving money, expressed as a percentage
7	Limited liability	Business owners can only lose the money they put into the business
8	Unlimited liability	Business owners can lose money they invested and their personal assets
9	Company	A business that has its own legal identity and can own items, owe money, sue and be sued
10	Shareholder	A person or an organisation that owns a part of the business
11	Stakeholder	Individuals and organisations that are affected by, and affect, the activities of a business
12	Dividends	The financial rewards paid out to shareholders each year
13	Tariff	A tax on foreign goods imported into a country
14	Imports	Goods and services purchased from overseas by consumers or businesses
15	Revenue	The income that a firm receives from selling its goods or services
16	Revenue formula	Revenue = number units sold × selling price
17	Franchise	When a franchisor sells the “rights” to its products to a franchisee
18	Economies of scale	When the unit cost of production falls as the output of a business increases and the business expands

Year 10 – Cycle 1 – Citizenship – Life in Modern Britain

1	Value	Standards of behaviour that are accepted by a society
2	British values	Five key values that are associated with living in Britain
3	Democracy	People having the power to decide through open and fair elections
4	Individual liberty	The freedom people have to make their own choices and decisions
5	Rule of law	The belief that law applies equally to all people
6	Tolerance	Showing understanding of others with differing views and opinions
7	Multiculturalism	The co-existence of diverse cultures in a society
8	Discrimination	Treating a person or group of people unfairly based on a characteristic such as sex, gender, or race
9	National identity	An identity associated with being a citizen of a specific country
10	Migration	The movement of people from one country to another
11	New media	All non-traditional forms of media, including internet-related means of communication
12	Mass media	The means of communicating to a large number of people at the same time
13	Censorship	The suppression of speech or public information as determined by governments or authorities
14	Ofcom	The Office of Communications: a government organisation responsible for supervising the media industry
15	Agencies	Organisations that are part of a major institution
16	Veto	The ability to vote down any decision
17	Non-governmental organisation (NGO)	National or international charities that provide services to those in need
18	Mediation	A process of involving outsiders in a dialogue to try to resolve a dispute between two parties

Year 10 – Cycle 1 – Design & Technology

1	Design brief	A statement describing what you are designing or solving
2	Specification	Design requirements that must be met
3	Ideation	Creating design ideas or solutions
4	User mapping	Visualising the end-to-end user experience
5	Pain points	Areas where a user has experienced difficulty
6	Target market	The most likely customers of a product
7	Prototype	A physical model used to present your final design
8	LCA (Life Cycle Assessment)	A technique to assess environmental impacts at all stages of a product's life
9	Sustainable design	Design that reduces environmental impacts
10	Inclusive design	A design that considers usage to ensure as many people as possible can access it
11	Rapid prototyping	Techniques used to build a scale model of a physical part using 3D CAD, e.g. 3D printing
12	CAD (Computer Aided Design)	Digital software used to create 2D and 3D models and drawings
13	CAM (Computer Aided Manufacture)	The use of software and computer-controlled machinery for manufacture
14	Production line	A set of tasks that come one after the other and result in an identical product
15	Mass production	When the same product is manufactured many times on an assembly line.
16	Batch production	One group of identical products is made at the same time, before moving onto producing the next group
17	Varnish	A shiny coat usually applied to wood to make it more durable
18	Built-in obsolescence	Designing a product with a limited useful life or a purposely weak design

Year 10 – Cycle 1 – Drama

A: Job roles and stage configurations

1	Director	Responsible for leading the overall creative vision of the show
2	Playwright	Responsible for writing and editing the play
3	Theatre manager	Responsible for front of house employees and audience experience
4	Stage manager	Responsible for coordinating design team and backstage crew
5	Understudy	Performer who learns the lines and blocking of a regular performer, stepping into the role if there is illness or injury
6	Designers	Responsible for creating one element, such as costume or lighting for the show, in line with director's vision
7	In the round	The stage is positioned at the centre with audience around the whole stage
8	Thrust	The audience are sitting on three sides of the action of the play
9	Traverse	The audience sits on two sides, like a catwalk
10	Proscenium arch	Audience sat facing forwards, stage has a frame around the edge
11	End on	Audience sat facing forwards
12	Promenade	Performance area set in multiple locations in a venue; the audience follows the action on foot, moving from one location to another

B: Noughts and Crosses

13	Genre	Type of dramatic work, e.g. a comedy
14	Style	Manner in which a piece is performed, e.g. physical style
15	Context	The historical and social background of the play
16	Character motivation	The reason behind a character's behaviour and actions
17	Subtext	The underlying and unspoken thoughts of characters; what they really think and believe
18	Status	Position or ranking in society and with other characters in the play

Year 10 – Cycle 1 – English – Shakespeare's *Macbeth*

A: Writer's methods

1	Imperative	A verb used to give a command or order
2	Soliloquy	A speech where a character is alone and speaks their thoughts and feelings out loud
3	Aside	A comment by a character that is meant for the audience to hear, but no other characters
4	Paradox	A statement that contradicts itself
5	Foreshadow	A warning or clue about a future event
6	Tragic hero	A great, virtuous character destined for a downfall or defeat
7	Hamartia	A fatal flaw or weakness

B: Context

1	Divine Right of Kings	The idea that a monarch is chosen by God, not the people
2	The Great Chain of Being	A Christian belief that all beings are ranked in a hierarchy, with God at the top, to maintain natural order
3	Ambition	Strong desire to achieve something
4	Unnatural	Going against natural laws; abnormal
5	Supernatural	Something above and beyond natural laws that cannot be explained
6	Blasphemy	An act against God
7	Hallucination	A vision or image that is not real
8	Regicide	To kill a king or queen
9	Chaos	Disorder and confusion
10	Apparition	A ghostly figure

Year 11 – Cycle 1 – English – *A Christmas Carol*

A: Writer's methods		
1	Pathetic fallacy (n)	Giving human feelings to something non-human to create a specific tone
2	Imagery (n)	Visually descriptive language (e.g. simile/metaphor)
3	Symbolism (n)	The use of objects to represent an idea
4	Motif (n)	An image, word, phrase, or theme repeated throughout a text
5	Foil (n)	A character that is the opposite to another character
6	Allegory (n)	A story with a hidden meaning or moral
7	Epiphany (n)	A moment of realization
B: Context		
1	Social injustice (n)	Inequality within society
2	Miser (n)	A greedy person who lives in a poor way in order to save money
3	Misanthropic (adj)	Showing a dislike for other people
4	Avarice (n)	Extreme greed for money
5	Callous (adj)	Cruel or insensitive towards others
6	Moral (n)	A lesson to be learned
7	Virtue (n)	Good or fair behaviour
8	Vice (n)	Evil or criminal behaviour
9	Redemption (n)	Saving someone from evil or sin
10	Transformation (n)	A major change in character
11	Philanthropic (adj)	Giving money and time to help needy people

C: Key quotations	
1	'As solitary as an oyster'
2	'a squeezing, wrenching, grasping, scraping, clutching, covetous, old sinner!'
3	'I wear the chains I forged in life'
4	"'If they would rather die," said Scrooge, "they had better do it, and decrease the surplus population"'
5	'from the crown of its head there sprung a bright clear jet of light...'
6	'Another idol has displaced me...'
7	'Yellow, meagre, ragged, scowling, wolfish...'
8	'The phantom slowly, gravely, silently approached.'
9	'I am as light as a feather, I am as happy as an angel, I am as merry as a schoolboy.'
10	'I'll raise your salary, and endeavour to assist your struggling family...'

Year 10 – Cycle 2 – Enterprise BTEC – Component 1

Part A		
1	Entrepreneur	Someone who is willing to take risks in starting businesses
2	Market share	% of total sales in a market Sales of Product / Sales of Market × 100
3	Market growth	% change in market size Change in Size / Original Size × 100
4	Qualitative data	Data based on opinions and attitudes
5	Quantitative data	Numerical data
6	Primary research	Data gathered by the business itself
7	Secondary research	Data gathered previously by other organisations

Part B		
1	Marketing mix	The four Ps: the factors which influence customers' buying decisions
2	Price	Setting prices based on different methods of pricing
3	Product	Design, features and functions of the product itself
4	Promotion	Communicating with customers to raise awareness of the product
5	Place	Where products are sold and how products are delivered
6	Internal factors	Factors within the business that influence the marketing mix
7	External factors	Factors outside the business that influence the marketing mix
8	Promotional mix	The combination of promotional methods used by a business to communicate with customers
9	Product life cycle	The change in sales of a product over time
10	Extension strategies	Methods of maintaining the sales of a product to prevent it from decline
11	Competitor	A rival business who is a threat to your success

Year 10 – Cycle 1 – French

A: Family and relationships

1	I get on with well with	je m'entends bien avec
2	I got on well with	je me suis entendu bien avec
3	I argue	je me dispute
4	I argued	je me suis disputé(e)
5	We love each other	on s'aime
6	He /She irritates me	il/Elle m'embête
7	I would be	je serais
8	I would have	j'aurais
9	I would like to have	je voudrais avoir
10	Single	célibataire
11	A job	un emploi
12	A car	une voiture
13	A husband	un mari
14	A wife	une femme

B: Free time

1	To do swimming	faire de la natation
2	To do horse-riding	faire de l'équitation
3	To go running/jogging	faire du footing
4	To play basketball	jouer au basket
5	To play chess	jouer aux échecs
6	To go on a walk	faire une promenade
7	To go to the cinema	aller au parc

8	To listen to music	écouter de la musique
9	To dance in a nightclub	danser en boîte
10	To do my homework	faire mes devoirs
11	To chat with my friends	bavarder avec mes amis
12	To go out	sortir
13	I did	j'ai fait
14	I played	j'ai joué
15	I went	je suis allé
16	I danced	j'ai dansé
17	When I was little	quand j'étais petit
18	I used to read	je lisais
19	I used to watch	je regardais

C: Where I live

1	Where I live, there is	là où j'habite, il y a
2	In the countryside	à la campagne
3	In the suburbs/outskirts	en banlieue
4	My bedroom	ma chambre
5	My house	ma maison
6	Noise	le bruit
7	Traffic	la circulation
8	Rubbish	les déchets
9	Neighbours	les voisins

Year 10 – Cycle 1 – Geography

A: Global Development

1	Development	The process of improving quality of life in a country
2	Composite development indicator	A measure of development that includes more than one aspect of development
3	Political corruption	Use of power by government officials or their network contacts for private gain
4	International aid	The voluntary transfer of resources to help another country
5	Fair Trade	Trade in which fair prices are paid to the producers
6	Foreign Direct Investment (FDI)	When a business invests in another country
7	Core	An area of the country with a lot of economic investment
8	Periphery	An area of the country with very little economic investment
9	Geopolitics	Relationships between countries

B: Changing Landscapes - Coasts

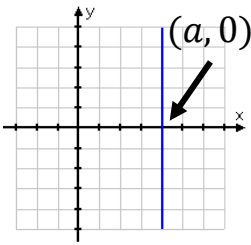
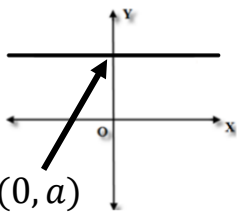
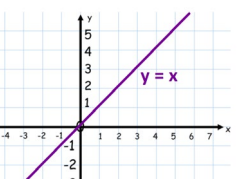
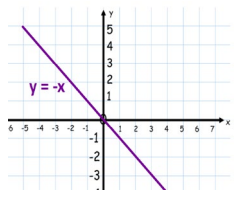
1	Erosion	The wearing away of the land by water, ice or wind
2	Weathering	The breakdown of rocks on the Earth's surface
3	Deposition	When water loses energy and drops sediment
4	Mass movement	The downhill movement of material due to gravity
5	Transportation	The movement of sediment
6	Fetch	The distance that wind has travelled over the sea
7	Longshore drift	The movement of sediment along the coast
8	Prevailing wind	The main wind in an area
9	Discordant coastlines	Coastlines with alternating layers of geology

Year 11 – Cycle 1 – History – Changes in Health and Medicine, c. 500 to the present day

1	Ancient period	The period of time roughly from 3000 BC to 500 CE
2	Medieval period	The period of time roughly from 500 CE to 1500 CE
3	Early Modern period	The period of time roughly from 1500 CE to 1700 CE
4	Industrial period	The period of time roughly from 1700 CE to 1900 CE
5	Modern period	The period of time roughly from 1900 CE to the present day
6	Renaissance	A period in the Early Modern period when people looked back and developed knowledge from the Ancient period
7	Miasma	The belief that bad smells can cause ill health
8	Four humours	The belief that the body was made up of four fluids that needed to be balanced to remain healthy
9	Pandemic	A disease that spreads across a wide geographical area
10	Self-flagellate	To whip yourself to repent for sins
11	Alchemy	Medieval chemistry that tried to change ordinary metals into gold and to cure death
12	Bloodletting	Removal of blood to balance the four humours to restore good health
13	Anaesthetic	A substance that makes a patient unconscious so they cannot feel any pain during surgery
14	Antiseptic	Chemicals used to kill bacteria to prevent infection of a wound
15	Antibiotic	A drug that kills bacteria inside the body to treat an infection
16	Astrology	The study of the movement of stars and planets and their influence on humans and the world
17	Anatomy	The study of the human body and how it fits together
18	To endow	To give a large amount of money to build a public building, e.g. hospital

Year 10 – Cycle 1 – Mathematics (Foundation)

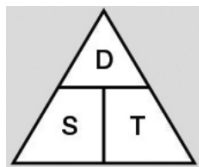
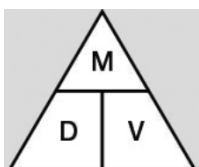
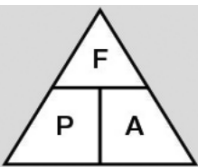
A: Straight Line Graphs

1		$x = a$ Vertical
2		$y = a$ Horizontal
3		$y = x$
4		$y = -x$

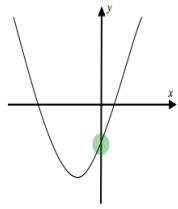
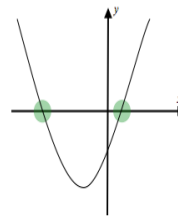
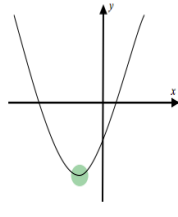
B: Coordinates & Straight Lines

1	Gradient of line segment joining (x_1, y_1) and (x_2, y_2)	$\frac{y_2 - y_1}{x_2 - x_1}$
2	Equation of a straight line	$y = mx + c$ where $m = \text{gradient}$ and $c = \text{y-intercept}$
3	Parallel lines...	have the same gradient

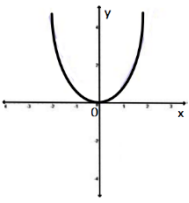
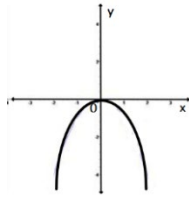
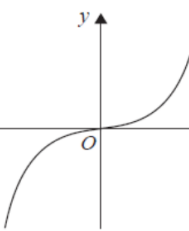
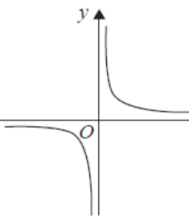
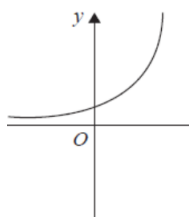
C: Compound Measures

1	Speed, distance and time formula triangle	
2	Density, mass and volume formula triangle	
3	Pressure, force and area formula triangle	

D: Quadratic Graphs

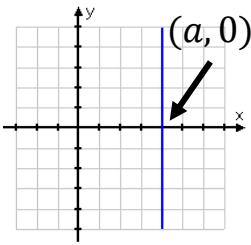
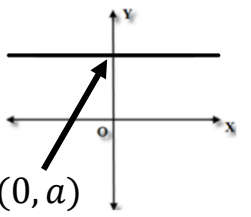
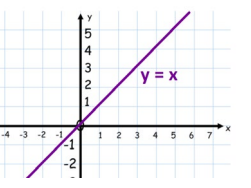
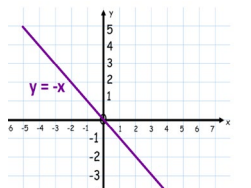
1		y-intercept
2		Roots or Solutions of $f(x) = 0$
3		Turning point

E: Further Graphs

1		$y = x^2$
2		$y = -x^2$
3		$y = x^3$
4		$y = \frac{1}{x}$
5		$y = a^x$

Year 10 – Cycle 1 – Mathematics (Higher)

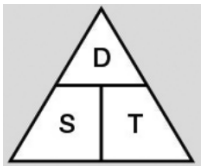
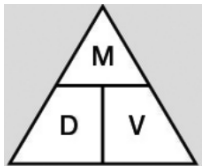
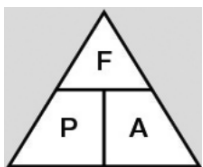
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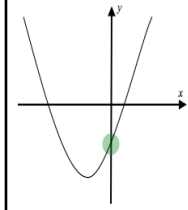
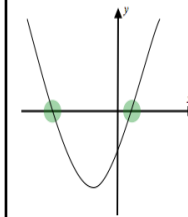
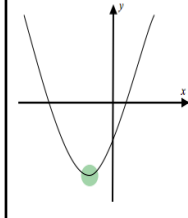
B: Coordinates & Straight Lines

1	Gradient of line segment joining (x_1, y_1) and (x_2, y_2)	$\frac{y_2 - y_1}{x_2 - x_1}$
2	If a line has gradient m , the perpendicular gradient...	is the negative reciprocal, $-\frac{1}{m}$
3	Parallel lines...	have the same gradient

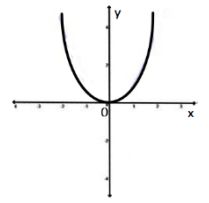
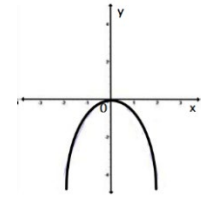
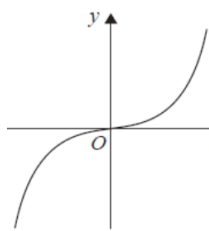
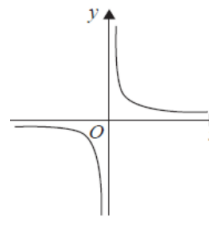
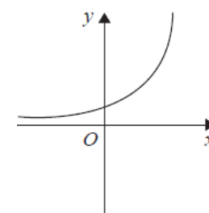
C: Compound Measures

1	Speed, distance and time formula triangle	
2	Density, mass and volume formula triangle	
3	Pressure, force and area formula triangle	

D: Quadratic Graphs

1		y-intercept
2		Roots or Solutions of $f(x) = 0$
3		Turning point

E: Further Graphs

1		$y = x^2$
2		$y = -x^2$
3		$y = x^3$
4		$y = \frac{1}{x}$
5		$y = a^x$

Year 10 – Cycle 1 – Music

1	Western Classical Period	A term used to refer to music that is not related to pop and has developed over many centuries in Western countries
2	Baroque	Music composed between 1600 and 1750
3	Classical	Music composed between 1750 and 1810
4	Romantic	Music composed between 1810 and 1910
5	Binary	Music in two sections - A and B. Section A is often contrasts with the second section B
6	Ternary	Music in three sections - A B A. Section B often contrasts with Section A
7	Rondo	A main theme which alternates with one or more contrasting themes: A B A C A D A
8	Strophic	A simple form where the song uses the same melody over and over
9	Theme and variation	A piece starting with a short main theme which is repeated a number of times with changes to create more interest and variety

10	Syncopation	Off-beat accents
11	Sequence	A short musical idea that is immediately repeated on a higher or lower pitch (usually in step)
12	Ostinato	A continually repeated musical phrase or rhythm
13	Cadence	The last two chords at the end of a phrase
14	Repetition	A musical idea is repeated exactly
15	Anacrusis	An up-beat or a pick-up before the first strong beat
16	Imitation	An idea or phrase is copied in another part
17	Pedal	A sustained or repeated note in the base that keeps sounding while the harmony above the note changes
18	Drone	A long held or constantly repeated note(s) being played in the bass of a piece

Year 11 – Cycle 1 – Religious Studies – Beliefs and Practices (Islam & Christianity)

1	Tawhid [2]	The belief in the oneness of God
2	Prophethood / Risalah [2]	Messengers of God, beginning with Adam and ending with the Prophet Muhammad
3	Angels / Malaikah	The belief in angels of Islam, e.g. Jibril, Israfil, Mika'il
4	Halal [2]	Anything which is permitted in Islam, e.g. eating permitted foods
5	Haram [2]	Anything which is forbidden in Islam, e.g. eating forbidden foods
6	Jihad [2]	To strive or struggle – there are two forms of jihad: greater and lesser
7	Mosque [2]	A place of prostration for Muslims, a communal place of worship
8	Shari'ah [2]	The straight path; Shari'ah Law is the set of moral and religious principles set out by the Qur'an and Hadith
9	Ummah [2]	Worldwide Muslim community who share a common religious identity
10	Trinity [2]	The three persons of God: Father, Son and Holy Spirit
11	Incarnation [2]	God becoming human in the form of Jesus
12	Atonement [2]	The belief that Jesus' death on the cross healed the rift between humans and God
13	Resurrection [2]	The belief that Jesus rose from the dead on Easter Sunday, conquering death
14	Liturgical worship	When worship follows a set structure or pattern
15	Salvation	Saving from sin and its consequences
16	Sacraments	An outward sign of an invisible blessing from God
17	Evangelism [2]	Preaching the gospel to others to convert them to Christianity

Year 10 – Cycle 1 – Triple Science

A: Physics Topic 1: Energy (Paper 1)		
1	Energy stores	<u>Thermal</u> – <u>kinetic</u> (moving) – <u>gravitational potential</u> – <u>elastic potential</u> – <u>chemical</u> (e.g. batteries, food, fuel) – <u>magnetic</u> – <u>electrostatic</u> – <u>nuclear</u>
2	Energy transfers	Energy is stored in objects and transferred by radiation, electric current, heating, or when a force moves an object
3	GPE equation	GPE = mass (kg) x gravitational field strength (N/kg) x change in height (m)
4	Kinetic energy	Kinetic energy = $\frac{1}{2} \times \text{mass (kg)} \times \text{speed}^2 \text{ (m/s)}$
5	Efficiency	$= \frac{\text{useful output energy transferred by device}}{\text{total input energy supplied to the device}}$
6	Power	The rate an appliance transfers energy. $\text{Power(W)} = \frac{\text{energy transferred to the appliance (J)}}{\text{time taken for energy to be transferred (s)}}$
7	Renewable resource	An energy resource is one that is being replenished as it is used, e.g. wind power
8	Non-renewable resource	An energy resource that cannot be replenished, so will run out, e.g. coal

B: Physics Topic 3: Particles (Paper 1)		
1	Movement of particles in solid	Vibrate about fixed positions
2	Movement of particles in liquid	Move in random directions at low speeds
3	Movement of particles in gas	Free to move; travel in random directions at high speeds
4	Internal energy	Total energy stored by particles in the kinetic and potential energy stores
5	Specific latent heat of fusion	Energy needed to change 1kg of a solid into a liquid, without changing its temperature
6	Specific latent heat of vaporisation	Energy needed to change 1kg of a liquid into a gas, without changing its temperature
7	Effect of increasing temperature on gas pressure	Faster particles → more frequent collisions and larger force per collision → pressure increases as pressure = $\frac{\text{force}}{\text{area}}$

Year 10 – Cycle 1 – Triple Science

C: Biology Topic 1: Cells (Paper 1)

1	Eukaryotic	A cell with a nucleus
2	Prokaryotic	A cell without a nucleus
3	Cell differentiation	When a cell becomes specialised
4	Root hair cells	Root hair cells absorb water and minerals; they have a big surface area for absorption
5	Cell cycle	Three stages are cell growth, chromosomes copied, mitosis
6	Mitosis	Produces two genetically identical daughter cells for the growth and repair of tissues
7	Stem cell	An undifferentiated cell
8	Osmosis	The movement of water molecules across a partially permeable membrane, from a dilute to a more concentrated solution

D: Biology Topic 2: Organisation (Paper 1)

1	Transpiration	Loss of water from a plant; water moves up the xylem, and then evaporates from the stomata
2	Amylase	Enzyme that breaks down starch into simple sugars; it's produced in the salivary glands and the pancreas
3	Protease	Enzyme that breaks down proteins into amino acids; it's produced in the stomach and the pancreas
4	Lipase	Enzyme that breaks down lipids into glycerol and fatty acids; it's produced in the pancreas
5	Bile	A liquid that neutralises stomach acid and emulsifies fats; it's produced in the liver and stored in the gall bladder
6	Denatured	When the active site of an enzyme changes shape, so the substrate can no longer fit
7	Coronary heart disease	When the coronary arteries are blocked by fatty deposits it reduces blood flow and the supply of oxygen to the heart muscle
8	Malignant tumour	Tumour cells that spread to other parts of the body through the bloodstream

E: Chemistry Topic 1: Atoms and Periodic Table (Paper 1)		
1	Element	A substance in which all the atoms have the same atomic number
2	Compound	Two or more <u>different</u> elements chemically combined together
3	Isotope	Atoms of the same element, with the same number of protons but different numbers of neutrons
4	Plum pudding model	A ball of positive charge with negative electrons embedded in it
5	Mendeleev	Invented the first periodic table, which left gaps for undiscovered elements and was arranged according to atomic mass
6	Alkali metals' reaction with water	Alkali metal + water --> metal hydroxide + hydrogen
7	Reactivity of Halogens	Decreasing reactivity down the group; more reactive halogens will displace less reactive ones

F: Chemistry Topic 2: Structure and Bonding (Paper 1)		
1	High melting points in ionic compounds	This is because a large amount of energy is needed to break the strong electrostatic attraction between the ions
2	Ionic compounds conducting electricity	Ionic compounds conduct electricity when melted or dissolved in water, because the ions are free to move to carry a current
3	Low melting points in small molecule covalent compounds	This is because little energy is needed to overcome the weak intermolecular forces between the molecules
4	Diamond	Each carbon atom covalently bonded to four others; hard, very high melting point, does not conduct electricity
5	Structure of graphite	Each carbon atom covalently bonded to three others and forms layers of hexagonal rings
6	Properties of graphite	Weak forces between the layers, allowing them to slide over each other and has delocalised electrons, which allow it to conduct electricity
7	Metallic bonding	Rows of positive metal ions, surrounded by delocalised electrons which move through the structure
8	Properties of alloys	Harder than pure metals as different sized atoms distort the layers of atoms preventing the layers from sliding

Year 10 – Cycle 1 – Combined Science

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Year 10 – Cycle 1 – Combined Science

C: Physics Topic 1: Energy (Paper 1)

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8	Malignant tumour	Tumour cells that spread to other parts of the body through the bloodstream 23

Year 10 – Cycle 1 – Spanish (school and free time)

A: Verbs and phrases			B: Vocabulary		
1	subject	asignatura	1	to finish	terminar
2	ICT / computing	informática	2	to come back	volver
3	art	dibujo	3	to perform a play	hacer una obra de teatro
4	languages	idiomas	4	to go on a trip	ir de excursión
5	business	empresariales	5	to play in a concert	tocar en un concierto
6	useful / useless	útil / inútil	6	to win an award	ganar un premio
7	he / she explains things well	explica bien las cosas	7	the rules	las reglas / normas
8	he / she teaches well	enseña bien	8	to be punctual / to be on time	ser puntual
9	I am strong / weak	soy fuerte / flojo	9	to be rude	ser grosero
10	I get good grades	saco buenas notas	10	the good / bad thing is that ...	lo bueno / malo es que...
11	facilities	instalaciones	11	there is school bullying	hay acoso escolar
12	classrooms	aulas	12	there is peer pressure	hay presión de grupo
13	a canteen	un comedor	13	punishments	castigos
14	a library	una biblioteca	14	fear of failing	miedo a suspender
15	interactive whiteboards	pizarras interactivas	15	To do climbing	hacer alpinismo
16	an assembly hall	un salón de actos	16	To do sailing	hacer vela
17	to arrive	llegar	17	to go for a walk	pasear
18	to start	empezar	18	To do horse riding	hacer equitación
19	to last	durar	19	To play snooker	jugar al billar
20	to learn	aprender	20	To do skating	hacer patinaje
21	to teach	enseñar	21	To go jogging	hacer footing

Year 10 – Cycle 1 – Sport BTEC – Component 1

A: Terminology		
1	Sport	Competitive activities that involve physical exertion, have rules and a National Governing Body
2	National Governing Bodies (NGBs)	An organisation that oversees a specific sport's rules and regulations within a country
3	Outdoor activities	Adventurous activities carried out outdoors or in recreational areas
4	Provision	Providing an opportunity to take part in something
5	Sector	A group of people connected by what they do
6	Barrier	Something that prevents you from carrying out a task
7	Pulse raiser	Activities that gradually increase the pulse rate
8	Mobilise	Activities to mobilise the main joints of the body such as knees, hips, shoulders, ankles and wrists
9	Stretching	Loosening of the muscles to prepare the body for exercise

B: Body systems		
1	Cardiorespiratory system	Consists of the heart and blood vessels which work with the respiratory system
2	Musculoskeletal system	A combination of the muscular and skeletal systems working together including the bones, muscles, tendons and ligaments
3	Thermoregulation	Regulating your own body temperature
4	Pliability	How flexible something is, like your muscles
5	Erector Spinae	A group of muscles that are attached to the length of the spine, from the base of the skull to the hips
6	Ligaments	Role is to join bone to bone
7	Tendons	Role is to join muscles to bone
8	Cardiac muscle	A muscle that we don't have to think to make it contract
9	Voluntary muscle	Muscles that we can move when we want to

A: Classification of bones		
1	Long bones	Aid movement by working as levers
2	Short bones	Weight bearing and provide support
B: Joint actions		
1	Flexion	When the angle at a joint <u>decreases</u>
2	Extension	When the angle at a joint <u>increases</u>
3	Abduction	The movement of a limb <u>away</u> from the midline of the body
4	Adduction	The movement of a limb <u>towards</u> the midline of the body
5	Rotation	When the bone at a joint moves around its own axis making a circular movement
6	Circumduction	360° degree movement at the ball and socket joint in the shape of a cone
7	Plantar-flexion	Movement of the foot downwards when you point your toes
8	Dorsi-flexion	Movement of the foot upwards towards the shin

C: Muscular system		
1	Ligaments	Role is to join bone to bone
2	Tendons	Role is to join muscles to bone
3	Cardiac muscle	A muscle that is unconsciously controlled where we don't have to think to make it contract
4	Voluntary muscle	Muscles under our conscious control and we move them when we want to
5	Antagonistic pairs	Muscles work together where one muscle contracts and another relaxes to create movement
D: Muscular system exercise effects		
1	Muscle fatigue	When the efficiency of the muscles drop, reducing the level of performance
2	Lactate	A chemical formed through anaerobic respiration
3	Lactate accumulation	When the levels of lactate start to build up in the muscle tissue or blood