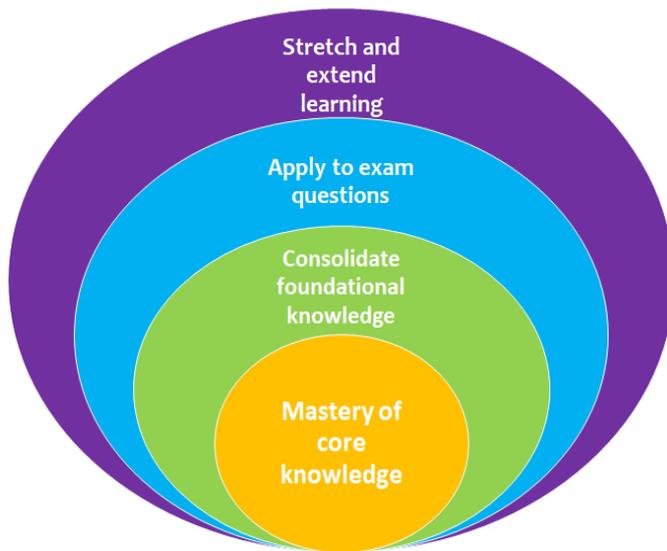




Ark Acton  
Academy

**Year 10  
Knowledge  
Booklet  
Summer 2022**

# What does great independent studying look like?



## **1. Use self quizzing to master core knowledge.**

Give yourself frequent opportunities to practise recalling the core knowledge - this knowledge must be automatic to make rapid progress.

## **2. Consolidate foundational knowledge.**

Use online platforms and revision guides to check you know how this core knowledge fits into a bigger picture. You will receive rewards via assemblies to celebrate how frequently you use these platforms.

- A. [www.hegartymaths.com](http://www.hegartymaths.com): KS3 & KS4 maths
- B. [www.senecalearning.com](http://www.senecalearning.com): English, history, geography, religious studies, music, KS3 science
- C. [www.my-gcse-science.com](http://www.my-gcse-science.com): KS4 biology, physics, chemistry
- D. <https://uk.language-gym.com>: French and Spanish
- E. [www.groklearning.com](http://www.groklearning.com): computer science
- F. [www.quizlet.com](http://www.quizlet.com): all subjects

## **3. Apply your knowledge to practice exam questions**

See your teacher to receive sample exam questions.

## **4. Stretch and extend your learning.**

Independently research the topics you are interested in and read widely around your favourite subjects. The below platforms will help:

- a. [www.startprofile.com](http://www.startprofile.com): careers
- b. [www.thisislanguag.com](http://www.thisislanguag.com): French and Spanish
- c. [www.digitaltheatreplus.com](http://www.digitaltheatreplus.com): access to live theatre
- d. <https://www.newscientist.com/>: news and developments in science
- e. <https://www.britishmuseum.org/collection>: British museum online collection [history, geography and RS].

## **5. Read widely for pleasure: [www.sora.com](http://www.sora.com)**

## **How to use this booklet for self-quizzing**

Self-quizzing is a powerful strategy to get knowledge stuck in your long-term memory. And it's so simple to do!

Watch this video to learn how to self quiz: <https://tinyurl.com/AGFSIL>

How should I self-quiz?

1. Look at no more than 10 terms at a time.
  2. Read the terms and say them over and over again in your head (**without speaking aloud**) for 2-3minutes.
  3. Cover the terms on the following pages with an exercise book, **with a black pen**, write down as many terms and definitions as you remember.
  4. **With a green pen**, uncover the terms and check you have correctly spelled and defined each term. Refine your spelling and definition in blue.
  5. Spend 2-3 minutes reading the terms again and saying them in your head.
  6. Fold your piece of paper so you cannot see the first round of quizzing, cover the terms and write down as many terms and definitions as you remember.
  7. **With a green pen**, uncover the terms and check you have correctly spelled and defined each term. Refine your spelling and definition in blue.
  8. Repeat this process until you can correctly spell and define each term.
- **If you run out of space in your quizzing book, you should use lined paper to complete your self quizzing.**
  - You will be asked to place your quizzing on your desk to show your teacher on the day it is due.

To space your quizzing out to maximise retention of knowledge, change subjects after 40minutes.

# Organising your self-quizzing book

**Date of work completion**

**Date when work is due:**

**Subject**

Work Completed: 29/3/20  
Work Due: 19/4/21

Maths

<p><b>Attempt 1</b></p> <p>Types of transformation: reflection, rotation, enlargement, translation</p> <p>Reflection = mirror image, on opposite side of line, without changing size</p> <p>Enlarge = make bigger or smaller</p> <p>Rotation = turn around a point, without changing size</p> <p>Translate = move? Change position of a shape, without change of size.</p>	<p>Rotation = <del>move</del> <sup>turn</sup> around a point, without changing size</p> <p>translation = change of position, without changing size</p> <p><b>#4</b></p> <p>Types of transformation = reflection, enlargement, rotation, translation</p> <p>Reflection = mirror image on opposite side of line, without change of size.</p> <p>Enlargement = making bigger or smaller.</p>
<p><b>Attempt 2</b></p> <p>Types of transformation: reflection, enlargement, rotation, translation</p> <p>Reflection = mirror image opposite side of <del>line</del> <sup>across</sup> a line, without changing size.</p> <p>Enlargement = make bigger or smaller.</p> <p>Rotation = <del>turn</del> <sup>turn</sup> around a point, no change of size.</p> <p>translation = <del>move</del> <sup>change position</sup>, without change of size. *</p>	<p>Rotation = turn around a point, no change in size</p> <p>Translation = change of position, no change in size</p> <p><b>#5</b></p> <p>Types of transformation = rotation, reflection, enlargement, translation</p> <p>Rotation = <del>turn</del> <sup>turn</sup> around a point. <sup>no change in size</sup></p> <p>Enlargement = make bigger or smaller.</p> <p>Reflection = mirror image, opposite side of line, no change in size.</p> <p>Translation = change of position, no change of size.</p>
<p><b>Attempt 3</b></p> <p>Types of transformation = reflection, enlargement, rotation, translation</p> <p>Reflection = <del>mirror</del> <sup>mirror</sup> image opposite side <del>of</del> <sup>across</sup> a line, without changing size</p> <p>Enlargement, making bigger or smaller.</p>	<p><b>#6</b></p> <p>Types of transformation = rotation, translation, enlargement, reflection</p> <p>Rotation = <del>turn</del> <sup>turn</sup> around a point, <sup>no size change</sup></p> <p>Translation = change of position. No change in size.</p> <p>Reflection = mirror image on opposite side of line, no size change.</p> <p>Enlargement = make bigger or smaller.</p>

# English

## Summer Knowledge

Block A		Block B	
<b>Hamartia</b>	For their downfall: Macbeth's is his ambition.	<b>Duplicitous</b>	Shakespeare presents Macbeth and Lady Macbeth as _____ characters when they pretend to welcome King Duncan into their home but have decided to murder him.
<b>Soliloquy</b>	When Shakespeare gives Macbeth or Lady Macbeth a _____, the audience know that truths will be revealed because there are no other characters on stage to hear them speak.	Transgressive	The murder of King Duncan, Banquo and Macduff's family are all _____ acts because they cross moral boundaries.
<b>Foil</b>	Banquo and Macduff are minor characters who are used by Shakespeare as a _____ because they are loyal soldiers; their moral goodness highlights Macbeth's corrupt soul.	Impressionable	Shakespeare portrays Macbeth as an _____ character when he does not question the witches' prophecy and allows himself to be manipulated by his wife into murdering King Duncan.
<b>Paradox</b>	The witches use _____ to highlight the chaos they will happen as the natural order is broken.	<b>Divine Right of Kings</b>	The Jacobean audience would have believed in _____; a belief that the king is chosen by God and has a direct connection to God.
<b>Regicide</b>	Macbeth carries out _____ in order to gain power even though he knows the consequence is eternal damnation.	<b>The Gunpowder Plot</b>	Shakespeare wrote this play in response to _____ where a group of Catholics led by Guy Fawkes tried to kill James I by blowing up the Houses of Parliament.

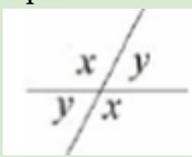
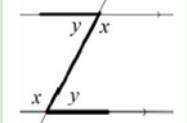
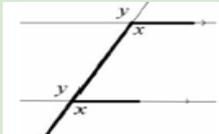
Block C		Block D:	
<b>Fair is foul, and foul is fair</b>	The witches' opening line establishing the world is about to be turned upside down.	<b>Will all great Neptune's ocean wash this blood / Clean from my hand?</b>	After Macbeth kills King Duncan, he is overcome with guilt and recognises his life is now changed forever.
<b>Like valour's minion carved out his passage</b>	At the start of the play, other characters speak of Macbeth's bravery on the battlefield when the Norwegian army is beaten.	<b>Upon my head they placed a fruitless crown, / And put a barren sceptre in my gripe</b>	Despite Macbeth becoming king, he is not satisfied because he is heirless and reflects on the witches' prophecy that Banquo's son, Fleance, will become king in the future.
<b>Art not without ambition, but without / The illness should attend it</b>	Lady Macbeth recognises her husband's desire to be king but does not believe he has the ruthlessness to kill King Duncan.	<b>O, full of scorpions is my mind, dear wife!</b>	Macbeth becomes increasingly paranoid and stressed when he is crowned king, worrying that his actions will be exposed.
Block E		Block F	
<b>unsex me here, / And fill me from the crown to the toe top-full / Of direst cruelty!</b>	Lady Macbeth wants her femininity stripped away from her and be replaced by more powerful masculine traits.	<b>Never shake / Thy gory locks at me</b>	After Macbeth orders the murder of Banquo, the other characters witness his mental decline as he calls out to Banquo's ghost at the banquet.
<b>look like the innocent flower, / But be the serpent under't</b>	Lady Macbeth advises her husband to pretend to be a loyal subject to the king and hide their evil, traitorous thoughts.	<b>Are you a man?</b>	Lady Macbeth is shocked by her husband's behaviour in front of their guests and questions his masculinity.
<b>Out, damned spot!</b>	Lady Macbeth begins sleepwalking and hallucinating that she has blood on her hands.	<b>It is a tale / Told by an idiot, full of sound and fury, /</b>	Once Macbeth is told that his wife is dead, he reflects on the pointlessness of life.

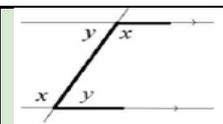
		<b>Signifying nothing</b>	
<b>This dead butcher and his fiend-like queen</b>	Malcolm takes his rightful place as the new King of Scotland and ends the play by describing Macbeth and his wife as evil, traitorous characters.	<b>A dagger of the mind, a false creation, proceeding from the heat-oppressed brain?</b>	Macbeth questions the origin of the dagger; wondering if it is a vision sent to him or a product of his anguished mind.
<b>Block G</b>		<b>Block H</b>	
<b>Charles Dickens</b>	Dickens wrote A Christmas Carol as a response to Victorian attitudes towards poverty, particularly child poverty, and wished to use the novella to put forward his argument against it.	Cantankerous	Describes Scrooge's bad-tempered and grumpy approach to others.
<b>Plight of the poor</b>	A major concern for Charles Dickens was how the suffering of the poor was ignored by society	Belligerent	Describes how Scrooge is hostile and always looking to be argumentative rather than welcoming.
<b>The New Poor Law</b>	A law that altered the way the poor were helped: the only help available was to go to work in a workhouse.	Avaricious	A person who is extremely greedy.
<b>Victorian London</b>	The setting for the story, and a place where the wealthy and most disadvantaged lived.	Parsimonious	Not wanting to spend money or share your resources with others.
<b>Christian Values</b>	Dickens was more interested in the general spirit of Christmas than following all the teachings of Christianity. He believed that the festival promoted good will charity and compassion.	<b>Misanthropic</b>	An unsociable person who dislikes mixing with other people.
<b>Block I</b>		<b>Block J:</b>	
<b>Ebenezer Scrooge</b>	The main protagonist of the novella, a cantankerous old man who must change his ways.	<b>Mr Fezziwig</b>	The antithesis of Scrooge as an employer, this jolly and generous man was the employer of a young Ebenezer Scrooge.
<b>Jacob Marley</b>	Scrooge's old business partner, who now drags chains as a ghost as punishment.	<b>Ignorance and Want</b>	Two neglected children shown to Scrooge by the Ghost of Christmas Present.
<b>Fred</b>	Scrooge's kind and generous nephew.	<b>The Ghost of Christmas Past</b>	A ghost who looks young and old, with light coming out of his head.
<b>Bob Cratchit</b>	Scrooge's poor but hardworking assistant.	<b>The Ghost of Christmas Present</b>	A ghost who looks like Father Christmas and carries a torch.
<b>Tiny Tim</b>	Bob Cratchit's sickly and disabled son.	<b>The Ghost of Christmas Yet to Come</b>	A ghost who is a hooded figure with no face. It does not speak.

Block K		Block L	
<b>Nostalgic</b>	To look back on memories and visions of the past with fondness. The Ghost of Christmas past uses this to remind Scrooge of who he was before he was consumed by avarice.	<b>Anagnorisis</b>	The moment where Scrooge realises the true nature of his circumstances: that he must become a better person.
<b>Avarice</b>	A major theme within the novella that explores how greed can consume your life and prevent you from being a morally responsible person.	<b>Redemption</b>	A theme that explores the act of being saved from evil, error or a great mistake. The novella is structured as Scrooge's path towards achieving this.
<b>Transformation</b>	Describes how Scrooge changes from the miserly old man from stave one to the redeemed and repentant man he becomes in the final stave.	<b>Allegory</b>	A story that has a hidden symbolic meaning.
<b>Christmas Spirit</b>	The idea that one should enjoy the festive period through acts of kindness, good will and generosity. Fred reminds Scrooge of this in the opening stave.	<b>Stave</b>	Dickens is acting as if the novella is a Christmas song rather than a book with chapters. Another example of how the Christmas spirit is a central theme of the novella.
<b>Moral Responsibility</b>	A theme that reflects one of Dickens core values: that we all have a duty to support those around us, especially those who are disadvantaged.	<b>Antithesis</b>	The term used to describe how Fred and Mr Fezziwig are opposite to Scrooge in how he chooses to live his life.
Block M		Block N	
<b>Tone</b>	The overall feeling or emotion in a piece of writing.	<b>Flashback</b>	Disrupting the order of the story to describe an event that happened in the past.
<b>Metaphor</b>	Compares someone, or something, to another thing using an imaginative idea.	<b>Cyclical Structure</b>	Where a story begins and ends in the same place, with the same idea, or with the same description.
<b>Symbolism</b>	Something that represents a deeper idea or theme.	<b>In Media Res</b>	Where a story starts in the middle of the action.
<b>Juxtaposition</b>	Two contrasting ideas are placed close together for effect.	<b>Direct address</b>	Where the person telling the story speaks directly to the person reading using "you."
<b>Foreshadowing</b>	Where the writer warns a reader of a future incident.	<b>Dialogue</b>	Speech or a conversation between at least two speakers.

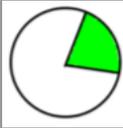
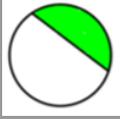
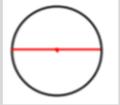
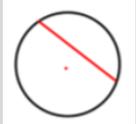
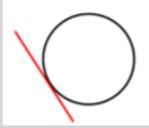
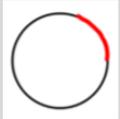
# Mathematics

## Summer Knowledge

Block A		Block B	
Proportion	A relationship between two quantities	Best buy	Deciding which offer is the best value for money
Direct proportion	Two quantities increase at the same rate	Unitary method	Finding the price of one unit and comparing the cost per unit
Indirect proportion	As one quantity increases, the other decreases at the same rate	Exchange rate	The price of one currency in terms of another
Constant of proportionality	A constant number that determines the relationship between the two quantities in a proportion	Conversion graph	A graph used to convert between two units
Block C		Block D	
Acute angle	Less than $90^\circ$	Angles on a straight line	Sum to $180^\circ$
Obtuse angle	Between $90^\circ$ and $180^\circ$	Angles around a point	Sum to $360^\circ$
Reflex angle	More than $180^\circ$	Angles in a triangle	Sum to $180^\circ$
Right angle	Exactly $90^\circ$	Isosceles triangle	The two base angles are equal to each other
		Equilateral triangle	All of the angles are equal to $60^\circ$
Block E		Block F	
Parallel lines	Lines that are equidistant (same distance) from each other	Percent	Out of 100
Vertically opposite angles	Vertically opposite angles are equal 	Multiplier	Used to work out percentage of amount when we have a calculator
Alternate angles	Alternate angles are equal 	Finding 1% of an amount	Divide by 100
Corresponding angles	Corresponding angles are equal 	Finding 10% of an amount	Divide by 10
Co-interior angles	Co-interior angles sum to $180^\circ$	Finding 50% of an amount	Divide by 2

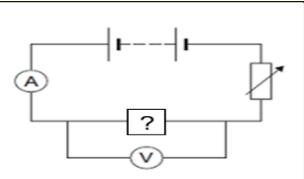
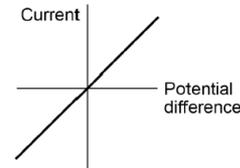
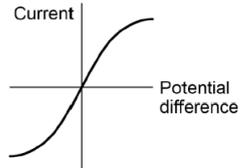
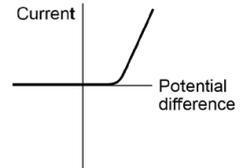


<b>Block G</b>		<b>Block H</b>	
Finding 20% of an amount	Divide by 5	Convert fractions to decimals	Divide the numerator by the denominator using the bus stop method
Finding 25% of an amount	Divide by 4	Convert decimals to fractions	Write as a fraction out of 10, 100 or 1000 and simplify
Percentage change	$\frac{\text{difference}}{\text{original}} \times 100$	Convert percentages to decimals	Divide by 100
Increase by a percentage	Find the percentage and add it to the original amount	Convert decimals to percentages	Multiply by 100
Decrease by a percentage	Find the percentage and subtract from the original amount	Convert fractions to percentages	Convert to decimal and then multiply by 100
		Convert percentages to fractions	Write the percentage over 100 as a fraction
<b>Block I</b>		<b>Block J</b>	
Interest	A fee which is paid for borrowing money	Ratio	A statement of how two numbers compare
Principal	The original amount of money	Simplify a ratio	Divide both parts by their highest common factor
Rate	The percentage of the original that is added on	Scale up a ratio	Multiply both parts by the same number
Simple interest	When the interest remains constant over time	Sharing in a ratio	A method of dividing an amount in a given a ratio
<b>Block K</b>		<b>Block L</b>	
Perimeter	The length on the outside of a shape	Square number	The result when you multiply a number by itself
Area	The space taken by the shape	Right angle triangle	A triangle with a 90° angle
Perpendicular height	The height that is at 90° to the length	Hypotenuse	The longest side in a right-angle triangle. It is always opposite the right angle
Area of square, rectangle and parallelogram	Length × perpendicular height	Pythagoras' theorem	$a^2 + b^2 = c^2$
Area of a triangle			
<b>Block M</b>		<b>Block N</b>	
Circumference	The perimeter of the circle	Sector	The region enclosed by 2 radii and their intercepted arc

			
Radius	The distance from the centre of the circle to the edge 	Segment	The region bounded by a chord and the arc created by the chord 
Diameter	The total distance across the width of a circle through the centre. Double the radius 	Calculating circumference	$\pi \times diameter$
Chord	A straight line whose end points lie on a circle 	Calculating area of circle	$\pi \times radius^2$
Tangent	A straight line which touches the circle at exactly one point 	Compound shape	A shape made up of two or more shapes joined together
Arc	A part of the circumference of a circle 		

# Science

## Summer Knowledge

Block A – Electric Circuits		Block B – Electric Circuits	
Current	The rate of flow of charge	Resistance	A property of components that causes them to oppose a current flowing through them
Necessary for current to flow in a circuit	A potential difference (provided by a battery or mains supply)	Unit of resistance	Ohm ( $\Omega$ )
Formula linking charge, current and time	Charge = current x time	Formula linking potential difference, resistance and current	Voltage = current x resistance
Unit of charge	Coulomb	What is unit of potential difference	V or Volt
Unit of current	A or ampere	Ohm's law	The current through a resistor at constant temperature is directly proportional to the potential difference across the resistor
Force between two charges or charged object	Non-contact force	Potential difference	Energy transfer per unit charge across the component
		Formula linking energy, charge and potential difference	Potential difference = energy / charge
Block C – Electric Circuits		Block D – Electric Circuits	
The circuit for determining the V-I characteristics of a component		Electric field	A charged object creates an electric field around itself, which causes a non-contact force on any other charged object in the field
V-I graph for an ohmic conductor (resistor)		Two types of charges	Positive and negative
V-I graph for a filament bulb		Electrons	Tiny negatively charged particles that move around the nucleus of an atom
V-I graph for a diode		Ion	a charged atom or molecule

Diode	A component that only allows current to flow in one direction	Neutrons	uncharged particles of the same mass as protons. The nucleus of an atom consists of protons and neutrons
LDR (Light Dependent Resistor)	A component where the resistance decreases as light level increases	Static electricity	Electric charge stored on insulated objects
Thermistor	A component where the resistance decreases as temperature increases	Like charges	Attract each other
<b>Block E – Health &amp; Disease</b>		<b>Block F – Health &amp; Disease</b>	
Health	State of physical and mental well-being	Chemicals in tobacco smoke	Tar, carbon monoxide, nicotine
Factors that affect health.	Diet/Stress/life situations (e.g., Hygiene)/pathogens/immune system	Tar	the carcinogen in tobacco smoke.
difference between correlation and causal mechanism	Correlation: A link between two; Causal: One thing leads to the other	risk factor for obesity	Poor/unbalanced diet; lack of exercise; High cholesterol diet to the other
Communicable diseases	Diseases caused by pathogens that can be transmitted from one individual to another	risk factor for type 2 diabetes.	Obesity; Unbalance diet (high sugar diet); Lack of exercise
Pathogens	Microorganisms that cause diseases	Liver cirrhosis	disease caused by long-term heavy drinking.
The four types of pathogens.	Bacteria, viruses, protists, fungi the other	Foetal alcohol syndrome	the condition that babies may have if their mothers drink lots of alcohol during pregnancy.
Culture medium	Liquid/gel with specific nutrients to support microorganism growth	Carcinogen	Cancer-causing substances
Agar gel	A solid gel culture medium used for growing microorganisms	Tumour	A mass of cells grown abnormally (uncontrollable growth)
Disinfectants	Chemicals used to kill bacteria in the environment around us other tissues	Benign tumours	Growth of abnormal cells contained in one area within a membrane, don't invade other tissues
Antiseptics	Disinfectants that are safe to use on human skin tumours	Malignant tumours	Tumours that invade other tissues and can spread to other parts of the body through blood to form secondary tumours

Antibiotics	Chemicals used to kill bacteria inside human body	Treatment for cancer	Chemotherapy, radiotherapy, surgery
Aseptic techniques	Procedures in microbiology practicals to avoid contamination	Chemotherapy	Chemicals to kill cancer cells, but also healthy cells in the process
The zone of inhibition	An area on the nutrient agar plate where there is no bacterial growth due to presence of antibiotics/disinfectants	risk factor of developing cancer.	Smoking, obesity, common viruses, UV exposure, genetic factors
<b>Block G – Health &amp; Disease</b>		<b>Block H – Health &amp; Disease</b>	
Tobacco mosaic virus	a virus infecting plants.	Which pathogen causes malaria.	Protists
Measles	a viral disease that leads to blindness and brain damage.	How is malaria spread?	By female Anopheles mosquitoes
HIV	the pathogen that causes AIDS.	How does malaria affect the body?	Damages blood and liver cells
Antiretroviral drugs	Control AIDS	State a symptom of malaria.	Fevers, shaking
		How can the spread of malaria be stopped?	Use mosquito nets; Use insecticides; Remove standing water; Take antimalarial drugs
<b>Block I- Carbon Chemistry</b>		<b>Block J- Carbon Chemistry</b>	
Hydrocarbon	A molecule containing only hydrogen and carbon	Fractional Distillation	The process whereby crude oil is separated to produce useful fractions which can be used
Crude oil	Crude oil is the remains of dead sea creatures (plankton) which was buried in mud. Contains a mixture of hydrocarbons.	Volatility	How easily a sample will become a vapour
Fraction	A group of hydrocarbons with similar melting and boiling points (and therefore similar number of carbons)	viscosity	How thick the fraction is
Alkane	A molecule with a formula $C_nH_{2n+2}$	Flammability	How readily the substance will burn or ignite
Alkene	A molecule with a formula $C_nH_{2n}$	Boiling point	The point a substance begins to boil.
Saturated	An organic molecule with no double bonds e.g. alkanes	Cracking	A process which produces small alkanes and alkenes from larger alkanes
Unsaturated	An organic molecule with double bonds e.g. alkenes	Thermal decomposition	Using heat to break down longer hydrocarbon chains.
Complete combustion.	Fuel reacts fully with oxygen	The bromine water test	The test used to see if an alkene or alkane is present.

Block K- Radioactivity		Block L- Radioactivity	
Alpha	Identical to the nucleus of a helium atom, has two protons and two neutrons	Ionisation	The ability to knock off electrons out of atoms and form charged particles
Beta	is a high-energy, high-speed electron	Radioactive contamination	occurs when a material that contains radioactive atoms is deposited on materials, skin, clothing, or any place where it is not desired.
Gamma	High energy electromagnetic wave radiation	Penetrating power	the ability to travel through a substance
Radioactive decay	The nuclei of some isotopes are unstable. They can split up or 'decay' and release radiation.	Half-life	the time taken for half the radioactive atoms to decay (in an isotope)
Isotopes	Atoms of an element with the normal number of protons and electrons, but different numbers of neutrons.	Count rate	The rate at which a source of unstable nuclei decays measured in decays per second.
		Bq	The Becquerel, unit of activity, corresponds to a decay rate of one nucleus per second.

# Geography

## Summer Knowledge

Block A		Block B	
Ecosystem	The living and non-living parts of an environment and the interrelationships that exists between them	Adaptations	The way that plants and animals evolve to cope with certain environmental conditions such as excessive rainfall
Abiotic	Non-living, e.g. atmosphere, water or heat	Organisms	An individual animal, plant or single-celled life form
Biotic	Living, e.g. trees, animals, humans or plants	Producers	Organisms that obtain their energy from a primary source such as the sun
Biomes	Global scale ecosystems, e.g. tropical rainforests	Consumers	Organisms that obtain their energy by eating other organisms
Biosphere	The regions of the surface and atmosphere occupied by all living things.	Decomposers	Organisms such as bacteria that break down plant and animal matter
Block C		Block D:	
Scavengers	Organisms that consume dead animals and plants	Nutrient Cycling	The recycling of nutrients between living organisms and the environment
Food Chain	A line of linkages between producers and consumers	Temperate Deciduous Forest	Forests made up of broad-leaved trees such as oak that drop their leaves in the autumn.
Food Web	A diagram that shows all the linkages between producers and consumers in an ecosystem.	Evergreen Trees	Trees which do not lose their leaves in the year
Biodiversity	The variety of species in the world, country or local habitat	Stratification	Layering of forests, seen particularly in temperate deciduous forests and tropical rainforests
Productivity	Generation of biomass by photosynthesis	Leaching	The dissolving and removal of nutrients from the soil, often in tropical rainforests because of the heavy rain
Block E		Block F	
Arid	Dry conditions associated with the deserts	Clear Felling	Absolute clearance of all trees from an area
Hot Deserts	Deserts have rainfall of less than 249mm of rainfall per year. Hot deserts around found 30°N and S of the equator	Selective Logging	The cutting down of selected trees, leaving most of the trees intact
Cold Deserts	Deserts have rainfall of less than 249mm of rainfall per year. Cold deserts are found 60°N and S and further from the equator	Slash and Burn	Trees are cut down and the land is cleared by burning before being replanted

Deforestation	The cutting down and removal of trees	Sustainable Management	Development is long lasting and not harmful to the environment
Pollarding	The cutting of trees at shoulder height to promote growth	Carbon Sink	Where forests absorb carbon dioxide from the atmosphere
<b>Block G</b>		<b>Block H</b>	
Endemic	Species of animals which are only found in specific areas of the world	Appropriate Technology	Technology suited to the needs of the local people that combines materials and is environmentally friendly.
Precipitation	Rainfall falling from the atmosphere	Tap Roots	Deep roots which extend underground in search of water
Diurnal	Range between day and night temperatures	Dormant	Sleeping/hibernating for periods of time to conserve energy
Water Table	The level below which the ground is saturated with water	Transpiration	Water evaporating of the surface of vegetation
Overgrazing	Livestock grazing on the land for too long, so it is unable to recover its vegetation.	Desertification	A reduction in the biological productivity of the land which leads to deserts like conditions, e.g. The Sahel
<b>Block I</b>		<b>Block J</b>	
Cash Crops	Growing crops to make money, not for personal consumption		
Monoculture	The farming of a single crop		
Marginal Land	The areas which can only be farmed when conditions are very good (e.g. rainfall)		
Afforestation	Replanting of trees		
Desalination	Industrial process to move salt from seawater		

# History

## Summer Knowledge

<b>Block A: Key Dates – Elizabeth: challenges at home</b>		<b>Block B: Key Dates – Elizabeth: challenges at home</b>	
1558	Elizabeth comes to the throne	1583	The Throckmorton Plot
1559	Religious Settlement	1584	William of Orange is assassinated
1569	Revolt of the Northern Earls	1585	Act for the Preservation of the Queen's Safety
1570	Pope excommunicates Elizabeth	1586	The Babington Plot
1571	The Ridolfi Plot	1587	Execution of Mary, Queen of Scots
<b>Block C: Key Dates – Elizabeth: challenges abroad</b>		<b>Block D: Key Dates – Elizabethan Society</b>	
1566	Dutch Revolt	1563	Statute of Artificiers
1568	Genoese Loan	1572	Vagabonds Act
1576	Spanish Fury	1576	Poor Relief Act
1587	Singeing of the King's Beard (Raid of Cadiz)	1577 - 1580	Drake's circumnavigation of the globe
1588	Spanish Armada	1585	First attempted colonisation of Virginia
<b>Block E: Key Terms - Challenges at home</b>		<b>Block F: Key Terms - Challenges abroad</b>	
Revolt	Uprising or rebellion against the monarch	Privateers	Pirates whose activities are legal and in service of the Crown
Plot	A planned rebellion or attack – normally not carried out	Galleon	Large but slow fighting ships used by the Spanish
Earl	A senior noble who played an important role in governing England	New World	The continents of North and South America, dominated by Spain
Mass	A Catholic church service	Armada	A fleet (group) of ships whose purpose is war
Incriminate	To find evidence of someone's involvement in a crime	Cadiz	Spain's main western port – the site of the Armada's preparation
<b>Block G: Key Terms – Elizabethan Society</b>		<b>Block H: Key People – Elizabethan England</b>	

Literacy Rate	Percentage of people who could read and write	Mary I/Mary Tudor	Elizabeth's half-sister; Queen of England 1553- 1558
Enclosure	Using land to raise sheep rather than grow crops	Mary, Queen of Scots	Elizabeth's Catholic cousin and heir to the throne of England
Inflation	When the price of goods rises	Sir Francis Walsingham	Elizabeth's spy master
Circumnavigate	Sailing around the world	William Cecil	Elizabeth's chief adviser
Colony	An overseas territory that belonged to another country	Sir Francis Drake	English privateer – famed for his circumnavigation of the globe and defeat of the Spanish Armada
<b>Block I: How were people educated?</b>		<b>Block J: What were the leisure activities people had based upon their social class?</b>	
Nobility	At home with a private tutor	Sport: nobility	Hunting/tennis
Middle class boys	Grammar schools	Sport: lower classes	Football
Middle class girls	Could not attend school; educated by their mother in the home	Music: nobility	Played/listened to lutes and harpsicords
Labourers	No school-based education	Music: lower classes	Played the fiddle/bagpipes
Universities	Oxford and Cambridge. Curriculum included geometry/music/law/theology	Theatre	Popular with all social classes. Way you watched theatre was dependent on social class
<b>Block K: Why did poverty increase?</b>		<b>Block L: Why did the first colonisation of Virginia fail?</b>	
Increase in sheep farming	Fewer people needed to work on land. Unemployment increases	Hot climate during voyage	Food the colonists took with them rotted quickly
Slow food production	Price of food increases, meaning fewer people can afford it	The Tiger was damaged	Ruined food and seeds for planting

England's population increases by 35%	Higher demand for food/greater competition for jobs	Many of the colonists were gentlemen	They were not willing to do essential physical labour ie. farming
Poor relations between England and Spain	Decline of cloth trade	The colonists who were farmers wanted to farm for themselves	Colonists did not work well together
Henry VIII had ordered that all new coins were melted down	People no longer trusted the value of coins so merchants put up the prices	Native Americans frustrated with the British	Violent clashes between the settlers and Native Americans meant the colonists decided to return to England



# French

## Summer Knowledge

<b>Block A – places in town</b>			
1.Au collège	To school	7.À la piscine	To the swimming pool
2.Au cinema	To the cinema	8.À la patinoire	To the ice rink
3.au centre commercial	To the shopping centre	9.À la bibliothèque	To the library
4.au parc	To the park	10.Chez moi	To mine / my house
5.au theatre	To the theatre	11.Chez toi	To yours / your house
6.au Jardin	To the garden		
<b>Block C – les verbes</b>		<b>Block D: les excuses</b>	
12.Aller	To go	19Je dois	I must
13.Venir	To come	20.Faire du sport	Do sport
14.Regarder	To watch	21.Faire les devoirs	Do homework
15.Voir	To see	22.Faire le lit	Make the bed
16.Jouer des jeux-videos	To play video games	23.Faire la cuisine	Do the cooking
17.Rentrer	To return	24.Faire le jardinage	Do the gardening
18.Lire	To read	25.Faire le ménage	Do the housework
Se detendre	To relax		
Se promener	To go for a walk		
Conduire	To drive		

Manger	To eat		
Sortir	To go out		
<b>Block E – high frequency phrases</b>			
26.Je veux	I want	31.Je vais	I'm going
27.Je voudrais	I would like	32.Si	if
28.J'aimerais	I would like	33.Je suis	I am
29.Je peux	I can	34.Tu es	You are
30.Je ne peux pas	I cannot		

<b>Block G – school subjects = les matières</b>			
35. Les maths	Maths	40.La geographie	Geography
36.La science	Science	41.La technologie	Technology
37.La physique	Physics	42.Le dessin	Art
38.La chimie	Chemistry	43.Le français	French
39.La biologie	Biology	44.L'anglais	English
		45.L'EPS	P.E.
		46.L'histoire	history
<b>Block H – time phrases</b>			
47.normalement	Normally	52.Hier	Yesterday
48.souvent	Often	53.La semaine dernière	Last week

49. quelquefois	Sometimes	54. Le weekend dernier	Last weekend
50. De temps en temps	Occasionally	55. Le mois dernier	Last month
51. toujours	Always	56. Hier	Yesterday
		57. Plus tard	Later
		58. Ce soir	Tonight
		59. Ce weekend	This weekend
		60. Demain	Tomorrow
		61. La semaine prochaine	Next week

**Block I – high frequency phrases**

62. Je pense que	I think that	68. c'était	It was
63. Je crois que	I believe that	69. ça me fait	It makes me (+ verb)
64. Je dirais que	I would say that	70. ça me rend	It makes me (+ adjective)
65. Parce que / car	Because	71. je vais	I go / I'm going
66. puisque	Since	72. Je ne vais pas	I don't go / I'm not going
67. Vu que	Seeing that	73. il va être	It's going to be
J'ai joué	I played	Ce sera	it will be

<b>Block J - verbs</b>		<b>Block K - adjectives</b>	
81.Difficile	Difficult		
82.Facile	Easy		
83.Triste	Sad		
84.Heureux / heureuse	happy		
85.Énervé	annoyed		
Passionant (e) / excitant (e)	exciting		
Pas cher / chère	Cheap		
Gratuit (e)	Free		
chouette	Great		
Bruyant (e)	Noisy		
Tranquille	calm		
Joli (e)	pretty		

# Religious Studies

## Summer Knowledge

**A- L** Christian Practices    **M – R** Islam Practices    **S – Y** Islam Beliefs

<b>Block A</b>		<b>Block B</b>	
Anglican	A worldwide denomination that includes the Church of England	Quakers	Society of Friends Christian group
Church of England	Protestant church set up by Henry V111-church of state in England, rejects papal authority	Roman Catholics	The largest Christian group, based in Rome, Pope as its leader
Orthodox church	A branch of the Christian church	Methodists	Protestant Christian group
Protestant	Branch of the Christian church that broke away from the Roman Catholic church		
<b>Block C</b>		<b>Block D:</b>	
worship	the feeling or expression of reverence and adoration for a deity. Praise, honour or devotion.	Sacrament	Outward and visible sign of an inward and spiritual grace
secular	Relating to worldly as opposed to religious things	infant baptism	Ceremony to welcome a child into the Christian religion
ecumenical	Relating to worldwide Christian church	believer’s baptism	Ceremony to welcome young person/adult into Christian religion using full immersion
agape	a word used in the Bible that describes selfless, sacrificial, unconditional love.	confirmation	Initiation ceremony carried out by a bishop bestowing the gift of the holy spirit
advent	the first season of the Church year, leading up to Christmas and including the four preceding Sundays.	Christmas	Christmas is traditionally a Christian festival celebrating the birth of Jesus
<b>Block E:</b>		<b>Block F</b>	
Easter	the most important and oldest festival of the Christian Church, celebrating the resurrection of Christ	worship	the feeling or expression of reverence and adoration for a deity. Praise, honour or devotopn.
Epiphany	the manifestation of Christ to the Gentiles as represented by the Magi (Matthew 2:1–12).	prayer	spiritual communion with God , as in supplication, thanksgiving, adoration, or confession.
Lent	the period preceding Easter, which is devoted to fasting, abstinence, and penitence in commemoration of Christ's fasting in the wilderness.		

fasting	abstain from all or some kinds of food or drink		
Paschal candle	a large candle blessed and lit on Holy Saturday and placed by the altar until Pentecost.		
temptation	the desire to do something, especially something wrong or unwise. the tempting of Jesus by the Devil (see Matt. 4).		
<b>Block G</b>		<b>Block H</b>	
pilgrimage	a journey by a believer to a holy site for religious reasons; an act of worship and devotion	Eucharist	Christian ceremony to celebrate the last supper, bread and wine consecrated and consumed
Lourdes	Town in France where the Virgin Mary appeared, place of pilgrimage	alternative names for the Eucharist	Mass, Holy communion, the Lord's Supper and Divine Liturgy
Iona	Island in Scotland, used as a religious retreat	transubstantiation	Change in the bread and wine to become the body and blood of Christ
the Holy Land	Land of Israel		
<b>Block I</b>		<b>Block J</b>	
liturgical worship	Church service with a set structure of worship	mission	Organised effort to spread the Christian message
non-liturgical worship	Informal structure found in some Church services	Pentecost	In the New Testament, the day that the Holy Spirit descended upon the disciples of Jesus.
Evangelism	Preaching of the faith in order to convert people to that religion	convert	someone who has decided to become committed to a religion and change their faith
the Catechism of Catholic Church	A summary of Roman catholic teaching	Ordination	The process by which someone becomes a priest
penitence	the action of feeling or showing sorrow and regret for having done wrong; repentance.	St Paul	A man who taught the teachings of Jesus- originally Saul of Tarsus before his conversion
<b>Block K</b>		<b>Block L</b>	
Rosary	Set of beads used to count prayers especially in the Roman Catholic Church	food banks	Charity groups collecting donated food to distribute to the poor in Britain
CAFOD	A charity, Catholic agency for Overseas development	Street Pastors	Christian organisation of people working on the city streets at night caring for people who need help or involved in anti-social behaviour
Christian Aid	A charity working in the developing world, providing long term and emergency aid	persecution	hostility and ill treatment, especially because of race, or political or religious beliefs
the Church Army	An evangelistic organisation founded within the church of England	poverty	being without money, food or other basic needs

Tearfund	Christian charity working to relieve poverty in developing countries	reconciliation	The process of making people in conflict friendly again
<b>Block M</b>		<b>Block N</b>	
ablution	Ritual washing in Islam. The Arabic term is wudu.	Ten Obligatory Acts	Salah, Zakah, Sawm, Hajj, Khums, Jihad, Amr-bil-Maruf, Nahi Anil Mumkar, Tawallah, Tabarra
Allah	The Islamic name for God.	Ramadan	During the month of Ramadan, Muslims fast from sunrise to sunset.
The Five Pillars	The Five Pillars observed by Sunni Muslims which support Islam by encouraging the development of good character, attitude and behaviour.	fasting	Not eating or drinking. It refers especially to sawm, which is the 4th of the Five Pillars.
The Five Pillars	These are shahadah, salah, zakah, sawm and hajj.	Hajj	Annual pilgrimage to Makkah, which all Muslims must undertake at least once in their lives, unless prevented by problems over wealth or health. The 5th of the Five Pillars.
Ten Obligatory Acts	For Muslims who follow Twelver Shi'a Islam, there are 10 duties also known as the Ancillaries of the Faith.	The Ka'aba	The black covered cube-shaped building in the centre of the grand mosque in Makkah.
<b>Block O</b>		<b>Block P</b>	
The Ka'aba	All Muslims face towards The Ka'aba when they pray.	Amr-bil-Maruf	encouraging people to do what is good
Makkah	The city where Muhammad was born. The spiritual centre of Islam, it is in Saudi Arabia.	Nahi Anil Mumkar	Discouraging people from doing what is wrong
Mina	Place to be visited on hajj – stoning of pillars.	Tawallah	Being loving towards the friends of Allah
Friday prayer	Jumma. Friday prayers in the mosque, where a sermon (khutbah) is heard.	Tabarra	avoiding association with the enemies of Allah
Jumma	Weekly communal salah performed after midday on a Friday.	Khums	This is a practice in Shi'a Islam. It is a 20% tax on annual surplus income and is given to the poor and to religious leaders.
<b>Block Q</b>		<b>Block R</b>	
giving alms	A key practice in Islam. Zakah is the 3rd of the Five Pillars. Giving alms means giving to those in need, e.g. money, food, time.	Arafat	A plain near to Makkah where pilgrims gather to worship, pray and ask for forgiveness.
Jihad	To struggle'. It refers to the effort made to obey Allah.	Arafat	On the ninth day of the Islamic month, the day before Eid ul Adha.
Greater jihad	This refers to the duty of every Muslim to live a good life, staying faithful to the beliefs and obeying the commands of Islam.	Id-ul-Fitr	A celebration that comes at the end of Ramadan and marks the end of fasting.

Lesser Jihad	This refers to the military struggle to defend Islam. It is carried out according to strict and clear-cut rules.	Ashura	A very important festival in Shi'a Islam, occurring on 10th Muharram. Shi'a Muslims commemorate the martyrdom of Hussein (Muhammad's grandson).
Id-ul-Adha	Celebration of the Prophet Ibrahim's willingness to sacrifice his son for Allah. It comes at the end of the period of hajj.	Ashura	Ashura is observed by Sunni Muslims as a day of repentance for sins in the belief that they will be forgiven.
<b>Block S</b>		<b>Block T</b>	
Allah	Allah is merciful, omnipotent, benevolent, just, immanent and transcendent.	immanent	The idea that Allah is present in and involved with life on earth
merciful	A quality of Allah that shows forgiveness and compassion to humans	transcendent	The idea that Allah is outside of this universe
omnipotent	Allah is all-powerful	Tawhid	Allah is the only God. Allah is one and unified.
benevolent	Allah is all-loving	Surah 112	1) He is God the one, God the eternal 2) He begot no one nor was He begotten. 3) No one is comparable to him.
just	Allah is fair. Allah judges human actions, rewarding the good and punishing the bad.	begotten	It is used in this context to make it clear that Allah does not come from anyone/thing and to explain that Allah does not have any children.
<b>Block U</b>		<b>Block V</b>	
six articles of faith	1. Allah is the one and only god (Tawhid) 2) Belief in angels 3) Belief in holy books 4) Belief in prophets 5) Belief in the Day of Judgement 6) Belief in pre-destination	angel Mika'il	Asks Allah to forgive people's sins
five roots of Usul ad-Din	1. Allah is the one and only god (Tawhid) 2. Belief in divine justice (Adalat) 3. Belief in prophets 4. Belief in the authority of imams	Al-Qadr (predestination)	Idea that Allah knows our destiny before us. Humans see time as a straight line, Allah sees in as a circle, so it is not that we as humans do not possess free-will, it is that Allah has seen our destiny before us. Pre (before) destination (where we are going) for some Allah wills everything, so we can only do what Allah has chosen for us. (Sunni)

purpose of angels	To follow Allah's orders and communicate with humans, often via the prophets.	Sunni belief about judgement	Allah knows all that is going to happen before it happens. Humans chose actions but Allah made it impossible for them to pick what they should not be doing. Some think once someone's chosen to act, the act becomes theirs so they can be judged for it.
angels	1) In heaven, they praise and guard his throne. 2) They welcome humans into paradise. 3) Record good and bad deeds for judgement day.	Shi'a belief about judgement	They focus more on free will. They often believe Allah has ultimate control & power to change things if he wants but people determine their own lives.
Angel Jibril	Revealed Allah's words (Qur'an) to Muhammed. Also revealed messages to other prophets. Is known as the angel of revelation.	Day of Judgement	Allah will judge all (not just Muslims) – dead will be resurrected and all given a record of their good & bad deeds.
<b>Block W</b>		<b>Block X</b>	
Akhirah	The afterlife	Zabur	This is the book given to Dawud. Many believe it is linked to the Psalms of David in the Christian Bible and the Jewish Tenakh.
first Prophet	Adam (he was also the first man). He was considered to be the first Muslim. Some believe he built the Ka'aba.	Injil	This is the book given to Isa. This book prophesises the coming of Muhammed.
key event in Prophet Ibrahim's life	He proved his faith by being willing to sacrifice his own son Isma'il.	Hadith	These are reports of Muhammad's words and actions recorded by his followers. They're not in the Qur'an – they weren't revealed by Allah. They guide Muslims. Quran says what. Hadith says how.
'seal of the prophets'	Muhammad. Muslims believe he is the last prophet there will be. He is believed to have been a wise leader who brought communities together and performed several miracles.	Sunnah	This sets of Muhammad's way of life, as recorded by the hadith. Following the Sunnah is following the role model of the prophet.
Tawrat	This is the book given to Musa. It's the main Jewish holy book and includes the 10 commandments (basic rules for a religious life.)	Hadith and Sunnah	Gives valuable advice in addition to the Qur'an esp on issues concerning daily life. Some Muslims believe it better to use the Qur'an because the hadith might not be reliable.
<b>Block Y</b>		<b>Block Z</b>	
the Imamate	Shi'a Muslims believe that following Muhammad's death the true leaders of Islam were a line of imams who were descended from him. The biggest group of Shi'a muslims believe there are 12 imans in the imamte. Ali was the first imam. It is believed the 12th imam will eventually return.		



# Business Studies

## Summer Knowledge

Block A		Block B	
Aims and objectives	Aims are a long-term goal and objectives are the steppingstones to achieve this aim	Break-even	Break-even is the point at which revenue and total costs are the same – the business is making neither a profit nor a loss
Costs	A cost is an outflow of money from a business. There are two types: variables (ones that change) and fixed (don't change)	Margin of safety	The margin of safety is the difference between the current output level and the breakeven point
Revenue	The money received from sales. (Quantity sold x selling price)	Level of output	The number of products a business produces – break-even level of output = how many products the business needs to produce to cover costs.
Profit	The amount of money made after all expenses have been paid. Two types = net and gross	Impact of changes	Increase or decrease in revenue will affect BEP. Similarly, increase or decrease in costs incurred will affect BEP.
Loss	When the costs of a business are greater than the revenue it makes.	Interest rate	The percentage rate charged on a loan or paid on savings. Eg, borrow £100 with an interest rate of £5 = pay back £105.
Block C		Block D:	
Cash	The money that the business has on its premises or in its bank accounts.	Short-term finance	Finance borrowed for up to 12 months.
Cash-flow	The money flowing into and out of a business on a day-to-day basis.	Long-term finance	Finance borrowed for 5 years or more.
Cash-flow forecast	A statement showing the expected cash flow of money into and out of a business over a period.	External finance	Finance raised from sources outside of the business. The main external sources of finance are overdrafts, trade credit, loan, crowd funding and share issues.
Outflows	Money flowing out of a business - Repay bank loans, buy raw materials, Pay staff.	Internal finance	Finance raised from within the business. Main sources are owners' capital, retained profit and sale of assets.
Importance of cash	Cash makes a business more liquid – increase chances of growth and expansion. Limits risk.	Liquidity	The ability of a business to pay its short-term debts.

Block E		Block F	
Liability	The responsibility of the business owners for debts incurred by the business.	Sole trader	A business owned by one individual – can hire employees if necessary.
Limited liability	The owners of a business can only lose the money they have invested in a business if it fails.	Partnership	A business owned by between 2 and 20 partners – profits are split.
Unlimited liability	The owner of a business is responsible for repaying all the debts of a business.	Private limited company	(Ltd) A smaller company that can sell shares to invited people only (friends, family, entrepreneurs)
Implications	Can be easier to set up unlimited liability --> Increases risk.	Franchising	A business that invests in the rights to another person or business to sell goods or services using the same name – EG: Nandos.
Ownership	Owners can opt to run their business as sole traders, partnerships or private limited companies. As the business expands it may wish to change its ownership.	Small business	Businesses that have <50 employees. Usually new businesses.

## Music

### Summer Knowledge

#### Bach Brandenburg Concerto

Block A - Performance Forces		Block B – Harmony and Tonality	
Gigue	A lively dance from the Baroque period	A Section	This is in D major in the piece
Baroque period	1600-1750	B section	This is in B minor (the relative minor to D major)
Terraced dynamics	Dynamics that change from very loud to very quiet	Tonic pedal	This is a sustained note (the first note of the scale). This happens in the B section of the piece.
Concertino	The solo instruments in a concerto	Functional harmony	Using chords I, IV and V to form cadences
Ripieno	The supporting parts of the Concerto	Perfect cadences	Going from chord V to I
Bass Continuo	A continuous bass line which repeats throughout the piece, common in the Baroque period	Imperfect cadence	Going from chord V to vi

Concerto Grosso	A concerto which has more than one soloist	Plagal cadence	Going from chord IV to I
<b>Block C – Tempo, Metre and Rhythm</b>		<b>Block D - Melody</b>	
Time signature	The piece is in 2/4 (it feels like it is in 6/8 because it uses triplets)	Conjunct	Melody that moves in steps – this is common in the Bach.
Triplets	Three notes played in the space of one	Scalic runs	This is common in the harpsichord, the notes run up and down in scale like motion.
Dotted quavers	These are used throughout the piece	Rising sequences	There are often ascending patterns of notes in the solos.
Semiquaver rhythms	Many semiquaver rhythms are used in the harpsichord	Ornaments	The melody is very decorated with trills (bar 19) and appoggiaturas (bar 18)
Allegro	Fast tempo	Fugue	This piece is a fugue.  This means that there is a subject (motif) that is repeated by other parts one on top of the other.  There is also a counter subject which is played against the main melody.
<b>Block E - Structure</b>		<b>Block F - Texture</b>	
Ternary Form	ABA	Polyphonic	Two or more rhythms played at the same time
A	Fugue	Contrapuntal	A texture where two ideas of different pulses are played at the same time
B	New theme in flute	Fugal	There is a subject which is carried by multiple different parts and it overlaps.
A	Repeat of the fugue beginning	Stretto	Fugue subject is overlapped to build intensity