

WILMINGTON
GRAMMAR SCHOOL FOR BOYS

Knowledge Organisers

Year 9 – Term 5

Name	
Form group	

The knowledge organisers in this booklet are full of the **essential facts** and **information** that you need to know and be able to recall in order to 'master' Term 5's units/topics in each of your subjects.

To achieve this, you will need to take in the facts and information and work at moving it all from your short to long-term memory.

We have included the reminder about how to self-quiz and various revision techniques.

Good luck in your learning,

Miss Price

Assistant Headteacher in charge of Teaching and Learning

Knowledge is Power

How to self-quiz: A Reminder!



READ

Read the specific facts/information you have been asked to focus on



SAY

Say it in your head/out-loud (if you are at home and would like to)



COVER

Cover the section of your knowledge organiser



WRITE

Write out everything you can remember from what you have read and said to yourself



CHECK

Check over what you have written – check every word.

If you have everything correct, tick your work with a green pen.

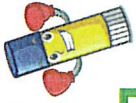
If you have made mistakes in word choice or spelling or have left words/information out, use the green pen to correct your work: This will help you identify the gaps in your knowledge and what you must spend time going over.

Repeat the process until you are able to write out all the facts/information, making no errors. We recommend at least 30 minutes in order to achieve this.

For an example of self-quizzing in action, please see the following instructional video:



Making knowledge stick!



Focus and be positive - say to yourself you can learn what you've been asked to/want to learn, because you can! It is proven that this makes a difference as you're more receptive to the knowledge going in!

Make flash cards (for example, have the term on one side and the definition on the other.) Please see this video that shows you how you can effectively use them over the course of a week or set amount of time to embed knowledge:

<https://www.youtube.com/watch?v=C20EvKtdJwQ&t=87s>

Get a family member/friend to test you (remember - word for word; number for number!)

Incorporate mnemonics (patterns of letters, ideas, or associations which assist in remembering something) **to recall longer strings of information:** e.g. **My Very Excellent Mother Just Served Us Noodles** (or **Nachos**) = The planets in order: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune

Chunk your learning - DON'T leave it until the night before it's due (if you do, you may know it a bit and be able to recognise the words, phrases and equations etc. But they won't be committed to memory.) **Start early and do little and often; distributed practice is much more effective!**

Test yourself a lot - in all these ways and self-quizzing. When you do so and answer incorrectly, not only are you more likely to remember the right answer after you look it up... you'll also remember that you didn't remember. (Getting something wrong is a great way to remember it the next time, especially if you tend to be hard on yourself.) That's why you need to start early and do little and often, and keep retrieving the same and old knowledge!

Say the words, definitions, formulae etc. OUT-LOUD: This turns you from passive to active in the learning process. Research shows that producing words aloud during study, relative to simply reading them silently, improves explicit memory.

Build a 'MEMORY PALACE' (also known as method of loci; memory journey and mind palace technique): This memory aid was created thousands of years ago by the ancient Greeks. It's used by world record-holding memory champions (and Sherlock Holmes!) With a little planning and practice, you can build a memory palace, too. *Please see [this video of a man helping an 8 year-old boy to know all the US presidents using this technique!](https://www.youtube.com/watch?v=aT7_g2E3q3Q&t=452s)*

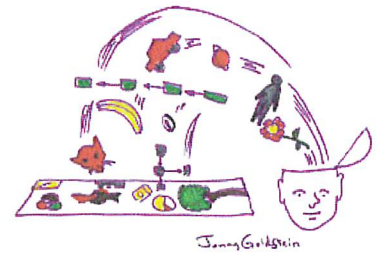
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Two others for us to try out!

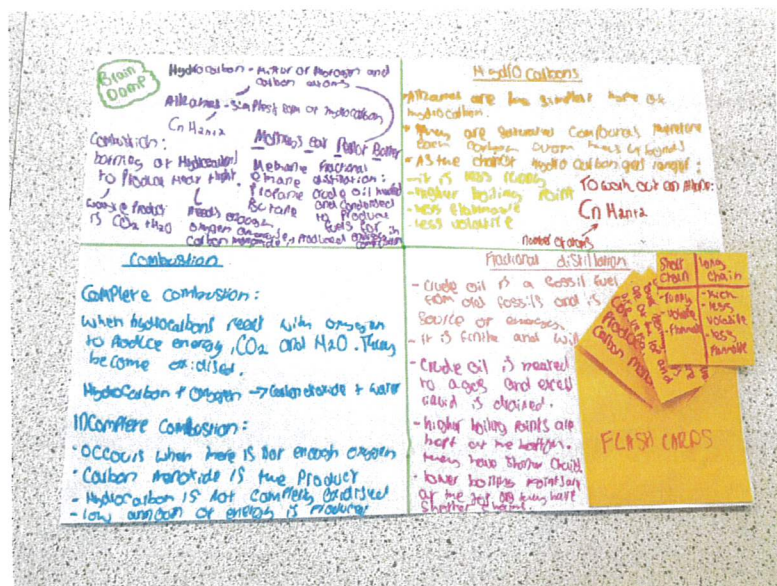
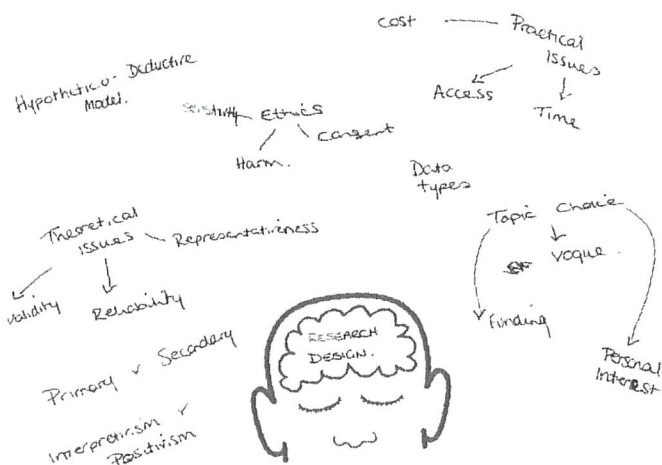
After self-quizzing and employing different techniques to move your essential facts and information into your working and then long-term memory, put your knowledge to the test with a... **Brain Dump!**

How?

- Take a blank piece of paper
- Write down (DUMP!) everything you know about the topic
 - No books
 - No notes
 - Be as messy as you like
- Time limit of 2 minutes
- After, put a star next to the things you think will be useful to revise.
- If you are unsure of anything you have written, try to explain each term or concept to someone and if you cannot then you need to revise it.
- Use your notes to identify areas you have not included in your brain dump. These should be revised too!
- Once you have your brain dump you should be able to elaborate on the content, being able to describe and explain things in detail.
- You should be able to make connections amongst the ideas.
- You should identify anything you cannot explain or have missed.
- You will want to go back and self-quiz and use our other techniques to help you to embed and retrieve the knowledge you have difficulty remembering or explaining or that you did not add to your original brain dump!



Examples of brain bumps:



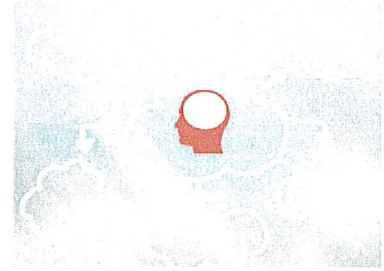
Here students have 'brain dumped' and then created revision resources (flash cards) to master content



Mind Maps!

How?

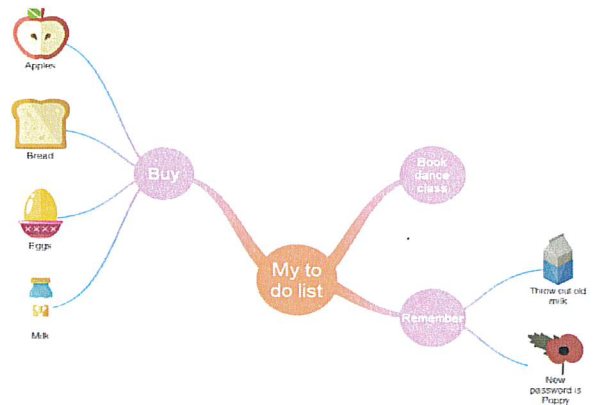
- Put the topic in the centre of a blank page
- Add big branches with the main ideas/themes of the topic
- Add small branches to these with more detail
- Try to write only 1 or 2 words per branch
 - Focus on the key points only
- Add an image to each branch (dual code*):



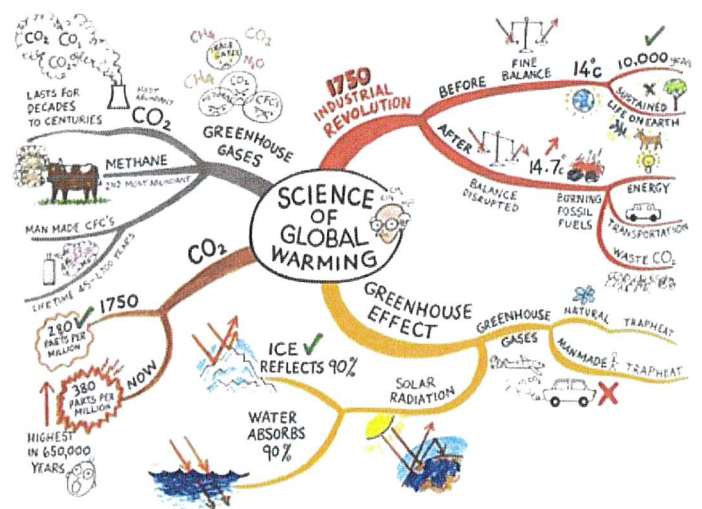
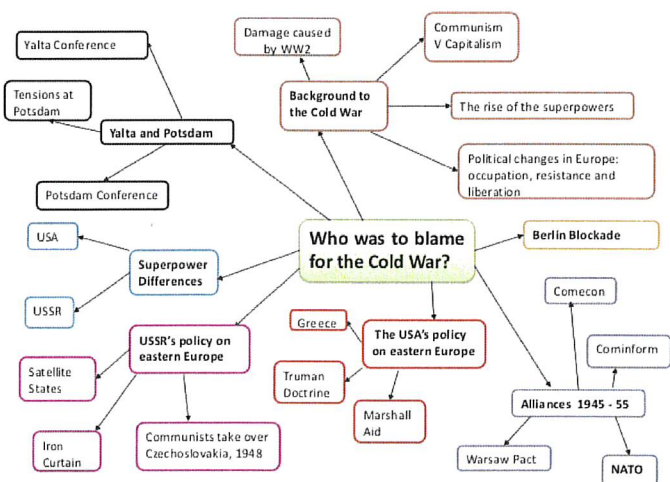
!!!The more creative, the better! Mind mapping can benefit memory retention when we create maps that involve association... The more imaginative and tailored an idea is to an individual, the more it will benefit their memory!!! ... As a simple example, let's work to remember a small 'to do' list:

- Buy apples
- Throw out old milk
- Remember the Internet password is now 'Poppy'
- Book a dance class

To help them remember items on their list, the individual who has created this mind map uses a picture of a 'Pink Lady' apple as a retrieval cue (trigger) because these are their favourite. Furthermore, the individual needs to remember that they have changed their password to 'Poppy', as another cue (trigger), so uses a picture of a remembrance poppy.



More examples of mind maps:



Top tips!

- 1) ! Use different colours for each branch of your mind map. This helps your brain distinguish between each of the different information stems.
- 2) ! Use 'dual coding'* in your mind maps. Dual coding means using both words and images to record the information you need to remember.



WGSB Art - Year 9 Knowledge Organiser



ANDY WARHOL

Andy Warhol was born on 6th August 1928 in Pittsburgh, Pennsylvania as Andrew Warhola. His parents had emigrated to the US from the area that is now Slovakia in the 1920s.

When he was growing up in Pittsburgh, Andy Warhol suffered from St Vitus Dance (Sydenham chorea), a neurological condition. Some of the symptoms included twitching and involuntary jerking of the arms and legs. On some days, the condition meant that Andy was unable to go to school.

Andy Warhol had very bad acne, and from the age of eight, his skin also started to lose its pigment. He was often teased about his red and blotchy face.

Warhol was a hypochondriac and was scared of hospitals and doctors.

In the 1960s he produced a series of paintings of iconic American images and objects, these included: Campbell's Soup cans, dollar bills, Marilyn Monroe and Elvis Presley and Coca-Cola bottles.

In the 1970s Warhol produced work for many celebrities, including: Mick Jagger, John Lennon and Diana Ross.

He called his studio The Factory and it became a famous meeting place for creative people and celebrities

He founded the New York Academy of Art in 1979.

Andy Warhol died on 22nd February 1987 following post gallbladder surgery complications. He is buried at St John the Baptist Byzantine Cemetery, next to his parents.



JEAN-MICHEL BASQUIAT

Jean-Michel **Basquiat** was born on December 22, 1960, in Brooklyn, New York and died on August 12, 1988 in New York.

With a Haitian American father and a Puerto Rican mother, Basquiat's diverse cultural heritage was one of his many sources of inspiration.

A self-taught artist, Basquiat began drawing at an early age on sheets of paper his father, an accountant, brought home from the office.

At the age of 8, Basquiat was hit by a car while playing in the street and suffered a broken arm and severe internal injuries. While he was in hospital, his mother brought him a copy of the medical textbook Gray's Anatomy. This inspired the young artist and can be seen in his paintings.

His parents divorced. His father took Basquiat and his two sisters to live with him as his mother was unfit to care for him. Basquiat was often running away from home at 14 years old. Once he returned and said to his father that he was going to be famous one day.

At 16 years old, he was writing his philosophical slogan SAMO on walls.

At 17 years old he left home to become famous. He started to sell t-shirts and postcards when his father kicked him out of the house.

Basquiat became friends with artist Andy Warhol and Keith Haring, and singer Madonna



People and Business

Dividend – a shareholder's individual share of a business's profits.

Employee ownership – schemes that give employers and employees a common interest in making the business successful, by including employees in the ownership of the business and sharing its profits with them.

Human capital – all of the people a business employs, and their collective traits, talents and capabilities.

Motivation theory – an attempt to understand and explain how best to motivate employees to work to the best of their abilities.

Productivity – the measure of output of an employee or business.

Promotion – moving up to a higher-paid job or role, which may involve increased managerial responsibilities.

Remuneration – rewards for work, including financial rewards (ie wages / salaries) and non-financial rewards.

Work ethic – attitude to work and willingness to work hard.

Enterprise and Entrepreneurs

Calculated risk: Taking a risk after weighing up the potential consequences and rewards.

Drive: The extent that you are driven to attain a goal or satisfy a need.

Economic cycle: Fluctuations in production, trade and economic activity over several months or years in an economy.

Enterprise skills: The skills required to be a successful entrepreneur.

Entrepreneur: A person who sees a business opportunity and is prepared to take a risk to profit from that opportunity.

Focus: The ability to give all your attention, time, and energy to a particular activity.

Initiative: The ability to assess and initiate things independently.

Innovation: Renewing or changing products, services or processes for the better, or creating more effective ways of doing things.

Intrapreneur: An employee within a company who uses enterprise skills to develop an idea or project as an entrepreneur would.

Personal responsibility: Taking responsibility for your actions, and accepting the consequences that come from those actions.

Progressive thinkers: A person who is able to think ahead and stay ahead of their rivals.

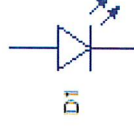
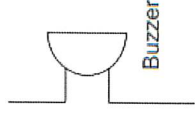
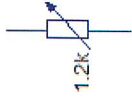
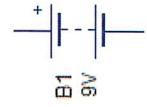
Reward: Something achieved by effort, whether a monetary reward (such as profits) or a personal reward (such as pride in your work).

Self-confidence: A feeling of trust in one's abilities, qualities and judgement.

Social responsibility: The ethical theory that organisations and individuals have an obligation to act to benefit society at large.

YEAR 9 ALARM KNOWLEDGE ORGANISER

Keyword	Definition
Proton	a stable subatomic particle occurring in all atomic nuclei, with a positive electric charge equal in magnitude to that of an electron.
Electron	a stable subatomic particle with a charge of negative electricity, found in all atoms and acting as the primary carrier of electricity in solids.
Current	a flow of electricity which results from the ordered directional movement of electrically charged particles
Potential Difference	Potential difference is the difference in the amount of energy that charge carriers have between two points in a circuit
Resistance	Resistance is a measure of the opposition to current flow in an electrical circuit. Resistance is measured in ohms, symbolized by the Greek letter omega (Ω)
Ohm's Law	a law in electricity that states that the current in a circuit is equal to the potential difference divided by the resistance of the circuit.
V = Volts	The unit of measurement for voltage
I = Amps/Amperes	The unit of measurement for current
R = Ohms	The unit of measurement for resistance
Push to Make Switch	A Push to Make Switch is a type of electrical switch where the connection inside the switch is wired to be normally open. When the switch is compressed the connection is made which allows the electricity to flow and the device the switch is connected to switch "on".
Buzzer	An electrical device that makes a buzzing noise and is used for signalling.
LED - Light Emitting Diode	LED stands for light emitting diode. LED lighting products produce light up to 90% more efficiently than incandescent light bulbs.





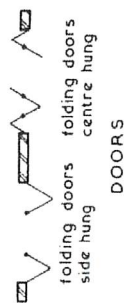
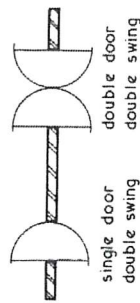
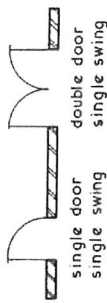
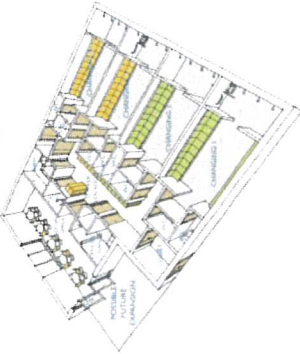
Keyword	Definition
Aeration	Incorporating air into a mixture to give a light fluffy texture
All-in-one	A method of cake making where all ingredients are mixed together at the same time
Beating	This is the rigorous mixing of ingredients using a wooden spoon, electric whisk, food mixer or food processor to thoroughly combine ingredients and to incorporate air
Binary fission	Process by which bacteria replicate and multiply.
Bridge hold	Creating an arch over the ingredient with your hand so the knife can fit underneath to safely chop ingredients
Buttercream	A soft, pipeable or spreadable mixture of butter and icing sugar used as a filling or topping for a cake.
Coating	One of the functions of eggs where they are used to stick flour or breadcrumbs to an ingredients such as fish or chicken.
Choux pastry	A cooked paste or light dough containing eggs, water, butter, and flour that puffs up when baked into a nearly hollow shell
Claw grip	A chopping techniques where your fingers are curled inward and gripping the food with the fingernails, the side of the knife blade should rest against the knuckles, used for slicing ingredients
Coagulation	The change in the structure of protein from a liquid form to solid or a thicker liquid, brought about by heat, mechanical action or acids
Core cooking temperature	The temperature at which foods need to reach in order to be cooked thoroughly. It should be over 75 °C and measured at the thickest part of the food.
Creaming	Mixing butter and sugar together on a moderately high speed until well blended, fluffy and pale yellow., it is often the first step in a cake recipe before the other ingredients are added.
Cross Contamination	The process by which bacteria are transferred from one substance or object to another, with harmful effect. Transferring bacteria from raw to cooked food is the cause of most infections.
Danger Zone	The temperature range with which bacteria multiplies rapidly (5°C -63°C)
Food Hygiene	The conditions and measures necessary to ensure the safety of food from production to consumption
Food poisoning	Illness caused by bacteria or other toxins in food, typically with vomiting and diarrhoea.
Gelatinisation	When starch particles swell and burst, thickening a liquid
Grilling	A form of cooking that involves dry heat applied to the surface of food, commonly from above or below
Hot holding	The process of keeping the cooked food at a safe temperature while it is ready for service
Macro nutrients	The nutrients we need in larger quantities, these include fat, protein and carbohydrate
Micro nutrients	The nutrients we need in small quantities these include vitamins and minerals
Pathogenic bacteria	Bacteria which causes disease, unlike many bacteria which are harmless and often even beneficial to health. Common food borne bacteria include Shigella, Campylobacter and Salmonella
Personal Hygiene	Ensuring people are clean and ready to handle food in order to avoid any form of contamination
Piping	To squeeze a pastry bag in order to force frosting or other paste-like mixtures through the tip of the bag for the purpose of decorating or creating special shapes.
Raising agent	A substance added to a food product that makes it rise when cooked
Rubbing in	To coat flour grains with fat by gently rubbing between the fingertips and thumbs, continuing until the mixture resembles coarse breadcrumbs.
Salmonella	A common bacterial disease that affects the intestines. Humans become infected most frequently through contaminated water or food such as chicken and eggs
Shortcrust pastry	Crumbly pastry made with flour, fat, and a little water, typically used for pies, flans, and tarts
Shortening	The ability of a fat to produce a characteristic crumbly texture to baked products, i.e. pastry
Stir fry	To cook pieces of meat or vegetables quickly in a small amount of hot oil, moving them around all the time
Vegan	People who do not eat any product produced by an animal, this includes, meat, fish, poultry, dairy, eggs and honey
Vegetarians	People who do not eat meat, fish, poultry and in some cases eggs
Whisking	Blend ingredients together quickly or to incorporate air into ingredients such as egg whites or heavy cream in order to increase the volume of the mixture
Wok	A traditional Asian cooking pot shaped like a large deep bowl with a long and short handle or two short handles on opposite sides



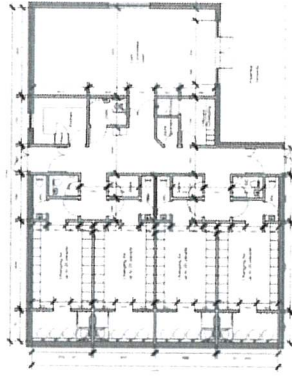
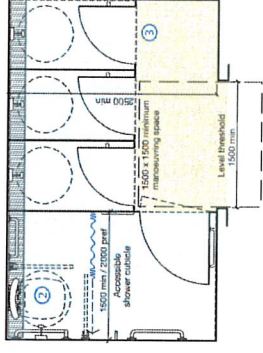
YEAR 9 SPORTS CLUBHOUSE KNOWLEDGE ORGANISER

Keywords	Definition
Water saving measures	Measures such as dual flush toilets, push taps to help reduce the use of water
Scale	The ratio of a distance on the map to the actual distance in real life. The quantitative relation between two amounts showing the number of times one value contains or is contained within the other
Plan view	A view of an object looking straight down on it from above.
Wall	An upright side of a building or room
Window	An opening in the wall or roof of a building or vehicle, fitted with glass in a frame to admit light or air and allow people to see out
Door	A hinged, sliding, or revolving barrier at the entrance to a building, room, or vehicle, or in the framework of a cupboard
Building Symbols	A mark or character used as a conventional representation of elements of a building
British Standards Institute	BSI produces technical standards on a wide range of products and services and also supplies certification and standards-related services to businesses
Sustainability	Avoidance of the depletion of natural resources in order to maintain an ecological balance
Passive design	To design a building to use the planets resources such as the sun, rain and wind to provide energy for the building
Renewable energy	Energy such as wind, solar, biomass, ground source heat pumps used to run a building.
Elevations	A particular side of a building either N/S/E/W
CAD	Computer-aided design (CAD) is the use of computers (or workstations) to aid in the creation, modification, analysis, or optimization of a design
Virtual Model	A digital representation of a physical object

FOOTBALL: Clubhouse



DOORS





Year 9 Drama

Key Terminology Summer 1



Vocal and Physical Skills

Vocal and physical skills, or a performer's use of voice and body, are the main tools for performing. Knowing how to use these tools for each role is essential, as each character is different and therefore the use of these skills should differ too. When making decisions about the acting skills required for a specific script, a performer must consider the play's genre, style and theatrical conventions.

Vocal skills

The control and variety of vocal skills are really important for performers, whether they are on stage, screen or radio. Meaning can be communicated very powerfully through small and sometimes simple changes in the use of voice.

Physical skills

A performer can use a variety of physical skills to communicate meaning. Depending on the production and type of character, a performer may choose to exaggerate the use of their body, making everything 'larger than life', or they may keep the actions small, controlled and subtle. Selecting the appropriate physical movement for a specific script is a skill but can be practised during rehearsals.

Blocking is the planning of where and when a performer goes on stage. It will often be decided by the director and stage manager. From this, the lighting and staging can be accurately designed and cued, ensuring that performers are lit appropriately and aren't hidden by any set or scenery.

Learning a text

Learning a script can be challenging, especially in early *rehearsals*, but there are ways of making the lines easier to remember. By experimenting with different methods of learning lines, a performer can select the techniques that they find most suitable for them.

- *Line run* - Line runs focus on simply running through the lines, without any acting, to help performers to practice and remember their lines. This process can assist the technical and design teams, as well as performers. It will identify if performers are engaged and 'acting' at all times, reacting to each other's lines as opposed to just waiting for their own.
- Listening to a script - Some performers prefer to record their own voices speaking the lines and then listen back to it. Others will record other characters' lines and leave spaces or pauses where their own lines would be, so they can practise remembering their own part.
- Drawing pictures - Being able to picture key lines through visual objects that relate to the dialogue can often help performers remember the order of their lines.
- Actioning - This requires a performer to add movement to the speech that helps them remember the order of events, and therefore their lines. This often happens naturally as a performer goes through rehearsals and movement or is added to the piece during *blocking*.
- Reading or writing - Some performers prefer to write out or speak their lines repeatedly. This process of repetition helps them to learn their lines as a grounding before they add movement.

Once on stage, a performer should always be acting, even if it is not their turn to speak, although it doesn't have to be large and noticeable to be effective. Performers should always be in role, even if they aren't playing a character - this is sometimes known as actor as demonstrator. Coming out of character, or out of role, is called *corpsing*.

Knowledge Organiser

Department: English
Year: 9
Topic: The Lord of the Flies
Term: 4-5

Overview	Context and Assessments
<p>Key Characters</p> <p>Ralph – Anglo Saxon word for council: leader, tall, rational, blonde hair. Piggy – nickname only (never learn his real name): glasses-wearing, asthma- suffering, low class, bullied. Jack – ‘one who takes over’ – tall, intimidating Simon – ‘one who listens’ – small, shy, ‘queer’, spiritual, black hair Roger – ‘one with a spear’ – secretive, sadistic, Jack’s sidekick SamnEric – twins, always together The Littluns – collective name of the younger boys</p> <p>Key themes:</p> <ul style="list-style-type: none"> • Democracy/dictatorship • Civilisation/savagery • Loss of innocence • Human nature • Good/evil <p>Plot Summary</p> <p>The Sound of the Shell – During WW2, plane carrying evacuees crashes on an island. Piggy (P) meets Ralph(R) and they find a conch shell. R made leader; Jack (J) made leader of hunters.</p> <p>Fire on the Mountain – Beastie first mentioned. Signal fire rages out of control and kills boy with birthmark.</p> <p>Huts on the Beach – P focuses on building shelter; J and choir prefer hunting. Simon (Si) disappears and finds peaceful, aromatic part of island.</p> <p>Painted Faces and Long Hair – J and others paint their faces – say it’s for camouflage but it actually reveals their savage identity.</p> <p>Beast from Water – beastie discussed. J starts to rebel against the rules/democracy.</p> <p>Beast from Air – Sam + Eric (S+E) mistake the parachutist for the beast</p> <p>Shadows and Tall Trees – The boys fight and separate. Storm begins.</p> <p>Gift for the Darkness – J sacrifices pig’s head to beast</p> <p>A View to a Death – Si thinks the head talks to him; it realises his paranoia. S killed by the boys.</p> <p>The Shell and the Glasses – P, S+E avoid talking about Si’s death. J and hunters steal P’s glasses</p> <p>Castle Rock – P+R go to get P’s glasses. P killed by Roger.</p> <p>Cry of the Hunters – R runs for his life. Fire engulfs the island and a naval officer comes to investigate. The boys are rescued.</p>	<p>Socio-Historical Context:</p> <ul style="list-style-type: none"> • The people of Britain had just been through the Second World War. In the novel, the boys seem to create their own war, suggesting that this is an aspect of human nature. • It was feared that there might be a nuclear war between Western countries and the Soviet Union. References to bombs and fighting are made throughout the novel. • Golding worked as a teacher in a boys’ school and said he understood young boys with ‘awful precision.’ • The class system was very much existent in Britain. Piggy stands out for being lower class; the others are upper class • Nazi Germany had adopted a system of rewarding the strong and attacking the weak. The same system appears to happen in the novel. • Food was still being rationed in Britain. Desire for food is a major part and motivation of LOTF. <p>Key Symbols:</p> <p>Conch – civilization and democracy Piggy’s glasses – science and technology Fire – hope of salvation The Beast – human nature (the desire to be a savage) The Lord of the Flies (pig’s head) – physical manifestation of the beast Adults – civilization and social order</p> <p>Religious allegory:</p> <p>The island - Garden of Eden The scar - how man destroys paradise (the Fall of Man) Simon- Jesus Christ</p> <p style="text-align: center;">Key assessment objectives and questions</p> <p>Part a question:</p> <ul style="list-style-type: none"> • Extract based question with a focus on analysis of language and structure. • Aim for 3 paragraphs. <p>Part b question:</p> <ul style="list-style-type: none"> • Comment on three moments elsewhere in the text (not in the extract), looking at the ‘big picture’. • Aim for 3 paragraphs. • Make reference to key themes, characters and plot developments.

Year 9 Terms Four + Five Knowledge Organiser

'To Kill A Mockingbird', Harper Lee

Key Terms and Definitions

Acquit – to find a defendant 'not guilty' or release the accused from the charges brought against him or her

Animosity – a feeling of hatred or hostility

Antidote – anything that counteracts or relieves a harmful or unwanted condition

Antithesis – the exact opposite; contrast

Apartheid – system of segregation in South Africa that existed until the 1900s

Appeal – to turn to a higher court to try to have a lower court's decision reversed

Aversion – a feeling of repugnance

Bias – a tendency towards prejudice

Bildungsroman – a novel concerned with a person's formative years and development

Circumstantial Evidence – less-than-direct evidence that requires a judge or jury to make an inference about its relationship to a case

Convict – to find or prove that someone is guilty of a crime

Contempt – the act of despising

Corroborating Evidence – evidence that adds to or supports existing evidence, strengthening a legal case

Defense Attorney – a lawyer whose job is to represent one accused of a crime and try to prove their innocence

Discrimination – an act of prejudice

Expunge – to erase a crime or wrongdoing from a criminal record

Felony – a serious crime for which the guilty party could receive at least a year in prison

Hung Jury – a jury whose members cannot agree on a verdict, typically leading to a mistrial

Impartiality – treating people equally

Indict – to formally accuse a person of a crime, based on evidence, before bringing him/her to trial

Justice – fairness and right action

Mindset – a fixed state of mind

Misdemeanour – a minor wrongdoing

Pigeonhole – to classify or restrict

Prejudice – an opinion formed beforehand, esp an unfavourable one; intolerance of or dislike for people of a specific race, religion, etc.

Prosecutor – a lawyer who produces evidence to prove the guilt of the person or persons accused of a crime

Respect – good feelings, consideration

Sympathy – unity, harmony, accord

Tolerance – act of allowing or admitting

Umbrae – a feeling of doubt or resentment

Xenophobia – fear or hatred of foreigners

Context

Harper Lee was an American author, whose modern, **semi-autobiographical**, Pulitzer Prize winning classic novel 'To Kill a Mockingbird' was published in **1960**. She was born in **Monroeville, Alabama** in 1926. In 1950s America, while Lee was writing the novel, the **Civil Rights Movement** was demanding desegregation and equality for black citizens.

Jim Crow laws – these were a collection of laws which **segregated** the African American population of America from 1896. This signposted a big step backwards in America although the **Emancipation Proclamation** freed the slaves in 1865 following the end of the Civil War.

Key Quotes

Atticus said to Jem one day, "I'd rather you shot at tin cans in the back yard, but I know you'll go after birds. Shoot all the bluejays you want, if you can hit 'em, but remember it's a sin to kill a mockingbird."

That was the only time I ever heard Atticus say it was a sin to do something, and I asked Miss Maudie about it.

"Your father's right," she said. "Mockingbirds don't do one thing but make music for us to enjoy. They don't eat up people's gardens, don't nest in corncribs, they don't do one thing but sing their hearts out for us. That's why it's a sin to kill a mockingbird." (p. 88)

Atticus: "You never really understand a person until you consider things from his point of view ... until you climb into his skin and walk around in it." (p. 32)

"Well, most folks seem to think they're right and you're wrong ..." (Scout)

"They're certainly entitled to think that, and they're entitled to full respect for their opinions," said Atticus, "but before I can live with other folks I've got to live with myself. The one thing that doesn't abide by majority rule is a person's conscience." (p. 101)

"Atticus told me to delete the adjectives and I'd have the facts." (p. 59)

Until I feared I would lose it, I never loved to read. One does not love breathing. (p. 21)

When he was nearly thirteen, my brother Jem got his arm badly broken at the elbow. (p. 1)

"There are just some kind of men who—who're so busy worrying about the next world they've never learned to live in this one, and you can look down the street and see the results."

Miss Maudie stopped rocking, and her voice hardened.

"You are too young to understand it," she said, "but sometimes the Bible in the hand of one man is worse than a whiskey bottle in the hand of—oh, of your father." (p. 46)

Scout: "No, everybody's gotta learn, nobody's born knowin'. That Walter's as smart as he can be, he just gets held back sometimes because he has to stay out and help his daddy. Nothin's wrong with him. Naw, Jem, I think there's just one kind of folks. Folks." (p. 212)

"He ain't company, Cal, he's just a Cunningham—"

"Hush your mouth! Don't matter who they are, anybody sets foot in this house's yo' comp'ny, and don't you let me catch you remarkin' on their ways like you was so high and mighty! Yo' folks might be better'n the Cunninghams but it don't count for nothin' the way you're disgracin' 'em—if you can't act fit to eat at the table you can just set here and eat in the kitchen!" (p. 28)

Aunt Alexandra was fanatical on the subject of my attire. I could not possibly hope to be a lady if I wore breeches; when I said I could do nothing in a dress, she said I wasn't supposed to be doing things that required pants. Aunt Alexandra's vision of my deportment involved playing with small stoves, tea sets, and wearing the Add-A-Pearl necklace she gave me when I was born; furthermore, I should be a ray of sunshine in my father's lonely life. I suggested that one could be a ray of sunshine in pants just as well, but Aunt said that one had to behave like a sunbeam, that I was born good but had grown progressively worse every year. She hurt my feelings and set my teeth permanently on edge, but when I asked Atticus about it, he said there were already enough sunbeams in the family and to go on about my business, he didn't mind me much the way I was. (p. 80)

Key Words	Key Learning Concepts/Facts
<ul style="list-style-type: none"> ➤ Adult literacy rate – the % of people aged 15 and over who can read and write a simple sentence. AC- Advanced countries – richer countries of the world mainly located in the western hemisphere. ➤ Aid – help given by richer countries to poorer countries. ➤ Agricultural economy – term for a country that depends mainly on farming. ➤ Birth rate – The number of live births for every 1000 years of the population per year. ➤ Brands (brand name) a name that shoppers recognise. ➤ Call centre – where people are employed to work all day long on the phone. ➤ Coltan – Coltan is a dull black metallic ore from which are extracted the elements niobium and tantalum, used in mobile phone manufacture. ➤ Colonies (colonisation) - the action or process of settling among and establishing control over the indigenous people of an area. ➤ Commodity exchange – a trading centre where commodities like coffee, cocoa, and sugar are bought and sold on the world market. ➤ Conurbation – a continuous built-up area where towns and cities have joined. ➤ Debt – what you owe. ➤ Development – a process of change for the better in a place; change that improves the quality of life for people. ➤ Development Gap - The development gap refers to the widening gap between the richest (most developed) and poorest (least developed) countries of the world. ➤ Development indicators - data used to compare how developed countries are. ➤ DRC – Democratic Republic of Congo a country located in Central Africa with lots of exploitable resources. ➤ Economic - to do with the economy, money and earning a living (jobs) ➤ Economic activity – work you get paid to do. ➤ Employment structure – tells what % of the workforce is in each employment sector (primary, secondary, tertiary, quaternary) ➤ EDC – Emerging Developing Country – a developing country that is showing signs of rapid economic development and progress from primary sector to secondary sector workforce. ➤ Exploitation - to make use of someone, in an unfair way, for profit. ➤ Globalisation – the way companies, technologies, ideas, lifestyles and cultures are spreading round the world. ➤ Interdependence – when countries work together and rely on each other for help. ➤ Fairtrade – where the producer of the goods gets a fair share of the profits. ➤ Fairtrade Foundation – The body that allows companies to use the Fairtrade logo. ➤ Free trade – when countries freely trade with each other, with no restrictions. ➤ HDI (Human development index) – a score between 0 and 1 to indicate how developed a country is; the higher the number, the better. ➤ GNI (Gross National Income) – the total amount earned in a year in a country (including money coming in from other countries), minus what it has to pay out to other countries. 	<ul style="list-style-type: none"> ➤ IMF (International Monetary Fund) – a fund set up by governments to make loans to countries, especially for trade. ➤ Industrial revolution - the period of history (around the 18th century) when many new machines were invented and many factories were built. A country shifts from Primary sector to Secondary in terms of employment structure. ➤ Infant mortality – the number of babies out of every 1000, born alive, who die before their first birthday. ➤ Interest rate – the charge for a loan usually given as a % of the loan. (e.g., 5% per year) ➤ LIDC – Low income developing country, a country that is often quite poor, has few services and a low standard of living. ➤ Millennium Development Goals – goals, agreed by world leaders, to reduce poverty in the world by the year 2015. ➤ Natural resources – resources that occur naturally, such as fertile soils. ➤ NGO (non-governmental organisation) – a non-profit organisation that operates independently of any government, typically one whose purpose is to address a social or political issue. ➤ PPP (purchasing power parity) – means a figure (such as GDP) has been adjusted to take into account that a dollar buys more in some countries than others ➤ Raw material – material that has not yet been processed; for example, cotton before it is woven into cloth ➤ Sustainable development – development that brings long term social, economic and environmental benefit ➤ Sweatshop – a factory where people work for long hours, for low pay. ➤ Third world a name sometimes used for the world's poorer countries, no longer used in polite geography company. ➤ TNC (trans-national corporation) – company with branches in many countries ➤ WTO – World trade organisation – set up to make trade between countries easier; over 150 countries belong to it ➤ WHO – World Health organisation – a part of the United Nations responsible for international public health. ➤ Bottom-Up- aid given at the local level, small scale improvements for the people, usually deployed by charities. ➤ Top-Down-aid at a large scale, usually through the government and supported by TNCs and IMF. More for the country as a whole than the people. ➤ Bilateral aid – from one country to another. ➤ Multilateral aid – from many countries to one. ➤ GDP – (gross domestic product) the total value of all the goods and services produced in a country in a year. ➤ GDP per capita – the GDP divided by the population: it gives you an idea of how wealthy people are, on average.

Weimar Republic 1890-23

Origins of the Republic

Near end of WWI Germany had lost 2m soldiers, 4m wounded, massive debt and facing food shortages. Kaiser Wilhelm (emperor) had lost control of the country - strikes and riots.

9/11/18 Kaiser abdicates (stood down), country becomes a republic. Ebert (leader of the SPD) appointed head of govt until a new constitution (rules for the country) written.

11/11/18 armistice, G surrenders.

Ebert tries to bring stability: make G people confident in the Republic, get support of army, trade unions and business. But extreme political parties not happy.

January 1919 elections for National Assembly. Gather in city of Weimar to produce Constitution of the Weimar Republic.

The Weimar Constitution

Strengths

V democratic; over 21s and women allowed to vote
Proportional representation - small parties (with +600,000 votes) get represented in parliament.
Power divided so no individual or group could have too much power: voters elected President; President chose Chancellor; Chancellor proposed laws, which had to be agreed by Reichstag (Parliament)

Weaknesses

Proportional representation meant lots of coalition govts (small parties agreeing to work together, but often arguments, so govt collapsed. 9 govts for 1919-23)
Article 48: in case of a crisis, Chancellor could pass any law without the agreement of Reichstag.
Several larger parties elected to Reichstag (nationalist and Communist) were opposed to democracy.

Early challenges (1919-23)

Weimar Republic always linked to surrender of WWI (this was unavoidable, but unpopular with German people) Forced to sign Treaty of Versailles (peace terms) in June 1919; imposed by GB, Fr and US. G had no say.

War guilt: G had to accept blame for the war

Reparations: G had to pay £6.6bn to allies.

Lost overseas colonies and pieces of land including Alsace Lorraine and Saar coalfields (to Fr), and Posen (to Poland). G lost 13% of land and 10% of population

G forced to reduce army to 100,000 troops, weakened navy, no air force.

Critics of the Treaty said that G had never actually lost the war - it was "stab in the back" of G by politicians who signed the Treaty. Reparations weakened the G economy, and made politicians seem weak.

Spartacist Revolt

1919 Spartacists (communists led by Rosa Luxembourg) called a general strike: +100,000 workers took to the streets, seized govt newspaper and telegraph offices. Weakened army could not stop the revolt, so Ebert ordered the establishment of Freikorps (units of former soldiers, +250,000); Freikorps crushed Spartacists, Luxembourg killed.

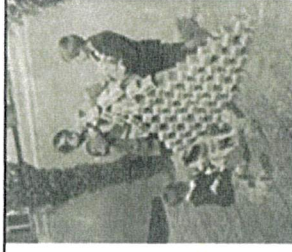
Kapp Putsch

By 1920, Ebert was struggling to control Freikorps. Led by Nationalist politician Wolfgang Kapp they took over Berlin. The Govt fled to Weimar and encouraged people to go on strike, which stopped the uprising, but made the govt look weak.

G struggled to pay reparations, as punishment Fr sent troops to Ruhr (industrial region of G). This massively weakened the G economy as Ruhr contained 80% of G iron, coal and steel. Resulted in more debt for G, higher unemployment, and shortages of goods.

Shortages meant that prices went up, so the govt printed more money. This led to hyperinflation. Price of bread: 1919 = 1 mark; 1923 200,000bn marks.

Hyperinflation meant normal life became much more difficult: even worse shortages, people with savings lost everything (though it was good news for people who had loans)



Nazi Party (1920-22)

Hitler recovering from gas poisoning 1919, sent to spy on tiny German Workers Party (DAP) led by Drexler. Hitler joined the party and within two years had taken over and changed it into the Nazi Party. 1920 wrote the party's 25 Point Programme. Mainly because of Hitler's personal appeal (v passionate persuasiveness) by end of 1920 party had 2,000 members. Changed name to National Socialist German Workers Party (NSDAP) - Nazi for short; began using swastika logo; set up party newspaper to spread ideas. July 1921 Hitler became party leader. He appointed key supporters Hess, Goering, Streicher and Rohm; also worked closely with General Ludendorff, leader of G army in WWI.

SA formed in 1921, led by Rohm; former soldiers created a private army. Known as Brownshirts, paraded on streets as a show of force, controlled crowds and opposition, often violently. Also disrupted opposition party meetings.

1922 Hitler took complete control of NSDAP, no more elections for leader, Hitler dictated all policy. By 1923 party membership +50,000.

Munich Putsch (Nov 1923)

Causes: "stab in the back" anger about Versailles / Weimar politicians; NSDAP strong support in Munich; copying Mussolini's fascist March in Rome; Hyperinflation; Ruhr invasion. German people v angry, so Hitler made bid for power.

8 Nov 1923, meeting of Bavarian Govt, led by Von Kahr, in Munich beer hall. Hitler and 600 SA troops burst in, announced he was taking over the state of Bavaria and would march to Berlin to overthrow Weimar govt.

Rohm and SA captured local police and army HQs, but Ludendorff released the 3 Bavarian leaders. Became clear that local politicians and people did not support the uprising. Shooting in town square: 14 Nazi supporters and 4 policemen killed, Hitler wounded. Hitler and Nazi leaders arrested.

Consequences: Hitler and Nazi leaders found guilty of treason, sent to prison. NSDAP banned (until 1925); Hitler realised needed a new strategy - violent uprising failed, so needed to win power through election; Wrote Mein Kampf - book of his political ideas - in Landsberg Prison; gained lots of publicity from trial.

Key words

Anyan - the master race who Nazi believed should dominate lesser races.

Mein Kampf - Hitler's book about his political beliefs

SA - "brownshirt" private Nazi army, led by Rohm.

SS- Hitler's elite personal bodyguards, led by Himmler.

Stab in the back - idea that the Weimar politicians let down the German people by signing Treaty of Versailles

Key words

Abdicate - when an emperor / king stands down from the role.

Chancellor - the leader of the German Parliament

Constitution - set of rules for running a country.

Kaiser - emperor of Germany until the end of WWI

Putsch - political uprising

Reparations - new German currency introduced 1923.

Reparations - money that G had to pay the allies for damage done in WWI.

Republic - a country ruled by a parliament, not a king/emperor

Ruhr - industrial area of Germany

Year 9 Knowledge Organiser

Make sure to read the pages that relate to the topic you're studying. To help you remember the key points, you can copy, say, cover and check. Once you think you have learnt the key knowledge, use the Knowledge Retriever book to test yourself. Look at the next page to see how to use the knowledge retriever book.

Term	Knowledge Organiser Book Pages	Knowledge Retriever Book Pages
1	Simple direct & inverse proportion	31-32
	Linear simultaneous equations	19-20
	Sequences (linear, geometric, quadratic)	16
	Factorising quadratics	13
	Indices (fractional)	9
2	Trigonometry - SOH CAH TOA	48
	Similar triangles	39
	Recurring decimals to fractions	6
	Enlargements & combination of transformations	40
3	Surds	11
	Solving quadratics	13
4	Plans and elevations	42
	Loci & constructions	44-46
	Inequalities (number line & solving)	17
5	Recap GCSE Percentages	33-34
	Units & conversions	35
	Circle theorems	38
	Arcs and sectors	41
6	Probability (tree diagrams)	53-56
	Loci & constructions	44-46
	Solving using the quadratic formula	13-14
	Solving by completing the square	14
	Sketching quadratic graphs	25

How to Use This Book

Every page in this book matches a page in the Higher GCSE Maths **Knowledge Organiser**. Before using this book, try to **memorise everything** on a Knowledge Organiser page. Then follow these **seven steps** to see how much knowledge you're able to retrieve...

1 In this book, there are two versions of each page. Find the **'First Go'** of the page you've tried to memorise, and write the **date** at the top.

2 Use what you've learned from the Knowledge Organiser to **fill in** any dotted lines or white spaces. You may need to draw, complete or add labels to tables, graphs and diagrams too.

3 Use the Knowledge Organiser to **check your work**. Use a **different coloured pen** to write in anything you missed or that wasn't quite right. This lets you see clearly what you **know** and what you **don't know**.

4 After doing the First Go page, **wait a few days**. This is important because **spacing out** your retrieval practice helps you to remember things better.

5 Now do the **Second Go** page. The Second Go page is harder — it has more things missing.

6 Again, check your work against the Knowledge Organiser and **correct it** with a different coloured pen. You should see some **improvement** between your first and second go.

7 **Wait** another few days, then try to recreate any methods, formulas, tables or diagrams from the Knowledge Organiser page on a **blank piece of paper**. You can also have a go at any **example questions**. If you can do all this, you'll know you've **really learned it**.

There are also **Mixed Practice Quizzes** dotted throughout the book:

- The quizzes come in sets of four. They test a mix of content from the previous few pages.
- Do each quiz on a **different day** — write the date you do each one at the top of the quiz.
- Tick the questions you get right and record your score in the box at the end.

Year 9 Term 5 KO

Mes droits
 j'ai le droit de/d' ...
 aller au Macdo avec mes copains
 aller sur des forums
 aller sur Facebook
 jouer à des jeux vidéo
 regarder la télé jusqu'à 11 heures du soir
 sortir avec mes copains le weekend
 sortir seul(e)
 surfer sur Internet une heure par jour

My rights
 I am allowed to ...
 go to McDonald's with my friends
 go onto forums
 go on Facebook
 play video games
 watch TV until 11 pm
 go out with my friends at the weekend
 go out by myself
 surf the net for one hour per day

Les conditions
 si j'ai aidé à la maison
 si j'ai fini mes devoirs
 si j'ai mon portable sur moi
 si je rentre avant dix heures du soir
 si je veux
 si mes parents savent avec qui je suis
 si mes parents savent où je vais

Conditions
 if I have helped around the house
 if I have finished my homework
 if I have my phone on me
 if I get back before 10 pm
 if I want
 if my parents know who I am with
 if my parents know where I am going

Les réactions
 Mais ce n'est pas juste!
 C'est tout à fait normal.
 Ce n'est pas du tout normal.
 C'est fou!
 On te traite comme un enfant.
 Mais révolte-toi!
 Tes parents exagèrent!

Reactions
 But it's not fair!
 That's quite right.
 That's not right at all.
 That's crazy!
 They are treating you like a child.
 Rebel!
 Your parents are going too far.

Les expressions avec avoir
 avoir envie de
 avoir faim
 avoir le droit de
 avoir raison
 avoir soif
 avoir tort
 en avoir marre de

Expressions with avoir
 to want to
 to be hungry
 to be allowed to (literally: to have the right to)
 to be right
 to be thirsty
 to be wrong
 to be fed up of

Qu'est-ce qui est important pour toi dans la vie?

Ce qui est important pour moi, c'est ...

Qu'est-ce qui te préoccupe dans la vie?

Ce qui me préoccupe, c'est ...

l'argent (m)

la cruauté envers les animaux

l'état de la planète

mes études (fpl)

la faim dans le monde

l'injustice (f)

la musique

la pauvreté dans le monde

ma santé

la violence

le racisme

Qu'est-ce que c'est pour toi, le bonheur?

Qu'est-ce qui te rend heureux/heureuse?

Ce qui me rend heureux, c'est de/d' (+ infin)

Ce qui me rend heureux, c'est le/la/les (+ noun)

Le bonheur, c'est quand ...

accro

l'amitié (f)

apprécier

déprimé(e)

décédé(e)

oublier

rester au lit

réussir

se retrouver

se sentir

rigoler

au lieu de

avant tout

être d'accord

franchement

malheureusement

malgré

What is important for you in life?

What is important for me is ...

What worries you in life?

What worries me is ...

money

cruelty to animals

the state of the planet

my studies

hunger in the world

injustice

music

poverty in the world

my health

violence

racism

What does happiness mean for you?

What makes you happy?

What makes me happy is to ...

What makes me happy is ...

Happiness is when ...

hooked

friendship

to appreciate

depressed

passed away/deceased

to forget

to stay in bed

to succeed

to meet up

to feel

to have fun

instead of

above all

to agree

frankly

unfortunately

in spite of

Year 9 Spanish Term 5 KO

Hispanoamérica

El Caribe	The Caribbean
Centroamérica	Central America
Norteamérica	North America
Sudamérica	South America
México	Mexico
Panamá	Panama
Perú	Peru
República Dominicana	Dominican Republic
este país se llama...	this country is called...
está en ...	it is in...
¿Cómo se llama la capital de...	What is the capital of...called?
la capital se llama...	the capital is called...
¿Cuántos habitantes tiene...?	How many inhabitants has...?
tiene...millones de habitantes	it has ... million inhabitants

En nuestra ciudad hay...	demasiado tráfico
	mucha basura
	muchas fábricas
No hay espacios verdes	
El tráfico causa mucho ruido	
Mucha gente usa el carro todos los días	
¿Qué deberíamos hacer para proteger el medio ambiente?	
Deberíamos...	
	comprar productos verdes
	consumir menos energía
	plantar más árboles
	reciclar papel y vidrio
	reducir la contaminación
	usar más el transporte público
No deberíamos...	
	malgastar agua
	tirar basura al suelo

In our city there's...	too much traffic
	a lot of rubbish
	a lot of factories
There are no green spaces	
The traffic makes a lot of noise	
A lot of people use the car every day	
What should we do to protect the environment?	
We should...	
	buy green products
	consume less energy
	plant more trees
	recycle paper and glass
	reduce pollution
	use public transport more
We shouldn't...	
	waste water
	drop litter on (at) the floor

Hay...	
montañas	mountains
volcanes	volcanoes
un desierto	a desert
una llanura	plain
el río Amazonas	the River Amazon
la selva amazónica	the Amazonian forest/jungle
La geografía es...	The geography is...
Los productos principales son	The main products are
el café	coffee
el petróleo	oil/petroleum
la caña de azúcar	sugar cane
la fruta	fruit

me despierto	I wake myself up
me levanto	I get myself up
me ducho	I shower myself
me visto	I dress myself
desayuno	I breakfast
me lavo los dientes	I wash myself the teeth
me peino	I brush myself (hair)
salgo de la casa	I leave the house
voy a la escuela/al trabajo	I go to the school/to the work
llego a la escuela/al trabajo	I arrive at the school/at the work
trabajo	I work
como	I eat
vuelvo de la escuela/del trabajo	I return from the school/the work
ceno	I dine
me relajo	I relax myself
me acuesto	I go myself to bed
tarda	it takes

Hay – there is/are	
Había - there was/were	
ojalá (no) hubiera - I wish there was (not)	
Debemos – we must	
Deberíamos - we should	
A pesar de eso – in spite of this	
Ser pan comido – to be easy	
Me da rabia – it infuriates me	



Key Words	Topics	Essential knowledge
<p>Festival: A Day or period of celebration for religious reasons.</p> <p>Easter: A religious season celebrating the resurrection of Jesus from the dead.</p> <p>Christmas: The day commemorating the Incarnation, the birth of Jesus.</p> <p>Church: The holy people of God, also called the body of Christ. Also means the building in which Christians worship.</p> <p>Agape: A word in the Bible that describes selfless or unconditional love.</p> <p>Mission: The vocation or calling of a religious organisation or individual to go out into the world and spread their faith.</p> <p>The Great Commission: Jesus' instruction to his followers to spread his teachings.</p> <p>Missionary: A person sent on a religious mission, especially to promote Christianity in a foreign country through preaching or charitable work.</p> <p>Evangelism: Spreading the Christian gospel by public preaching or personal witness.</p> <p>Convert: Someone who has decided to become committed to a religion and change his or her religious faith.</p> <p>Reconciliation: The restoring of harmony after relationships have broken down.</p> <p>Persecution: Hostility and ill-treatment, especially because of race, or political or religious beliefs.</p>	<p>Festivals: Festivals help Christians to remember and celebrate the major events in their religion. Christmas the birth of Jesus and Easter Jesus' resurrection from the dead. Christmas commemorates the incarnation of Jesus. Easter celebrates the rising of Jesus from the dead.</p> <p>The role of the church in the local community: Food banks and Street Pastors: Individual churches and the church as a whole help the local community in a variety of ways. Such as food banks and street pastors.</p> <p>Individual churches help to educate people, provide activities for younger children, provide meeting places. The Church, help support local projects, provide social services such as schooling and medical care, they help those in need, and campaign for justice.</p> <p>Individual Churches: Educate people about Christianity, meeting places for prayer and worship, provide activities for younger children such as youth clubs. Food banks, provide food for free to people who cannot afford to buy it, examples of foodbanks: The Trussell Trust and The Oasis Project. Street Pastors are trained to patrol the streets in urban areas. They help people by providing a reassuring presence on the street. This is done as Jesus taught to help others and show agape love.</p> <p>The Place of mission and evangelism: Christians do this to spread the faith. To fulfil Jesus' instructions to the disciples to spread his teachings. Mission spreading the gospel, Evangelism telling others about Jesus and the Great commission Jesus' instructions. Alpha is an example of evangelism in Britain.</p> <p>Church Growth: A third of the world's population claim to be Christian and around 80,000 people become Christians each day. Christ for all Nations is an example of a Christian organisation that promotes evangelism.</p> <p>The importance of the worldwide Church: The worldwide Church has a mission to restore people's relationship with God and with one another. The Church therefore plays an important role in reconciliation. Examples of organisations working for reconciliation are The Irish Churches Peace Project and The World Council of Churches as well as The Corrymeela Community.</p> <p>Christian Persecution: Christians have faced persecution from the beginning of the Church and Christians are still persecuted worldwide today. For some Christians persecution can have a positive effect, it can strengthen their faith, allow them to share in Jesus' suffering. The Church helps those in persecution through prayer, practical help and financial support, by raising awareness and campaigning.</p> <p>The Church's response to world poverty: Christian charities follow the example and teaching of Jesus in working to relieve poverty. Christians believe they should show Jesus to the world through helping the disadvantaged. Three Christian charities that help the poor are Christian aid, Tearfund, and CAFOD.</p>	

Key Words		Key Learning Concepts/Facts
Osmosis	The diffusion of water molecules through a partially permeable membrane, from a dilute solution to a concentrated solution	<p>Diffusion</p> <ul style="list-style-type: none"> Diffusion is the spreading out of the particles resulting in a net movement from an area of higher concentration to an area of lower concentration. It is a passive process as no energy is required. The molecules have to be small in order to be able to move across, for example oxygen, glucose, amino acids and water, but larger molecules such as starch and proteins cannot. <p>Osmosis</p> <ul style="list-style-type: none"> Osmosis is the movement of water from a less concentrated solution to a more concentrated one through a partially permeable membrane. A dilute solution of sugar has a high concentration of water (and therefore a high water potential). A concentrated solution of sugar has a low concentration of water (and therefore a low water potential). Water moves from a dilute solution to a concentrated solution because it moves from an area of high water potential to low water potential – down the concentration gradient. <p>Active transport</p> <ul style="list-style-type: none"> Active transport is the movement of particles from an area of lower concentration to an area of higher concentration, i.e. against the concentration gradient. This requires energy from respiration as it is working against the gradient, which is why it is called active. <p>Mitosis</p> <p>Mitosis is a type of cell division where one cell divides to form two identical daughter cells. The cell cycle is a series of steps that the cell has to undergo in order to do this. Cell division by mitosis in multicellular organisms is important in their growth and development, and when replacing damaged cells. Mitosis is also a vital part of asexual reproduction, as this type of reproduction only involves one organism, so to produce offspring it simply replicates its own cells.</p> <p>Specialised cells</p> <ul style="list-style-type: none"> Cells specialize by undergoing differentiation: a process that involves the cell gaining new sub-cellular structures in order for it to be suited to its role. Cells can either differentiate once early on or have the ability to differentiate their whole life (these are called stem cells). In animals, most cells only differentiate once, but in plants many cells retain the ability. <p>Characteristics of stem cells</p> <ul style="list-style-type: none"> A stem cell is an undifferentiated cell which can undergo division to produce many more similar cells. Some of these will differentiate to have different functions. They are important in development, growth and repair <p>Types of stem cells</p> <ol style="list-style-type: none"> Embryonic stem cells Adult stem cells Meristems in plants
Water potential	A measure of the amount of water particles in a solution	
Partially permeable membrane	A membrane that allows some small molecules to pass through but not larger molecules	
Mitosis	Cell division that results in genetically identical diploid cells	
Stem cells	Unspecialised body cells that can develop into other, specialised, cells that the body needs	
Differentiation	When cells gain certain features needed for their functions; they become specialised	
Organ	Group of tissues that carries out a specific function	
Organ systems	Arrangement of organs in the body according to function	
Specialised cells	When cells or tissues become adapted to carry out their special functions	
Meristems	Regions at tips of roots and shoots where cell division and elongation takes place	
Active Transport	Movement of a solute against a concentration gradient	
Embryonic stem cells	Form when an egg and sperm cell fuse to form a zygote AND can differentiate into any type of cell in the body	
Adult stem cells	If found in bone marrow they can form many types of cells (not any type, like embryonic stem cells can) including blood cells	
Meristems in plants	Found in root and shoot tips and can differentiate into any type of plant	

Knowledge Organiser

Year 9 - Topic 6.3 Interpreting and interacting with Earth systems – Key Terms

CHEMISTRY

- **absorb:** take in.
- **acid rain:** rain that has a lower pH than normal and can cause damage to materials and organisms. Caused by dissolved gases such as sulphur dioxide and/or nitrogen oxides.
- **aerobic:** in the presence of oxygen.
- **alternative energy:** energy obtained from sources other than fossil fuels, for example; solar, wind, geothermal energy.
- **anaerobic:** in the absence of oxygen.
- **carbon capture and storage (CCS):** a process where carbon dioxide is removed from the emissions of a power station or factory and deposited underground so that it does not enter the atmosphere.
- **carbon neutrality:** a scheme where a product or activity adds no additional carbon dioxide to the atmosphere, usually by planting trees that would take in the amount of carbon dioxide the product or activity would release.
- **carbon off-setting:** a scheme involving tree planting (reforestation) to remove carbon dioxide from the atmosphere to lower the carbon footprint for an individual or a company or any one activity or group of activities undertaken by them.
- **carbon footprint:** the total amount of carbon dioxide added to the atmosphere over the life span of an event, product, person, company, group or nation.
- **composition:** a description of what something is made up from.
- **deforestation:** large-scale chopping down trees, often to clear land for farming or construction. Has the effect of reducing the amount of CO₂ removed from the atmosphere by photosynthesis.
- **distillation:** evaporation followed by condensation, used to separate and collect a liquid from a mixture.
- **global dimming:** when sunlight is blocked out by particles suspended in the air.
- **greenhouse effect:** term to describe how gases like carbon dioxide 'trap heat' in the atmosphere.
- **incomplete combustion:** when a fuel burns in a limited supply of oxygen and so different products are formed, for example hydrocarbons produce a mixture of soot and carbon monoxide as well as carbon dioxide and water.
- **particulates:** solid pieces of material ranging in size but typically in the micrometer range, usually referring to pollutants like soot, ash and unburned hydrocarbons as well as dust.
- **photosynthesis:** a chemical reaction that occurs in organisms such as green plants and phytoplankton that uses energy from the Sun to react carbon dioxide and water together to form glucose and oxygen.
- **pollutant:** an unwanted substance added to the environment that has a negative effect.
- **potable:** safe to drink.
- **respiration:** the chemical reaction that releases energy in an organism; can be aerobic, for example reacting glucose with oxygen and producing carbon dioxide and water, or anaerobic.
- **reverse osmosis:** a process where high pressure is used to force water to move against natural osmosis so that purer water can be obtained from impure water such as sea water.
- **sedimentation:** the process by which small particles settle at the bottom of a liquid.
- **toxic:** a poisonous substance; a chemical that has a negative effect on a living organism.

Knowledge Organiser

Department: Physics

Topic: Magnetism

Key Words		By the end of this unit you will need to be able to: (page numbers relate to the textbook available on teams)
A current or magnet that can be created by the use of magnetic fields	Induced	Know what is meant by the poles of a magnet and be able to plot the magnetic field around a bar magnet. P140-141
Electric current that continually changes direction	Alternating current	Describe magnetic materials and what induced magnetism is. P141
A region where there is a force on magnetic materials or current-carrying wires	Magnetic field	Describe the Earth's magnetic field and how the magnetic and geographic poles are not the same. P142
Useful output energy transfer divided by the total energy input	Efficiency	Understand the magnetic effect of a current and be able to draw the magnetic field around a conducting wire and a solenoid. P143 and 144
Device that creates electricity when a wire is moved so that it cuts magnetic field lines	Generator	Describe the force on a wire in a magnetic field. P145
Device that increases an alternating potential difference from the primary to secondary coil	Step-up transformer	Understand and be able to use Fleming's left-hand rule P145
A material that is magnetic only when it is placed in the magnetic field of another magnet	Induced magnet	Know the meaning of magnetic flux density and calculate the force on a wire in a magnetic field. P146-147
Device in a d.c motor that allows the motor to spin without reversing direction	Split-ring commutator	Describe the motor effect and how a motor works. P150-151
When a force between two objects draws them closer together	Attracts	Know the factors that can change the speed and direction on a motor. P150-151
Object or material that produces its own magnetic field	Permanent magnet	Explain how a dynamo generates direct current. P151
A device that produces a direct current from the rotation of a coil in a magnetic field	Dynamo	Know how transformers work, and the difference between step-up and step-down transformers. P152-153, 280-281
A coil of current-carrying wire that generates a magnetic field	Solenoid	Explain how an alternator generates alternating current. P153
Device that decreases an alternating potential difference from the primary to secondary coil	Step-down transformer	Describe how a potential difference is induced in a wire when it moves in a magnetic field and the factors that affect the size and direction of the current or induced potential difference. P148-149
Relationship where one variable increasing at the same rate as the other	Proportional	Describe how both a loudspeaker and microphone work and compare loudspeakers and headphones. P154-155
Interaction between a magnetic field and a current-carrying wire that causes the wire to move	Motor effect	Equations for this unit – you will not be expected to know these but will be given them in the exam
A device where a coil rotates in a magnetic field to produce A.C.	Alternator	force on a conductor (at right angles to a magnetic field) carrying a current = magnetic field strength x current x length
Network of cables that links power stations to consumers across the country	National grid	potential difference across primary coil x current in primary coil = potential difference across secondary coil x current in secondary coil
Unit of magnetic flux density	Tesla	$\frac{\text{potential difference across primary coil}}{\text{potential difference across secondary coil}} = \frac{\text{number of turns on primary coil}}{\text{number of turns on secondary coil}}$
Device that converts electrical energy to kinetic	Motor	
The amount of magnetic flux in a given area	Magnetic flux density	

WGSB Year 9 Academic Merits

	BRONZE	SILVER	GOLD
Life Programme	3	5	8
Art, Computer Studies, Drama, Music, RS	8	10	12
Geography, History, Biology, Chemistry, Physics	10	15	20
DT, French, Spanish, PE	20	25	30
English, Maths	30	40	50