Learning: The Ruskin Way

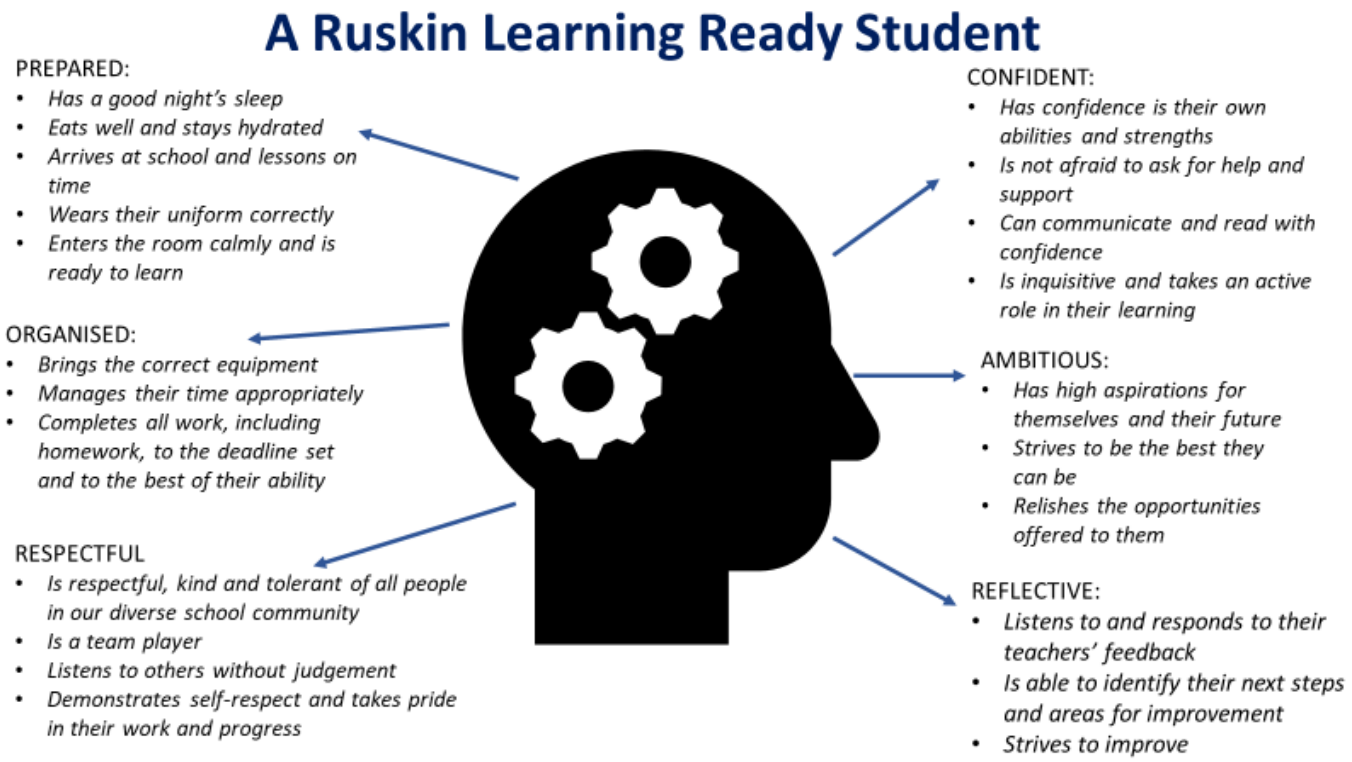
At Ruskin all students to **learn together** and **achieve high standards**. Students follow our **Core Values** to become a **Ruskin Learning Ready Student**.

RESPECT: A Ruskin Learning Ready student is **respectful** towards peers, teachers, support staff and visitors. Within our diverse school community, they demonstrate **kindness** and **tolerance**. They show **self-respect** by striving to be the best they can be and by being **organised** and **prepared** to learn.

HIGH ASPIRATIONS: A Ruskin Learning Ready student is **ambitious** both inside and outside of the classroom. They **love to learn** and appreciate all of the **opportunities** offered to them. Because of their high aspirations, they **strive** to be the **best** that they can be.

CONFIDENCE: A Ruskin Learning Ready student is **confident** in their **abilities** and **strengths**. They are **not afraid** to make mistakes and will **ask questions**. They take an **active role** in their learning and demonstrate **independence**.

WE ARE A COMMUNITY: A Ruskin Learning Ready student **works well** with others and is a **team player**. They **care** for others and are proud to be part of the **Ruskin community**.

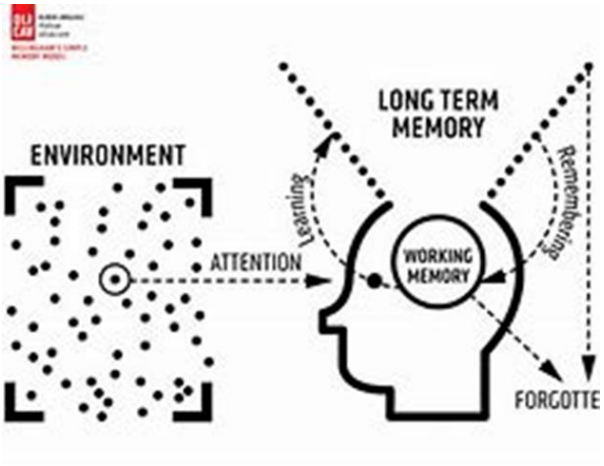


Independent Learning at Ruskin

Independent Learning is all about helping you to build on the knowledge that you learn in class so that you **know more**, **remember more**, and **can do more**. This means you will experience lasting changes in your **long-term memory**, and develop a deep understanding of what you cover in class.

When you have truly learnt something, you can:

- Remember it later
- Understand how it connects to other things you know
- Explain it in detail
- Apply it to different situations



Quiz It, Map It, Link It is a structured programme of **independent learning** and **revision activities** that will help you to do all of the above. By using your **Core Knowledge Questions Booklet** in multiple different ways, you will go from simply memorising the facts, to really understanding them, and being able to use the knowledge much more **confidently** and **effectively**.

Our Core Values:

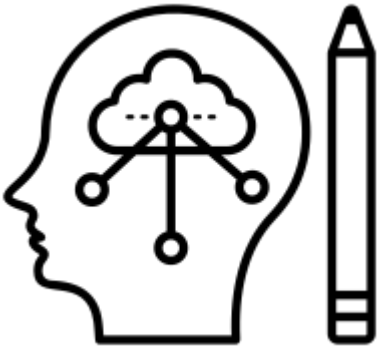
We want you to feel **confident** with the **new knowledge** that you acquire and you should feel **assured** about how best to learn this **new knowledge**. Your **Core Knowledge Questions Booklet** and **Quiz It, Map It, Link It** will help with this.

We want you to be the **best that you can be** and to **"think big"** for yourselves. By using your **Core Knowledge Questions Booklet** and **Quiz It, Map It, Link It,** you will demonstrate a **positive attitude to learning**, and also push yourself to reach your **goals**.

We want you to have **self-respect** and understand the important of working **independently**. Completing **Quiz It, Map It, Link It** activities highlights your ability to recognise your **strengths** and also **areas for development**.

Our Evidence-Informed Independent Learning and Revision Strategies

Quiz It – what can you remember about your Core Knowledge Questions? What more do you learn and remember?



Map It – use mind maps to create revision resources. These can then be used to learn the core knowledge.

Link It – what other subjects/topics that you have studied does this knowledge link to? Why and how does it link?

Independent Learning: How to Quiz It

Quiz It – what can you remember about your Core Knowledge Questions? What more do you learn and remember?

How you use this strategy depends on whether you are **rehearsing** (the information is new to you) or **retrieving** (trying to recall knowledge you have already learnt) The majority of your Quiz It work should be **Retrieval Practice** as this will help you to **remember more**.

Step 1: **LOOK**

- Pick a subject/topic and read over the Core Knowledge Questions (you may not pick all of them from one subject/topic depending on what you have learnt already).
- You may need to re-read.
- Copy out the questions on a blank template.

Step 2: **COVER**

- Turn over your Core Knowledge Questions or cover up them up.

Step 3: **WRITE**

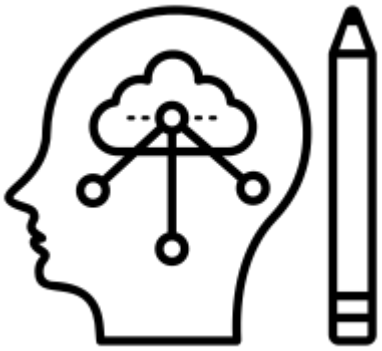
- On your blank template, write in the answers.
- Use black or blue pen.

Step 4: **CHECK**

- Uncover the answers.
- Using green pen, check your answer.
- Tick every correct item and correct any mistakes – this is the most important part of the process.

Step 5: **REPEAT**

- Complete the process again for any questions that you got wrong.
- Add more questions to your blank template and complete the process again.



Independent Learning: How to Map It

Map It – use mind maps to create revision resources. These can then be used to learn the core knowledge.

Step 1: Identify the knowledge

- Pick a topic that you wish to revise. This will go in the centre of your mind map.
- Have your Core Knowledge Questions ready.

Step 2: Identify the Core Knowledge Questions

- These questions will become the main branches of your mind map.
- Write out the questions carefully and leave space around them.

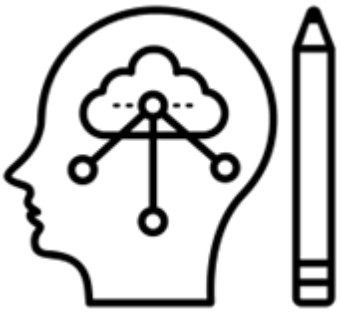
Step 3: Branch Off

- Branch off your Core Knowledge Questions with the answers.
- Copy the answers carefully.

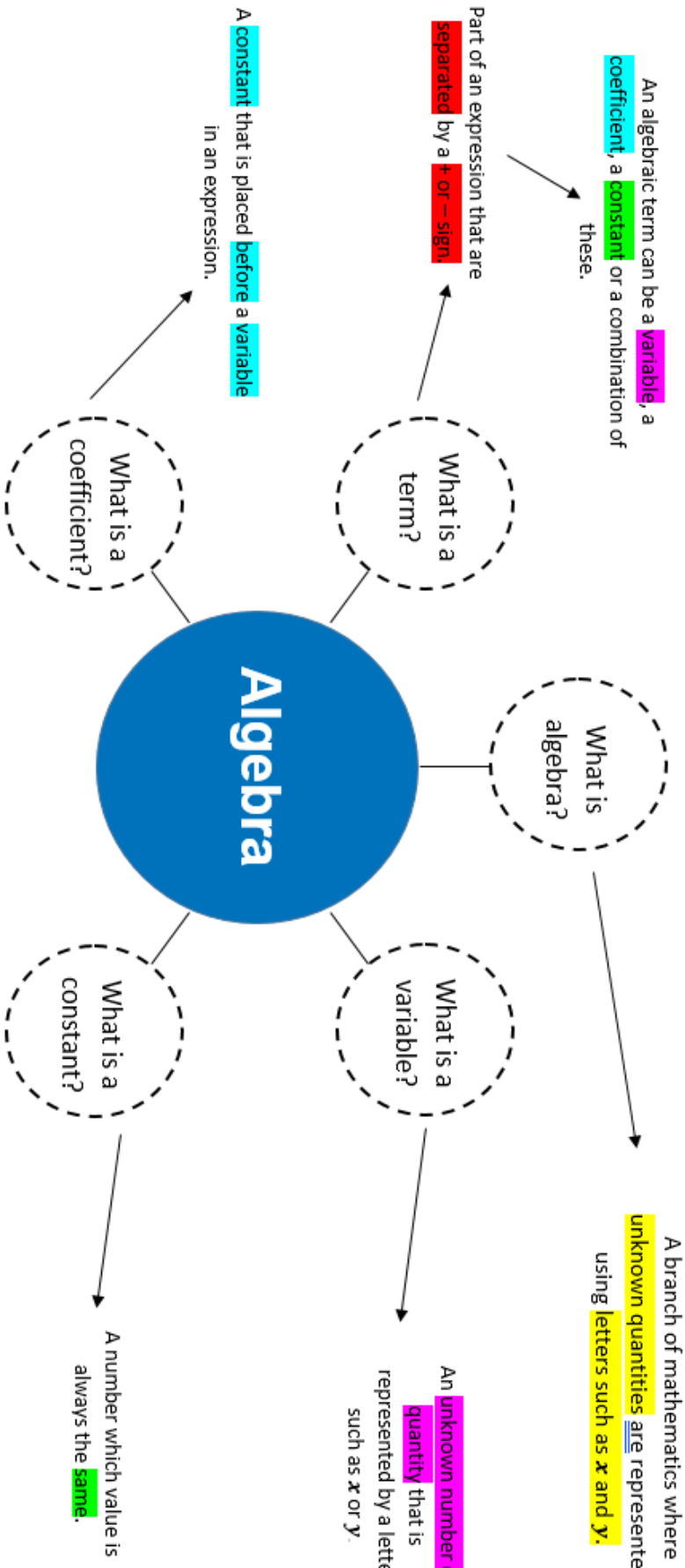
Step 4: Use Images and Colour

- Use images and colour to help answers stick in your mind.
- Highlight the key words that you need to remember.

Give yourself plenty of space to write the Core Knowledge Questions and the answers. You need to be able to visualise the information when you are trying to recall it.



MAP IT EXAMPLE



Independent Learning: How to Link It

What other subjects/topics that you have studied does this knowledge link to? Why and how does it link?

- **Choose 2 Core Knowledge Questions from a specific topic.**
- **Write three sentences to show how these link to other topics that you have studied. Don't forget that these topics could be from different subjects and/or from learning that you did in a previous year.**
- **Use the Link It proforma to answer the two questions (using all of your knowledge) and also how they link together.**

You could:

Compare and Contrast:

- X is similar to/different from Y because…
- X is more/less…than Y because…
- In a similar way to X, Y is…
- In a different way to X, Y is…

Cause and Effect:

- X happens because of Y…
- X and Y work together because…
- X happens because…

Support/Refute:

- X supports the ideas of Y because…
- X refutes the ideas of Y because…

LINK IT EXAMPLE

What is Photosynthesis?

Photosynthesis is the chemical reaction that makes glucose (the plant's food) using light energy. The reaction occurs between carbon dioxide gas from the air absorbed by the leaves and water which is absorbed through the roots. Glucose is made in the leaves and oxygen is released back into the air as a bi product.

The link between them is that water is a necessary for both the process of photosynthesis and transpiration is the constant stream of water moving through the plant from roots to leaves.

What is Transpiration?

Transpiration is the loss of water from the plant as it moves into the roots, up the stem to the leaves for photosynthesis. Some water is lost through the leaves, by the stomata or pores by evaporation.

LINK IT EXAMPLE

Who is Scrooge?

Scrooge is a misanthropic miser whose obsession with money has corroded the important relationships in his life. At the start of the text, he is "solitary as an oyster". However, through his journey with the spirits he metamorphizes into a benevolent character. Through Scrooge, Dickens highlights our ability to change our worldview and shines a light on the importance of sharing

The link between Mr. Birling and Scrooge is that they both represent negative aspects of humanity—selfishness, greed, and a lack of empathy—but they differ in their responses to these characteristics. Scrooge ultimately experiences redemption and personal growth, while Mr. Birling's character serves as a critique of those who prioritise their own interests over social responsibility.

Who is Mr Birling?

Mr. Birling is a capitalist who holds conservative views. Despite his wealth, Mr. Birling is depicted as an insensitive and callous character. He is dismissive of the concerns of the working class. Mr. Birling's character is a representation of the narrow-mindedness and lack of social responsibility that Priestley criticises in the play. Through his character, Priestley explores themes of social inequality, responsibility, and the interconnectedness of individuals in society.

Year 10 Core Knowledge Questions

ART

1	What is a natural form? *(Theme)*	A natural form is something organic and not manmade.
2.	Can you give some examples of natural forms? *(theme)*	Shells, trees, flowers, fruit, vegetables, crabs, sand dunes, flames, sunset, poppy head, plants, fish, twigs.
3	What is a tonal study? *(AO3)*	A study that uses a range of shading with light and dark areas to show form.
4	What is form? *(general)*	Form is a 3D shape. It can be expressed in 3D or using tone to create the illusion of 3D. (length, width and depth)
5	What is a continuous line drawing? *(AO3)*	A line drawing produced without ever lifting the pen or pencil off the paper.
6	What is an observational drawing? *(AO3)*	Drawing from looking at something (not from imagination.
7	What is primary observation? *(AO3)*	Drawing directly from looking at objects in front of you.
8	What is secondary observation? *(AO3)*	Drawing from looking at images of objects.
9	what are the 7 visual elements of art? *(general)*	Line, tone, shape, space, form, texture, colour
10	How could you use the 7 visual elements of art in your work? *(general)*	• Line- through exploring lines as a contour (outline), sketching. Lines can be used to give the impression of different textures and tones, as well as simply showing where the edge of an object meets space. • Tone – exploring the light and dark areas of work. • Shape – creating and exploring organic and geometric shapes within work. Using shapes to create patterns in a regular or irregular way. • Space – considering the composition of work to show depth of perspective, or thinking about both the positive and negative space. • Form – creating the illusion of 3D or creating in 3D. • Texture – using mark making, collage or paint application to create an illusion or actual texture to the surface. • Colour – consider contrasts, show emotion, look at colour harmonies, set a tone or mode.
11	What presentation skills are needed? *(general)*	• Considered space and layout. • Neat and well written information. • Cutting skills demonstrated • Creative font or titles

		• Considered and appropriate embellishments and backgrounds.
12	What does refinement mean? *(AO2)*	Refinement is the improvement of the idea. It does not involve radical changes, but it is about making small changes which improve the idea in some way.
13	What is composition and why is it important? *(General)*	The placement or arrangement of the formal elements of art. It is important because it impacts on what viewer sees.
14	What is mark making? *(AO3)*	Mark making describes the different lines, dots, marks, patterns and textures we create in an artwork. It can be loose and gestural, or controlled and neat.
15	What are x4 mark making techniques? *(AO3)*	Stippling, hatching, cross hatching, scrumbling, blending, continuous line,
16	What are the three main components of A01 that help develop your ideas? *(AO1)*	Mind maps, mood/visual image board, artist research.

BTEC SPORT – LEARNING AIM A

1	Name the three types of sport and physical activity?	Sports – competitive activities that involve physical exertion, have rules and regulations and a National Governing Body Team sports Individual sports
2	List 3 benefits of taking part in sport?	Improve fitness, meet new people, develop leadership skills, learn team work skills, resilience and self-confidence from competition.
3	Explain what outdoor activities are?	Activities carried out outdoors or in recreation areas that are adventurous.
4	List 3 benefits of taking part in outdoor activities?	Positive risk-taking activities, improved self confidence and self-esteem, meet new people, learn new skills, time away from life stresses and electronic devices.
5	Explain what physical fitness activities are?	Activities to increase fitness.
6	List 3 benefits of taking part in physical activities?	Meet new people, set fitness goals, improve confidence, improve body composition, improve physical health.
7	Name the three provisions/sectors of physical activity?	Public sector Private sector Voluntary sectors
8	Briefly explain each provision/sector and their characteristics?	Public sector to include local authorities and school provision Private sector – provided by organisations who aim to make a profit Voluntary sectors – activities provided by volunteers who have a common interest in the sport /activity. Characteristics; funding source, aims, quality of provision, accessibility.

9	Choose one of the provisions and explain the advantages and disadvantages of sport to the participant?	Types and range of sport and physical activities provided Types and range of equipment available o cost of participation Access to different types of sport and physical activities Additional products or services to include creche facility, refreshment facilities, hire of equipment, access to sport sector professionals, e.g. sports therapist, personal.
10	Name 2 ways participants can be grouped?	Age, gender, disability and race.
11	State the different age groups of participants and put them in age order?	Primary school aged children (aged 5–11 years) Adolescents (aged 12–17 years) Adults (aged 18–49 years) Older adults (aged 50 years and up).
12	State 2 categories of disabled participants?	Visual, hearing and physical disabilities
13	Name 2 long term health conditions?	Asthma, type 2 diabetes, high blood pressure, coronary heart disease (CHD).
14	Explain the physical activity needs of participants?	Government recommended guidelines for types, frequency and intensity of physical activity for different types of participant. Physical health needs – improve fitness, body composition, sleep, immunity to help prevent illness, symptoms of long-term health conditions. Social health needs – meet new people, make friends, have fun, develop leadership and team working skills, decrease loneliness. Mental health needs – decrease stress levels, improve work life balance, decrease risk of depression, improve mood, increase self-confidence and self-esteem.
15	Name the 5 barriers to participation?	Cost, access, time, personal and cultural.
16	Explain 1 of the barriers to participation?	Cost of participation: – clothing – equipment – transport Access to sport or physical activity: – location of sport or physical activity – limited accessible transportation – resources – types of sport or physical activity available Time – lack of time due to other commitments: – family – school – work Personal barriers: – body image – lack of self-confidence – parental or guardian influence – limited previous participation – low fitness levels – extended time off from previous participation – concerns that taking part in sport or physical activity may make existing health conditions worse Cultural barriers: – single sex sport or physical activity sessions – social norms of participating in unconventional clothing and availability of appropriate clothing to participate – lack of role models from own cultural background

17	Explain 1 method to address the barriers to participation.	Cost: discounted pricing, hiring of equipment, free car parking. Access: public transport discounts, cycle hire to access, the facility, free parking, taster days, staff training to support all types of participant and their needs, increased range of provision of sports and physical activities, ramps, assistive technology. Time: creche facilities, extended opening hours Personal barriers: private changing rooms, allowing participants to wear clothing they feel most comfortable in, use of variety of images of people with different body shapes, parent and child activity sessions to create familial culture of sport, campaigns to increase participation. Cultural barriers: women only physical activity sessions staffed by females, diversity of staff working at sport or physical activity facility, staff training in cultural awareness.

BTEC SPORT – LEARNING AIM B

1	Give 2 examples of sports clothing?	Sports kit, waterproof clothing, training clothing, e.g. bibs.
2	Give 2 examples of sports footwear?	Trainers, studded boots, sport specific footwear.
3	In terms of Sport specific equipment, give an example for each of the following: • Participant equipment • Travel related equipment • Scoring equipment • Fitness training equipment	Participation equipment, e.g. balls, rackets; Travel related equipment, e.g. kayak; Scoring equipment, e.g. goalposts; Fitness training equipment, e.g. dumbbells.
4	Give 2 examples of protection equipment?	Mouth protection, head protection, eye protection, body protection, floatation devices
5	Give 2 examples of safety equipment?	First aid equipment – ice packs, bandages, defibrillator.
6	Give 1 example of equipment for people with disabilities or assistive technology?	Wheelchair, e.g. adapted wheelchair for wheelchair tennis
7	Give 2 examples of indoor facilities?	Sports halls, gyms;

8	Give 2 examples of outdoor facilities?	Outdoor pitches, climbing wall, artificial snow domes.
9	Give 2 examples of officiating equipment?	Whistle, microphone, earpiece.
10	Give 2 examples of performance analysis equipment?	Smart watches, heart rate monitors, applications.
11	Select 1 piece of sports clothing and explain how it would improve sports performance or experience?	State piece of equipment and explain how it improved thermoregulation, clothing designed to improve aerodynamics.
12	Select 1 footwear and explain how it improves sports performance?	Sport-specific new designs or materials; improve grip; rebound.
13	Select 1 piece of sports specific equipment and explain how it improves sports performance?	New materials for lightness and strength to include composite materials, e.g. a tennis racquet; new design of equipment to improve performance, e.g. golf driver design.
14	Select 1 piece of protection and safety equipment and explain how it improves sports performance?	Improved protection design; lighter weight; improved performance, e.g. shape of cycle helmets to improve aerodynamics.
15	Select 1 piece of equipment for people with disabilities or assistive technology and explain how it improves or support performance?	Prosthetics; sport-specific wheelchairs; equipment to support people with visual and hearing impairments.
16	Select 1 facility and explain how it stimulates environments to replicate competition in other locations?	Facilities that simulate environments to replicate competition in other locations; all weather surfaces; surfaces to reduce the risk of injury.
17	Select 1 piece of officiating equipment and explain how it improves sports participation?	Computer assisted systems; video assisted decision making.
18	Select 1 piece of performance analysis equipment and explain how it improves sports participation?	Action cameras, GPS, applications, sensors on sports clothing or equipment.
19	Explain why time could be a limitation of using technology?	Setting up, using equipment, compiling date, giving feedback to participant.
20	Explain why access to technology could be a limitation of using technology?	Equality and unfair advantages as not all participants have access to technology.

21	Explain why cost of technology could be a limitation of using technology?	Initial cost and follow-up maintenance of equipment.
22	Explain why accuracy of data provided by equipment could be a limitation of using technology?	Errors can take place which affects the reliability of data/information.
23	Explain why usability could be a limitation of using technology?	Specific training required.

BTEC SPORT – LEARNING AIM C

1	Explain the types of activities in the pulse raiser and give examples?	Activities that gradually increase in intensity to increase the heart rate.
2	Explain the response of the cardiorespiratory system to the pulse raiser?	Increased heart rate Increased breathing rate Increased depth of breathing Increased supply of oxygen to the working muscles Increased removal of carbon dioxide
3	Explain the response of the musculoskeletal system?	Increased temperature of the muscles Increased pliability of the muscles Reduced risk of muscle strain.
4	Explain the types of activities in the mobiliser?	Activities that take the joints through their range of movement starting with small movements and making these bigger as the warm-up progresses.
5	Explain the response of the cardiorespiratory system to the mobiliser?	Slight drop in heart rate as intensity of exercise lowers. Slight drop in breathing rate as intensity of exercise lowers.
6	Explain the response of the musculoskeletal system to the mobiliser?	Increased production of synovial fluid in the joints to increase lubrication of joint and increase range of movement at the joint.
7	Explain the types of activities in the preparation stretch?	Activities to stretch the main muscles that will be used in the physical activity: Location of main muscles – deltoids, biceps, triceps, erector spinae, abdominals, obliques, hip flexors, gluteus maximus, quadriceps, hamstrings, gastrocnemius Types of static and dynamic stretching for each muscle group: – simple stretches – compound stretches

8	Explain the response of the cardiorespiratory system to the preparation stretch?	Slight drop in heart rate and breathing rate for static stretches Maintained elevated heart and breathing rate for dynamic stretches
9	Explain the response of the musculoskeletal system to the preparation stretch?	Extending muscles so that they are fully stretched and less likely to tear during the sport or activity session.
10	Explain how to adapt a warm up for different categories of participants?	Vary intensity of activities Low impact and high impact options Vary timing of warm-up – longer time frame for beginners, participants with low fitness levels and those aged 50 plus Types of stretch used – simple stretches for beginners, compound stretch for moderate to advanced participants.
11	Explain how to adapt a warm up to make it specific to a physical activity?	Introduction of equipment in the warm-up that is specific to the physical activity Using movements and activities from the physical activity in the warm-up Stretching the main muscles required for the specific physical activity.
12	List what you will include in your session plan?	Pulse raiser Mobiliser Preparatory stretches Timings, key points and equipment
13	Explain what you will consider with the organisation and demonstration of the warm up activities?	Space – areas used Equipment Organisation of participants Timing Demonstrations Positioning.
14	Explain how you would support participants as they take part in the warm up?	Observing participants Providing instructions Providing teaching points Providing feedback to participants.

BUSINESS STUDIES

1	Why do new business ideas come about?	• New technology • A gap in the market • Innovation • Changes in customer needs • Products or services become obsolete
2	What is the difference between a good and a service?	• A good is something tangible (you can touch)

		• A service is an act that is carried out (e.g. a haircut)
3	What is the difference between wants and needs?	• A need to something that we have to have e.g. food and water • A want is something that we do not need e.g. mobile phone
4	What is a calculated risk?	Looking at all of the possible comes before starting a new iness/idea
5	What are some of the impacts of risk and reward?	Failure/success, financial gain/loss, independence
6	What is the purpose of business activity?	• To provide goods/services • To meet customer needs • To add value
7	How can a business meet customer needs?	• Quality • Price • Choice • Convenience
8	Why might a business carry out market research?	• Identify customer needs • Identify a gap in the market • Reduce risk • Inform business decisions
9	What is primary research?	Collected by the business
10	What is secondary research?	Collected by somebody else e.g. online, the Government
11	What is qualitative data?	Gives opinions
12	What is quantitative data?	Facts and figures (quantity)
13	What is market segmentation?	Breaking down the market based on characteristics e.g. gender, age, race

COMPUTER SCIENCE

1	Explain the FDE cycle	Fetches the instruction from memory, translates it into machine language, runs its and then repeats
2	What does the CPU do?	Perform the FDE cycle
3	What factors affect the CPU performance?	Cache size, clock speed and number of cores
4	State the components of a CPU	ALU, cache, Control Unit
5	State the registers in a CPU	MAR, MDR, PC, ACC
6	What is the difference between RAM and ROM?	RAM is volatile, ROM is not
7	What are the 3 types of secondary storage?	Solid state, magnetic, optical
8	What are the units of data	Bit, nibble, byte, kb, mb, gb, tb
9	What base is denary, binary and hex?	10, 2, 16
10	What is used to represent text in binary?	ASCII or Unicode
11	What is used to represent text in binary?	Pixels
12	How is sound converted to binary?	Sampling
13	State 3 functions of the OS	Multi-tasking, user interface, file management, user management, peripheral management
14	State 3 utility software	Back-ups, defragmentation, compression, encryption
15	What's the difference between open source and propriety software	Open source is free and can be edited, Propriety cost money and can't be edited.

DANCE

1	What are actions?	What a dancer does.
2	What are the 8 key dance actions?	Gesture, elevation, travel, transfer of weight, stillness, use of different body part, rotation, floorwork.
3	What is travel?	Moving from one place to another.
4	What is elevation?	The action of 'going up' without support, such as in a jump.

5	What is a gesture?	The use of hand or arms.
6	What is transfer of weight?	The weight is moved from one supporting foot (or supporting limb/body part) to another one fully or partially.
7	What is stillness/balance?	A steady or held position achieved by an equal distribution of weight.
8	What is use of different body part?	Expressing an idea or emotion with a different limb.
9	What is rotation?	A turning sequence.
10	What is floorwork?	Movements performed on the floor.
11	What is space in dance?	Where the dancer moves e.g. pathways, levels, directions, size of movements, patterns, spatial design.
12	What are dynamics in dance?	How the dancer moves e.g. fast/slow, sudden/sustained, acceleration/deceleration, strong/light, direct/indirect, flowing/abrupt.
13	What is relationship in dance?	Relationship refers to the connection that a dancer has to everything else: this can be space, to time, to music and to other dancers.
14	What are technical skills?	Dynamics, relationships, space, timing, actions, rhythmic content, style.
15	What are physical skills?	Mobility, Isolation, Stamina, Strength, Flexibility, Alignment, Balance, Posture, Extension, Control, Co-ordination
16	What is mobility?	The range of movement in a joint; the ability to move fluently from action to action.
17	What is isolation?	An independent movement of part of the body.
18	What is stamina?	Ability to maintain physical and mental energy over periods of time.
19	What is strength?	Muscular power.
20	What is flexibility?	The range of movement in the joints (involving muscles, tendons and ligaments).
21	What is alignment?	Correct placement of body parts in relation to each other.
22	What is balance?	A steady or held position achieved by an even distribution of weight.

23	What is posture?	The way the body is held.
24	What is extension?	Lengthening one or more muscles or limbs.
25	What is control?	The ability to start and stop movement, change direction and hold a shape efficiently.
26	What is co-ordination?	The efficient combination of body parts.
27	What are expressive skills?	Aspects that contribute to performance artistry and that engage the audience, such as spatial awareness, projection, facial expressions, sensitivity to other dances, phrasing, focus, musicality and communication of choreographic intent.
28	What is spatial awareness?	Consciousness of the surrounding space and its effective use.
29	What is projection?	The energy the dancer uses to connect with and draw in the audience.
30	What are facial expressions?	Use of the face to show mood, feeling or character.
31	What is sensitivity to other dancers?	Awareness of and connection to other dancers.
32	What is phrasing?	The way in which the energy is distributed in the execution of a movement phrase.
33	What is focus?	Use of the eyes to enhance performance or interpretative qualities.
34	What is musicality?	The ability to make the unique qualities of the accompaniment evident in performance.
35	What is communication of choreographic intent?	The aim of the dance; what the choreographer aims to communicate.
36	What is safe working practice?	Personal care, respect for others, safe execution and preparation and recovery from dancing.
37	What is safe execution of movement?	Carrying out actions safely.
38	What is choreography?	The art of making dances, the gathering and organisation of movement into order and pattern.
39	What is a stimulus?	Inspiration for an idea or movement.
40	What is a motif?	A movement phrase capturing an idea that is repeated and developed throughout the dance.

DT

1	What is hardwood?	Hardwood comes from deciduous trees which lose their leaves annually.
	What is softwood?	Softwood comes from conifers, which usually remain evergreen.
	What are manufactured boards?	Manufactured boards are timber sheets which are produced by gluing wood layers or wood fibres together. Manufactured boards often made use of waste wood materials. Manufactured boards have been developed mainly for industrial production as they can be made in very large sheets of consistent quality. Boards are available in many thicknesses.
2	What is structural strength?	Strength is a measure of a material's resistance to permanent deformation or complete breakage under stress. Strong materials are able to resist heavy impacts, and are able to absorb and distribute large amounts of energy without breaking.
	What is a surface finish?	This is when a finish is applied to a material such as paint or varnish.
3	What is a cross halving joint?	A joint where half thickness is removed front 2 pieces of wood where they cross. This ensures a greater area of adhesive can be supplied resulting in a stronger joint.
	What is a section?	A section is a type of drawing that is cut through an object.
	What is a side profile?	The side drawing of an object.
4	What is a dowel? What is a dowel joint?	A small cylindrical piece of wood. Available in a range of sizes. A joint that has holes drilled in each piece and dowels connecting them.
5	What is CAD?	Computer Aided Design.
	What is CAM?	Computer Aided Manufacture.
6	Why use CAD & CAM?	It is fast and accurate.
7	What is material removal?	When material is removed. This can be with machines or hand tools.
8	What is a finger joint?	Also known as a comb joint, is a woodworking joint made by cutting a set of complementary, interlocking profiles in two pieces of wood.

9	Why use a mortise and tenon joint? What are the safety rules for using a mortiser?	They are very strong. Wear an apron & Safety goggles Tie hair back Ensure there is no one in the area of the machine
10	What is the software used to create designs for the laser? What is the file type used on the laser?	2D Design/Onshape/sketchup DXF
11	What is manufacture?	When components of a product are made.
12	What is assembly?	When the components of a product are assembled.

ENGINEERING

1	What are electronic systems?	Electronic Systems are systems which are designed to process electrical signals
2	What are the main electronic sub-systems?	Input sensors Signal processing Output devices
3	What is Ohms Law?	V = I x R
4	Describe components that are in series	When components are connected in series, they are connected one after another in a circuit with the same current flowing through both components.
5	Describe components that are in parallel	When components are connected in parallel, they are connected directly across one another with the same common voltage across each component. The current in a parallel circuit splits up, with some flowing along each parallel branch and recombining when the branches meet again.
6	How does a current flow in a parallel circuit?	The current in a parallel circuit splits at a junction and takes a different path through the circuit, before recombining at a different part of the circuit and returning to the battery as the same current that left.
7	How does current flow in junctions?	For every junction the sum of the currents that enter a junction must equal the sum of the currents leaving the junction. This is because current cannot get lost in a circuit.
8	How does voltage in a series circuit split?	The voltage in a series circuit splits across each component in the circuit. The sum of the voltages across individual components is equal to the voltage of the battery.

9	How does voltage in a parallel circuit split?	The voltage in a parallel circuit is the same across each of the parallel elements of the circuit. This is because each component has a separate connection to the battery.
10	What is the formula for a voltage divider circuit?	$V_{OUT} = \frac{R_2}{R_1 + R_2} V_{IN}$
11	What is the formulas for power?	P = I x V $P = I^2 X R$ $P = \frac{V^2}{R}$
12	How do you find the total resistance when resistors are connected in series?	$R = R_1 + R_2$
13	How do you find the total resistance when resistors are connected in parallel?	$R = \frac{R_1 \times R_2}{R_1 + R_2}$

ENGLISH – AN INSPECTOR CALLS

1	What are the conventions of a play?	A play is structured into acts and scenes. Stage directions are notes from the playwright about the props, lighting, staging etc.
2	What key events have happened since 1912 when the play set?	• WW1 • WW2 • The Great Depression • Sinking of the Titanic • Strikes and trade unions • The Labour Party • Women's rights
3	What is the key message Priestley wants to get across through 'An Inspector Calls'?	Priestley has made 'An Inspector Calls' an allegory to teach people the importance of social responsibility. Through this play, he encourages people to seize the opportunity the end of the war has given them to build a better, more caring society.
4	What is the difference between socialism and capitalism?	Socialism is the ideology that believes wealth should be spread evenly across all areas of society. Capitalism believes that money and wealth is related to an individual with no expectation of distributing to others.
5	What is social responsibility and how is it explored throughout the play?	Social responsibility is the obligation to look after others and our society and Priestley proves its importance through the plight of Eva Smith.

6	What is the significance of the generational differences and how is this shown?	The younger generation are impressionable and are adaptable to changing ideologies. Whereas, the older characters are more stubborn and reluctant to changing their ways.
7	What are the 1912 and 1945 gender expectations?	In 1912 and 1945, there is an expectation for women to be obedient to the patriarchy. There is a lack of opportunity in terms of jobs and status within society. 1912: Women had few rights and were expected to be submissive to male figures, marry, have children and to serve their husbands. 1945: After the Suffragette movement, women gained more rights and started to have more of a voice in society.
8	What is dramatic irony and its significance in the play?	Dramatic irony is when the audience knows something the characters do not. Due to the play being set years before it was written, it encourages an alternative insight into the progression/lack of between 1912 and 1945.
9	What do I need to know about J. B. Priestley?	J. B. Priestly is a strong socialist and he uses the Inspector as his mouthpiece to show this throughout the play. He was a famous broadcaster for the BBC but his radio show was cancelled due to him being too political, which may be why he decided to write the play 'An Inspector Calls'. The playwright has first-hand experience of both time periods and has become disillusioned by the lack of progress made.
10	What is a monologue and why is the Inspector's monologue so significant?	A monologue is a long speech by an actor. 'An Inspector Calls' ends the play with the Inspector's monologue teaching the importance of socialism and the responsibility to help one another.
11	What is the significance of blame in 'An Inspector Calls' and which characters does this relate to?	The Inspector aims to teach the Birlings their role in Eva Smith's death. We see the younger character's acceptance of blame and how their actions have consequences. Whereas, the older generation are reluctant to take the blame.
12	What does the younger generation learn from the Inspector?	The younger characters in the play learn from the Inspector and understand how their behaviour can have a positive and negative impact on others. Unlike the older generation, they feel guilt and empathy towards Eva Smith and the working class a whole.
13	What message is Priestley trying to portray through the differences between upper and lower characters?	Through the huge class distinction, Priestley teaches the unfair circumstances surrounding the lower class. The lower class are exploited by the ignorance of the upper class.
14	What is guilt and which characters are able to embody empathy?	Guilt is a feeling of worry/unhappiness because you have done something wrong. The younger characters start to feel guilty and empathise towards the working class.

15	What is the reasoning behind why Priestley chose to make 'An Inspector Calls' a play rather than a novel?	Priestley chose to make 'An Inspector Calls' a play so that his message was more impactful and immediate. Upper-middle class people were more likely to visit the theatre and therefore his message to the upper-middle class is taught directly through the Birling family.
16	What is the stereotype of the working class and women and how is this presented through Eva Smith/Daisy Renton?	The working class are portrayed as lazy and disposable. Women are subjected to patriarchal ideas and the lower-class characters (Eva Smith/Daisy Renton/Edna) show this through the hardships they face due to the upper-middle class citizens' selfishness.
17	What message is Priestley portraying through the inability of the older generation's acceptance of blame?	Priestley wants to show how the older character's opinions and behaviours are stubbornly fixed and how they are entrenched in their ways. He shows how the first step to changing your ways is through responsibility and he suggests hope for society through the younger generation's acceptance of this.
18	What questions are raised from the ambiguous ending of 'An Inspector Calls'?	The ending has been constructed deliberately by Priestley to leave the audience questioning their reality but to also put a spotlight on them in terms of their own personal responsibility within society.
19	What do I need to include in an analytical essay?	• Subject terminology • Playwright's intentions • Contextual information • Quotations
20	What can I do to elevate my response to an exam question?	• Single word analysis • Embedding of quotations • Discourse markers • Analytical verbs/adverbs when exploring playwright's intentions: *Priestley purposely/cleverly/deliberately/warns/criticises…* • Embedding of subject terminology
21	What literacy/SPaG checks do I need to complete before handing in my work?	When you check your work, you should ensure you have… 1. Used capital letters correctly 2. Used the correct punctuation at the end of each sentence (e.g. full stop, question mark, exclamation mark) 3. Used paragraphs where necessary 4. Presented your work neatly and appropriately 5. Used the key words from the lesson 6. Used challenging vocabulary where necessary

ENGLISH – A CHRISTMAS CAROL

1	What is a novella?	A novella is a short story.
2	What is a stave?	A stave is the five lines that music is written on. In A Christmas Carol, each chapter is a 'stave' mimicking a Christmas carol.

3	What was life like in the Victorian era?	• Huge class distinction • The workhouses • Struggle for the poor • The Industrial Revolution • The Poor Law • Patriarchal society
4	What is Malthusianism?	Thomas Malthus believed that the growth of the population would always outrun the growth in the production of food, and thus the life and living conditions for all could only be sustained with a cap on the number of children born. *This economic theory is now often known as Malthusianism.*
5	What is an allegory?	An allegory is when a text/story teaches you a lesson.
6	What are Dicken's intentions for the allegory 'A Christmas Carol?'	Dickens wants to teach through A Christmas Carol that poor people are suffering due to the selfishness of the upper class. He wanted to teach through this political diatribe that if someone as miserly and misanthropic as Scrooge can change, then anyone cope – inspiring hope for society.
7	What quotations shows the presentation of Scrooge in stave 1?	"hard and sharp as a flint", "solitary as an oyster", "cold-hearted", "squeezing, wrenching, grasping, scraping, clutching, covetous old sinner", "the cold within him froze his features", "a frosty rime was on his head", "decrease the surplus population", "What right do you have to be merry? You're poor enough", "cold, bleak, biting weather".
8	What quotations show the presentation of Scrooge in stave 5?	"laughing and crying in the same breath", "light as a feather", "happy as an angel", "merry as a schoolboy", "giddy as a drunken man", "A merry Christmas to everybody", "Scrooge regarded everyone with a delighted smile", "I am about to raise your salary", "no fog; no mist".
9	What does Marley's Ghost teach Scrooge?	Marley warns Scrooge that a similar fate (and a longer, heavier chain) awaits him if he does not change his ways. "I wear the chains I forged in life", "mankind was my business".
10	What does the Ghost of Christmas Past teach Scrooge?	By showing him memories of his past, the ghost reminds him of the goodness that used to be in him and of the people he used to love. This is where the readers start to gain sympathy for Scrooge. • Schoolboy: "a solitary child neglected by his friends", "Quite alone in the world I do believe", "your lips is trembling", "Poor boy!". *Perhaps Scrooge's isolation in adulthood as he was forced into it into his childhood.* • Belle: "a golden idol has displaced me", "as an unprofitable dream". *Scrooge realises what he could've had with Belle if he wasn't so obsessed with money.*

		• Fezziwig: “the warehouse was as snug, and warm, and dry”, “beaming and lovable”, “The happiness he gives is quite as great as if it cost a fortune”. *Scrooge realises that he is the antithesis of Fezziwig and treats Bob Cratchit poorly.* • Fan: “Father is so much kinder than he used to be”, “putting her arms around his neck and often kissing him”. *Scrooge remembers he wasn’t always a miser and is capable of love; he remembered his nephew Fred and thinks about his lack of relationship.*
11	What does the Ghost of Christmas Present teach Scrooge?	This ghost seeks to show Scrooge that the true meaning of the holiday is found in the joy that comes from giving to others and celebrating together. If Scrooge is to change his life, there is no better time to start than Christmas. • The Cratchits: “a small pudding” for a “large family” = “wonderful pudding” “brave in ribbons”. *Shows Scrooge the Cratchits basking in their plight. He learns that happiness doesn’t come from money.* • Ignorance and Want: “they are man’s”, “yellow, meagre, ragged, scowling, wolfish”, “Are there no prisons?”. *Scrooge realises that innocent people and children are suffering due the selfishness of the upper class.*
12	What does the Ghost of Christmas Yet To Come teach Scrooge?	This ghost reveals to Scrooge his future consequences of his past and present actions: his lack of sympathy for the poor; his ill-treatment of his own clerk Bob Cratchit; that his own death will also result in the death of the Cratchits' disabled young son, Tiny Tim. • Funeral scene: “the phantom slowly, gravely, silently approached”, "I don't know of anyone that would go to it." "But I'll offer to go if anybody else will”, “I don’t mind if lunch is provided”. *Scrooge realises that, due to his miserly ways, no one loves him or cares about him.*
13	What does the term ‘plight’ mean?	An unfortunate, difficult or precarious situation. *The poor are living in plight.*
14	What does the term ‘basking’ mean?	To take pleasure or derive enjoyment of something. *The Cratchits are basking in their plight.*
15	What is the significance of Ignorance and Want?	Ignorance and Want are used to show readers that the decadence of the upper classes was creating the inequality that destroyed lives. The Ghost tells Scrooge that these children are the responsibility of all mankind. Scrooge advocates for the readers to help the less fortunate with these characters.

16	What is the importance of Christmas in the novella?	The story of Scrooge takes place on Christmas Eve and Christmas Day and uses the ideas of generosity and compassion that we associate with Christmas to highlight the transformation of the main character. We see Scrooge change from a miserly man, contrasting with the spirit of Christmas, to someone who is full of joy.
17	What is a thesis statement?	A thesis statement *is* a sentence that sums up the central point of your essay.
18	What do I need to include to achieve success?	• Comments about extract and whole novella • Quotations from extract and whole novella • Subject terminology • Writer's intentions • Contextual information
19	What do I do in an extract style exam question?	1. Introduction 2. Analysis of the extract 3. Analysis of the extract 4. Analysis of the whole novella 5. Conclusion
20	How can I achieve more marks?	• Thoughtful response supported with judicious, embedded quotations • Embedded subject terminology • Single word analysis • Layering of quotations • Useful links to contextual information of the Victoria era
21	What literacy/SPaG checks do I need to complete before handing in my work?	When you check your work, you should ensure you have… 1. Used capital letters correctly 2. Used the correct punctuation at the end of each sentence (e.g. full stop, question mark, exclamation mark) 3. Used paragraphs where necessary 4. Presented your work neatly and appropriately 5. Used the key words from the lesson 6. Used challenging vocabulary where necessary

FRENCH - CORE KNOWLEDGE QUESTIONS FOR FRENCH SHOULD BE USED ALONGSIDE YOUR VOCABULARY BOOKLET.

1	What is a noun? What is special about nouns in French?	The name of a person, place, object or thing. All nouns are masculine or feminine.

2	What does gender mean in MFL?	Which groups nouns belong to.
3	What is an article?	The words the, a, some.
4	What is the definite article?	The word the
5	What are the 3 definite articles in French? What happens to the definite article if a singular noun starts with a vowel?	Le, la, les It becomes l'
6	What is the indefinite article?	A, some
7	What are the 3 indefinite articles in French?	Un, une, des
8	What is the word for and what type of word is it?	Et It is a connective
9	What is a cognate?	A word in another language that looks or sounds like it's English meaning
10	What is a false friend?	A word in another language that looks or sounds English but does NOT mean the same
11	Why do letters sound different in MFL	Their phonetic pronunciation is different
12	How do you make a sentence negative	Put ne.....pas around the verb
13	What is special about days and months in French?	They DON'T start with a capital letter.
14	What verb do you need to form the near future tense in French?	Aller
16	What does the near future tense mean?	Going to
17	What is an infinitive?	A verb that ends in ER/IR/RE The 'to' bit of the verb
18	Where does the infinitive go in sentences in the future tense in French?	After the part of aller you want to use
19	How do you say I would like in French?	Je voudrais J'aimerais

20	What are reflexive verbs?	Verbs which have an extra pronoun
21	How do you form the future tense in French?	1. Select the pronoun you want to use 2. Select the infinitive you want to use 3. Add the correct future tense ending for the pronoun
22	What does j'irai mean	I will go

GEOGRAPHY

1	What is the quaternary period?	The period of time that stretches from 250 million years ago to the present day.
2	Give three pieces of evidence for climate change.	• Sea levels have risen (by 19cms since 1900) • Ocean temperatures are their warmest for since 1850 • The world's glaciers and ice sheets are decreasing in size • The volume of ice lost in Greenland since 2002 is 287 billion tonnes per year and 134 billion in Antarctica per year. • Ice cores • Ocean sediments
3	What is the evidence for climate change being a natural phenomenon?	There is geological evidence that suggests climate change has been happening throughout the Quaternary period before humans were on the planet.
4	Give three causes of natural climate change	• Solar output • Orbital changes • Volcanic activity
5	Select one cause and explain how it causes the climate to change.	• Solar output: there can be fluctuations in the amount of radiation from the sun. If there is high amount emitted there will be an increase in Earth's temperatures. • Orbital changes: the Earth has natural warming and cooling periods caused by Milankovitch cycles or variations in the tilt and/or orbit of the Earth around the Sun (Wobble, roll and stretch theory). • Volcanic activity: during a volcanic eruption carbon dioxide is released into the atmosphere.
6	What is the greenhouse effect?	A natural function of the Earth's atmosphere is to keep in some of the heat that is lost from the Earth.

7	Why is the greenhouse effect important to life on Earth?	Without the greenhouse effects the Earth would be approximately 33°C colder and therefore life would not exist as we know it today.
8	What is the enhanced greenhouse effect?	Human activity has increased the layers of greenhouse gases which naturally exist. Less heat escapes from the Earth and more is trapped in by the thicker layer of the greenhouse gases, which means the earth warms up even more.
9	Identify three ways humans cause climate change.	• Burning fossil fuels • Agriculture • Deforestation
10	Explain how deforestation causes climate change.	During the process of photosynthesis trees absorb carbon dioxide which reduces the amount in the atmosphere. By cutting down trees less carbon dioxide is absorbed. Therefore, the enhanced greenhouse gases contribute to climate change. Also, burning trees during practices such as slash and burn releases stored carbon dioxide.
11	Explain how burning fossil fuels causes climate change	Burning fossil fuels such as coal, oil and gas releases carbon dioxide in the atmosphere. The enhanced greenhouse gases contribute to climate change.
12	Explain how agriculture causes climate change.	A large amount of methane is produced by cattle during digestion. Also, microbes produce it as they decay organic matter under the water of flooded rice paddies. As world population continues to grow, this will lead to a greater demand for food leading to an increase in greenhouse gases.
13	Give 4 social effects of climate change.	• Properties, particularly in low lying areas in the east of England are likely to be flooded • Scottish ski resorts may have to close due to lack of snow • Crops such as oranges, grapes and peaches can be grown in the UK • Increased demand for water in hotter summers puts pressure on water supplies • Winter heating costs will be reduced as winters will be milder • Accidents on the roads in winter will be less likely to occur • Heatwaves are likely to lead to more deaths • Tropical storms are likely to increase in intensity • Diseases such as malaria increase, an additional 280 million people may be affected • Energy consumption may decrease due to a warmer climate • Longer growing season for agriculture

14	Give 4 environmental effects of climate change.	• Sea levels could rise, covering low lying areas, in particular east England • Droughts and floods become more likely as extreme weather increases • Less rainfall may affect wildlife, causing food shortages • Forests in North America may be affected by more pests, disease and forest fires • Glaciers will continue to retreat, leading to flooding • Species in affected areas (e.g. Arctic) may become extinct
15	What is mitigation?	Mitigation involves dealing with the cause of the problem.
16	Identify 5 ways the causes of climate change can be reduced.	• Alternative energy production / renewable energy production • Solar energy • Carbon capture • Planting trees • International agreements
17	How does planting trees reduce CO2?	An increase in trees leads to an increase in the amount of carbon dioxide being absorbed from the atmosphere and stored.
18	How can international agreements reduce CO2?	International climate change agreements such as the one agreed in Paris in 2015 leads to countries producing less carbon dioxide when targets are set.
19	What is carbon capture and storage?	Carbon capture and storage involves capturing carbon dioxide emissions from burning fossil fuels and liquifying/compressing it. It is then stored underground in rock formations and in oceans.
20	What is adaptation?	Adaptation involves responding to the impacts of climate change and tries to make populations less vulnerable.
21	What is the difference between mitigation and adaptation?	Mitigation involves dealing with the cause of climate change, adaptation involves responding to the impact of climate change.
22	Identify three ways climate change can be managed through adaptation.	• Changes in agriculture systems - such as developing irrigation schemes, moving production to another location and changing crops • Managing water supply – reducing demand for water and increasing water supply through desalination and large-scale water transfer schemes • Reducing risk from rising sea levels – constructing tidal barriers and raising sea defences
23	How can adaptations in agricultural systems help manage the impact of climate change?	Moving production to another location due to changing temperature and extreme weather. Increasing irrigation in areas where precipitation is declining. Changing crops to drought resistant varieties or switching the type of crop to one that better suits the changing climate.

GERMAN - CORE KNOWLEDGE QUESTIONS FOR GERMAN SHOULD BE USED ALONGSIDE YOUR VOCABULARY BOOKLET.

1	What is a noun? What is special about nouns in German?	The name of a person, place, object or thing. All nouns are masculine, feminine or neuter. They begin with a capital letter.
2	What does gender mean in MFL?	Which groups nouns belong to.
3	What is an article?	The words the, a, some.
4	What is the definite article?	The word the
5	What are the 4 definite articles in German?	Der/die/das /die (pl)
6	What is the indefinite article?	A, some
7	What are the 3 indefinite articles in German? What is the difference between nominative and accusative?	ein/eine/ein and einen/eine/ein Nominative= subject Accustaive= object
8	What is the word for and what type of word is it?	und It is a connective
9	What is a cognate?	A word in another language that looks or sounds like it's English meaning
10	What is a false friend?	A word in another language that looks or sounds English but does NOT mean the same
11	Why do letters sound different in MFL	Their phonetic pronunciation is different
12	How do you make a sentence negative	Put k in front of einen/eine/ein or nicht after the verb
13	How do you say because in German? What happens when you use this in a sentence?	Weil It sends the verb to the end. It has a comma in front of it OR if it starts a sentence Verb comma verb in the middle
14	What verb do you need to form the future tense in German?	werden
16	What does ich will mean?	I want
17	What is an infinitive?	The part of the verb found in a dictionary The 'to' bit of the verb

18	Where does the infinitive go in sentences in the future tense in German?	At the esnd of the sentence/clause
19	How do you say I would like in German?	Ich möchte Ich würde
20	What are reflexive verbs?	Verbs which have an extra pronoun
21	What other way can you form the future tense in German?	1. Use a time indicator e.g nächste Woche 2. Use the present tense form of the verb

HEALTH AND SOCIAL CARE

1	Define the term 'development'.	Development is about the way children learn to use their bodies and gain skills.
2	Define the term 'growth'.	The way babies and children's bodies get larger and heavier. It is a change in physical weight or height.
3	Give two examples of how growth is measured.	Height and weight. Additionally, head circumference for infants.
4	What is a life stage?	Life stages refer to different phases of life that all individuals pass through in normal lifetime.
5	List the 6 life stages.	Infancy, childhood, adolescence, early adulthood, middle adulthood and later adulthood.
6	What is a motor skill?	Motor skills are movement and actions of the muscles and can be categorised into gross and fine motor skills.
7	Define physical development.	It includes development of each of your body systems and is affected by both inherited, genetic and lifestyle factors.
8	Define intellectual development.	The growth of the brain and development of your thought processes. This includes things like memory, problem-solving and understanding the world around us.
9	Define emotional development.	The growth and understanding of feelings. The ability to give love, care and affection and to feel secure linked to self-esteem.
10	Define social development.	Making connections with people and becoming part of society. This includes your family, friends and community you live in.

11	Explain the term 'fine motor skill'.	A fine motor skill also referred to as dexterity is the coordination of small muscles, in movements involving the synchronisation of hands and fingers with the eyes, such as writing, being able to button up a skirt or even blinking.
12	Explain the term 'gross motor skill'.	A gross motor skill that involves movement and coordination of the arms, legs and other large body parts. They involve actions such as walking, running, throwing and swimming.
13	What is the age range for infancy?	0-2years
14	Define the term 'attachment'.	An attachment is a strong emotional bond between an infant and their primary caregiver. A secure attachment is required for the infant's holistic needs to be met and to develop healthy attachments with others in the future. A lack of secure attachments can lead to distrust in others.
15	Explain the term 'bonding'.	Bonding is the formation of a mutual emotional and psychological closeness between parents or primary caregiver's ad with their new born child. Babies usually bond with their parents in the minutes, hours, or days following the birth. This can be done through a physical closeness and is often the reason healthcare professionals advise skin to skin interactions after the birth of the baby with both parents.
16	List 3 things that children need to feel emotionally stable.	Consistency, love and affection, and routines.
17	Define security.	Security is mainly a feeling of being cared for, being safe and loved are closely linked with attachment.
18	Explain the term independence.	This is about reaching for a stage when an individual cares for themselves and makes their own decisions. Becoming independent such as: feeding themselves, washing and dressing themselves. They can start to make their own decisions on what they want to eat too.
19	Define contentment.	An emotional state when infants and children feel happy in their environment and with the way they are being cared for.
20	List the four areas of intellectual development that occur in childhood.	Memory recall, language development, problem solving and abstract/creative thinking.

21	Identify the two parts of language development that occur during infancy.	Pre-linguistic stage 0 - 13months Linguistic stage 13 months +
22	Define puberty.	The physical changes that occur prepare the body for sexual reproduction.
23	Identify the two categories of sex characteristics	Primary Sex Characteristics - Any of the external physical characteristics of sexual maturity. Secondary Sex Characteristics - Any of the body structures directly concerned in reproduction, as the testes, ovaries and external genital.
24	Explain the term 'abstract thinking'.	This is the ability to think using concepts and ideas rather than through objects and doing tasks. For example: A seven-year-old child may be able to calculate how long it takes to travel to a destination by train by pushing the fingers of a clock around its face, whereas teenagers can usually do this calculation in their heads.
25	Explain the term 'logical thinking'.	Adolescents also begin to think in a more logical way to solve problems and can empathise – see things from other people's perspective and realise that the world is not centred totally on them. This period is also a time when teenagers develop their own set of morals and ideas about what is right and wrong.
26	Define self-image.	The mental picture we have of ourselves. Influenced by: personal appearance, the media, comparing ourselves to others, things other people say about us.
27	Define self-esteem.	How much you like, accept and respect yourself, how much you value yourself.
28	Define peer pressure.	A feeling that one must do the same things as other people of one's age and social group in order to be liked or respected by them.
29	Explain the term 'physically mature'	People are at their peak of physical fitness and have reached their full height. Women are at their most fertile.
30	Define lifestyle.	Lifestyle involves the choices made that affect health and development such as diet, exercise, opinions, behaviours and interests. Can also be referred to as 'way or style of living'.
31	Define menopause.	A reduction in hormones causes a women's periods to stop.
32	Explain social isolation.	The absence of social interactions, contacts and relationships with family and friends, with neighbours on an individual level, and with 'society at large' on a broader level.

33	List some of the physical developments that can occur during menopause.	Ovaries stop releasing eggs, menstruation stops, reduction in the production of oestrogen, temperature regulation – causes 'hot flushes' or 'night sweats', loss or thinning or hair, disturbed sleep and possibly osteoporosis where bones become more brittle.
34	List some of the intellectual developments that can occur during menopause.	Loss of memory, learn a new skill to stimulate and invigorate the mind.
35	List some of the emotional developments that can occur during menopause.	Mood swings, low or reduced self-esteem, loss of confidence, grief as no longer able to conceive or depression.
36	Explain how social isolation may occur during menopause.	Social isolation may occur as women go through menopause as the may lose confidence in their abilities, lack self-esteem and this may lead to them distancing themselves away from their friends or family. They may develop depression as a result of this and find it difficult to develop the coping strategies needed in order to socialise with others.
37	List 4 physical developments that may occur during later adult hood.	• Greater susceptibility to illness • Slower recovery times • Slowing down of physical responses • The skin is thinner, joints are stiffer, muscles weaker and bones often more brittle. • Less mobile • Lose height
38	Define the term 'genetic inheritance'	The genes a person inherits from their parents.
39	What is dementia?	An illness that affects the brain and memory, and makes you gradually lose the ability to think and behave normally.
40	List 4 life events that could affect someone's emotional development during later adulthood.	Isolation from peers, loss of independence, progressive deterioration of health, loss of significant other, loss of friends, being ignored despite having wisdom and experience.

HISTORY

1	When did Elizabeth I become queen?	1558
2	Who ruled England?	Parliament, Privy Council, Lord Lieutenants, JPs
3	What was patronage?	Elizabeth giving titles, power or other rewards to ensure loyalty and support.
4	Who was William Cecil?	Secretary of State twice, MP, Elizabeth's most trusted advisor.
5	What problems did Elizabeth face in her early years?	• Succession • Mary Queen of Scots • Ireland • Taxation • Religion • Foreign Policy
6	What were the advantages and disadvantages of marriage?	+ve – heir & successor, alliances, prevent Mary Q of S becoming queen -ve – lose control to foreigner, problems with authority (female ruler)
7	When was Norfolk's Rebellion?	1559
8	When was Essex's Rebellion?	1601
9	What was the Great Chain of Being?	The social structure of Elizabethan England.
10	How did theatre develop?	• Move from inn yards to purpose-built theatres • Patronage • Playwrights

HOSPITALITY AND CATERING

1	What are the 2 types of hospitality and catering provision?	Commercial & Non-Commercial
2	What is commercial (residential)?	Commercial (residential): meaning the hospitality and catering provision aims to create a profit from the service they provide, but also offers accommodation. For example: Hotels, motels & hostels B&B, guest houses and Airbnb Holiday parks, lodges, pods, and cabins Campsites and caravan parks

3	What is commercial (Non-residential)?	Commercial (non-residential): catering establishments that aim to make a profit from their service, but no accommodation is provided. For example: Restaurants and bistros Cafes, tea rooms and coffee shops Takeaways Fast food outlets Public houses and bars Airlines, cruise ships, long distance trains Pop up restaurants Food and drink provided by stadiums, concert halls and tourist attractions Mobile food vans and street food trucks Vending machines
4	What is non-commercial (residential)?	Non-commercial (residential): the hospitality and catering provision offers accommodation but does not aim to make a profit from the service they provide. For example: Hospitals, hospices, and care homes Armed forces Prisons Boarding schools, colleges, and university residences.
5	What is non-commercial (Non-residential)?	Non-commercial (residential): the hospitality and catering provision offers accommodation but does not aim to make a profit from the service they provide. For example: Hospitals, hospices, and care homes Armed forces Prisons Boarding schools, colleges, and university residences
6	What is food service?	The different types of food services in the catering sector are listed below. You should know the meaning of each one and be able to provide examples. For instance; Table service Plate Silver Banquet Family style Gueridon Cafeteria Fast food Buffet Tray or trolley Home delivery Takeaway

7	What is residential service?	Listed below are the different types of residential types of service in the hospitality and catering sector. You should know the different types of service offered in various hospitality provisions. Rooms: single/ double/ king/ family suite (en-suite bath/ shower room, shared facilities). Refreshments: breakfast/ lunch/ evening meal 24-hour room service/ restaurant available. Leisure facilities: spa gym swimming pool. Conference and function facilities: Large rooms Overhead projector and computer Pens and paper provided Refreshments available.
8	What are the different roles and responsibilities within the industry?	Front of House Kitchen brigade Housekeeping Management
9	What are the types of employment contract?	Casual Full time (permanent) Part time (permanent) Seasonal Zero hours
10	What are the pay and benefits of the industry?	A Salary Holiday entitlement Pension Sick pay Rates of pay Tips Bonus and rewards
11	What contributes to the success of an establishment?	Costs Economy Environmental impact Profit New technology Media

IMEDIA

1	What are the components of a mind map?	Nodes, sub nodes and branches
2	What can be on mood board?	Images, text, colours, patterns

3	What does a visualisation diagram show?	An initial sketch of how a product will look
4	State different camera shots	Long shot, close shot, medium shot, wide shot, over the shoulder, high shot, low shot.
5	What are the contents of a storyboard?	• Images/sketches of scene • Locations • Camera shot types and angles • Camera movement • Timings • Lighting • Sound • Scene numbers and direction arrows
6	What are the contents of a script?	• Set/locations • Scene/stage directions • Camera shot types • Camera movement • Sounds and sound effects • Names of actors/characters • Dialogue
7	What are the main file formats for images?	JPG, PNG, TIFF, PDF
8	What is the main law that affects creative media?	Copyright

MATHS

1	What is an outlier?	Outliers are extreme values that stand out greatly from the overall pattern of values in a dataset or graph.
2	What is the mode?	The MODE is the value that occurs the most
3	What Is the median?	The middle values when values are in numerical order
4	How would you find the mean?	Add all the numbers together and divide them by how many there are.
5	What is a power or an index?	The number of times a value is multiplied by itself For example 3^2 means 3 X 3 ; 3^3 means 3 X 3 X 3; 3^4 means 3 X 3 X 3 X 3
6	How do you find the PERIMETER?	Add all the lengths of the sides
7	What is an expression?	Numbers, symbols and operators (such as + and ×) grouped together that show the value of something
8	What is an equation?	An equation says that two things are equal. It will have an equal sign "=" like this: 7 + 2 = 10 – 1

9	What is an identity?	An equation that is true no matter what values are chosen
10	What is a variable?	A symbol for a number that we don't know yet. It is usually a letter like x or y
11	What is a constant?	In Algebra, a constant is a number on its own, or sometimes a letter such as a, b or c to stand for a fixed number
12	What is an inverse operation?	The operation that reverses the effect of another operation. Example: Addition and subtraction are inverse operations. Start with 7, then add 3 we get 10, now subtract 3 and we get back to 7.
13	What is the range?	The range is the highest value minus the lowest value of a set of values
14	What is standard form?	A method for writing a very large number or very small number in a simple format.
15	What is a reciprocal?	A reciprocal is the inverse of a value or a number. If n is a real number, then its reciprocal will be 1/n. It means that we have to convert the number to the upside-down form. For example, the reciprocal of 9 is 1 divided by 9, i.e. 1/9. If we multiply a number by its reciprocal, it gives a value equal to 1
16 (H)	What is the formula to find the volume of a Pyramid and cone?	a) Volume of a pyramid = volume of a cuboid /3: v= (length x width x height) / 3 b) Volume of a cone = volume of a cylinder /3: $V = \pi r^2 h/3$
17 (H)	What is a surd?	A non-square number written in the format of its root, for example √5 is the surd form of 2.23606797749979
18 (H)	What is iteration?	The repetition of a mathematical procedure applied to the previous application, typically as a means of obtaining closer approximation to the solution of a problem

MUSIC

1	What are the elements of music	The elements of music are used to help describe music. These are pitch, duration, dynamics, tempo, timbre, texture, and structure.
2	What is pitch?	Pitch is how we identify and categorise a sound as 'high' or 'low' in terms of musical notes.
3	What is duration?	Duration is the length of time a note is sounded in a piece of music.
4	What are dynamics in music?	Dynamics refer to the volume of the music. It's about the variation in loudness between notes or phrases, which can add expressiveness to the music.

5	What is tempo?	Tempo is the speed at which a piece of music is played. It's usually measured in beats per minute (BPM)
6	What is timbre?	Timbre, also known as tone colour, refers to the quality of sound that distinguishes one voice or instrument from another. It's what makes a piano sound different from a violin, even when they play the same note.
7	What is texture in music?	Texture in music refers to the way multiple voices or instruments interact in a composition. It can be monophonic (single melody line), polyphonic (multiple melody lines), homophonic (melody with accompaniment), or heterophonic (variations of a single melody).
8	What is structure in music?	Structure in music refers to the arrangement of a song or piece of music, and it describes how different sections of the song are related to each other
9	What is rhythm?	Rhythm is a pattern of long and short sounds
10	What are note values?	Note values are how long each note lasts for
10	What is a crotchet?	A crotchet is a 1 beat note
11	What is a minim?	A minim is a 2 beat note
12	What is a quaver?	A quaver is a half beat note
13	What is a semibreve?	A semibreve is a 4 beat note
14	What is a semiquaver?	A semiquaver is a quarter beat note
15	What are dotted notes?	Notes that are half as long again as the main note
16	What is timing?	To all play together in time, as an ensemble
17	What are ensemble skills in Music?	The ability to work together in a group to create a musical performance
18	What is a chord?	A chord is a group of (typically three or more) notes sounded together, as a basis of harmony. The simplest and most common type of chord is the triad, which consists of three notes: the root, the third, and the fifth
19	What is tonality?	The key of a piece of Music

20	What is Major?	The happy, bright tonality. A major chord has the root, then a major 3rd, then a minor 3rd
21	What is minor?	The sad sounding tonality. A minor chord has the root, then a minor 3rd, then a major 3rd
22	What is atonal?	No key
23	What is modal?	Music that uses modes rather than a major or minor scale
24	What is a semitone?	The smallest interval between 2 notes
25	What is a tone?	2 semitones
24	What is chromatic?	Chromatic uses all 12 notes of the scale, every semitone
25	What is a scale?	A set of musical notes ordered by pitch
26	What is diatonic?	Music that is in a major or minor key
27	What is a scale?	A set of musical notes ordered by pitch
28	What is a melody?	Melody is the main tune, consisting of different pitches
29	What is harmony?	The sound of 2 or more notes played or sung simultaneously
30	What is unison?	All parts singing or playing at the same time
31	What are the 4 families of the orchestra?	Strings, Woodwind, Percussion and Brass
32	What is an interval in music?	The distance between 2 notes
33	What is a cadence in music?	A progression of 2 chords at the end of a phrase or a piece of music
34	Perfect Cadence	A closed, finished cadence with a strong harmonic ending – Chords V - I
35	Plagal Cadence	A closed, finished cadence with a soft harmonic ending – Chords IV - I
36	Imperfect Cadence	An unfinished cadence, that wants to continue. Chords I - V

37	Interrupted Cadence	An unfinished cadence, that sounds surprising. Chords V - VI
38	Tonic	First note of the scale
39	Supertonic	2nd note of the scale
40	Mediant	3rd note of the scale
41	Subdominant	4th note of the scale
42	Dominant	5th note of the scale
43	Submediant	6th note of the scale
44	Leading Note	7th note of the scale
45	What are the main Dynamics Terms?	Piano (p) Quiet Mezzo Piano (mp) Fairly Quiet Pianissimo (pp) Very Quiet Forte (f) Loud Mezzo Forte (mf) Fairly Loud Fortissimo (ff) Very Loud Crescendo Getting gradually louder Diminuendo Getting gradually quieter Sforzando Forced No
46	What are the main Tempo Terms?	Adagio Leisurely Lento Slow Largo Slow Andante Walking Pace Moderato Moderate Allegretto Quite fast Allegro Fast Vivace Very fast Presto Very fast Ritardando Gradually slowing down Rallentando Gradually slowing down Accelerando Gradually speeding up Rubato Free Time

PE (CORE)

1	Discuss how students should keep safe when taking part in PE	• Proper and full warm-up • Remove jewellery • Listen to all instructions • Follow the rules of the game/activity
2	Identify three careers that you can pursue through studying P.E. and Sports.	A range of careers related to sport (eg. Teacher, coach, sports psychology, nutrition, Sports Science, Logistics etc)
3	When you are acting as a leader/official in your PE lesson, what characteristics should you show?	Talk clearly Project your voice Follow the rules of the game Make sure you keep the score Stand is a clear and visible area of the pitch/court
4	What attributes make a good sports leader?	●Skills (communication, organisation of equipment & knowledge). ●Advanced skills (activity structure, target setting, use of language, evaluation). ● Qualities (appearance, enthusiasm, confidence) Additional qualities (leadership style, motivation, humour, personality).
5	How much physical activity should children and young people do to keep healthy?	aim for an average of at least 60 minutes of moderate or vigorous intensity physical activity a day across the week take part in a variety of types and intensities of physical activity across the week to develop movement skills, muscles and bones reduce the time spent sitting or lying down and break up long periods of not moving with some activity. Aim to spread activity throughout the day
6	What are the benefits of regular sport and exercise?	• Boosts energy levels • Enhances your mood • Provides stress relief and releases happy chemicals • Supports relaxation • Decreases anxiety levels • Supports the daily function and improvements in the cardiovascular, respiratory, muscular and skeletal systems.
7	What are the 3 components of a warmup?	Pulse raiser (running, skipping, etc) Mobility Stretches Sport Specific Drill
8	What happens to the body when we warm up?	Muscles require higher amounts of oxygen; heart rate and oxygen intake thus increase to transport oxygenated blood to the working muscles via the blood vessels. This increase blood flow prepares the body for exercise.

PHOTOGRAPHY

1	What is photography?	Photography refers to the process or practice of creating a photograph – an image produced by the action of light on a light-sensitive material.
2	What is composition?	Photo composition is how a photographer arranges visual elements within their frame. “It’s a pleasing organization of objects within your rectangle,” says photographer Adam Long.
3	What is a DSLR Camera?	A DSLR camera is a digital camera that uses a **single-lens reflex** mechanism to capture images. This means that the light coming through the lens is reflected by a mirror into an optical viewfinder, where you can see what the camera sees.
4	What is the exposure triangle?	The three components of exposure are aperture, shutter speed, and ISO. These form the three corners of the exposure triangle. When you change one of these settings, you either change the amount of light entering the camera (aperture and shutter speed), or you change the sensitivity of the camera sensor (ISO). In other words, the overall exposure of the image will vary.
5	What is ISO?	ISO is a setting on your camera that will affect how bright or dark the images appear. *Increasing the ISO number will make the images brighter, this is helpful if shooting in low light. Increasing the ISO can increase the grain on the image which can decrease the overall quality of the image.*
6	What is aperture?	Aperture is the opening in the lens, when you hit the shutter release button of your camera a hole opens up that allows your cameras image sensor to catch a glimpse of the scene you’re wanting to capture. The aperture that you set impacts the size of that hole. The larger the hole the more light that gets in and the smaller the hole the less light.
7	How is aperture measured?	Aperture is measured in ‘f-stops’. They are often referred to as f/number - for example f/2.8, f/4, f/5.6,f/8,f/22 etc. Moving from one f-stop to the next doubles or halves the size of the amount of opening in the lens (and the amount of light getting through).

8	What is shutter speed?	Shutter speed is 'the amount of time that the shutter is open'. In film photography it was the length of time that the film was exposed to the scene you are photographing and similarly in digital photography shutter speed is the length of time that your image sensor 'sees' the scene you're attempting to capture.
9	How is shutter speed measured?	Shutter speed is measured in seconds; the bigger the denominator the faster the speed, for example: 1/1000 is much faster than 1/30. However, anything slower than 1/60 is very difficult to use without getting camera shake. Camera shake is when your camera is moving while the shutter is open and results in blur in your photo.
10	What are the 8 Formal Elements of Photography?	**Line** - You can use lines in your composition to guide the viewer through your shot, or to a specific focal point, these are known as leading lines. **Value/Tone** - Concentrating on tone in your composition is to use variables of contrast, and light and dark areas to bring depth to your image. **Colour** – Colour can set the mood of a photograph. Warm colours like red, orange, and yellow can bring about a happy emotion whereas tones of blue bring about a cold or gloomy feel. In most cases, colours act as a defining factor of the picture itself. **Space** - The space surrounding your main subject in the photo is the negative space, whereas your main subject is the positive space. Although monotonous, the negative space enhances your image's visual appeal to your viewer. Some examples of negative space include large plain areas in an image such as the sky, grass, or water. **Shape** - When referring to shape in photography, this usually means a 2D outline of a subject, whereas form is referring to a shape that takes on more of a 3D appearance. **Pattern** - Symmetry and repetition make attractive photographic subjects, and when you start looking, you'll see a surprising amount of patterns around you in the natural and built environment.

		Texture – Texture is the way in which something feels, focusing on the texture in your composition can bring your image to life by giving the viewer a tangible connection with it. Textures can be drawn out from all kinds of surfaces and environments, and to do this you can use a wide range of lighting scenarios and varying levels of depth-of-field. **Light** - Lighting is one of the most important factors in creating a 'good' or successful photograph.

PSYCHOLOGY - MEMORY

1	What is meant by the term encoding? Give an example.	Transforming information into a form in which your brain can store it. Acoustic, visual or semantic.
2	What is meant by the term storage? Give an example.	Maintain in memory. Procedural, Episodic or Semantic.
3	What is meant by the term retrieval? Give an example.	Recovering information from memory. Recognition, cued recall or free recall.
4	What is the name of the type of encoding that relates to meaning?	Semantic

5	Which Psychologist suggested the different types of long-term memory?	Tulving.
6	What does the SCOUT acronym for assessing theories stand for?	Supporting study, contradicting study, opposing theory, usefulness, testability.
7	What is the multi-store model of memory?	How much information can be stored and how long it can be stored for.
8	What does Capacity and Duration mean in regards to memory?	How much information can be stored and how long it can be stored for.
9	Why is rehearsal important for retrieval?	By continuing to rehearse and repeat, information will go into your long-term memory. You will then be able to recall this information and retrieve it from your long-term memory in the days, weeks and months following.
10	What is a criticism of the multi-store model of memory?	The model is too simplistic as it suggests that we only have one store for short term and long-term memory but we have multiple.
11	What is one finding of Murdock's Serial Position Study?	High recall of most recent words (recency effect), mid recall of first heard words (primacy effect) and low recall of middle words.
12	What does the GRAVE acronym for assessing studies stand for?	Generalisability, reliability, application, validity and ethics.
13	What was the aim of Bartlett's War of the Ghosts study?	To investigate how memories are reconstructed when people are asked to repeatedly remember something for a period of time.
14	What is one limitation of Bartlett's study?	There were no controls in the study so it is likely affected by extraneous variables. Story was unusual which might make specific details harder to remember.
15	What is the difference between proactive and retroactive interference?	Proactive – previously learnt information interfering with new information you are trying to store. Retroactive – newly learnt information interfering with previously learnt information that you are trying to recall.
16	Which psychologists did a study into context-dependent Memory in 1975?	Godden and Baddeley
17	What is context-dependent memory?	Where part of the context (environment) is also encoded. There is a better recall when retrieval happens in the same context as encoding.

18	Who conducted a study into false memory, and what did they find?	Loftus and Pickering found that false memories changed the accuracy of memories. People either remember things that didn't happen, or remember them differently from the way that they were.

PSYCHOLOGY – DEVELOPMENT

1	What is meant by 'autonomic function'?	Functions in the body that we do not consciously control, such as heartbeat, digestion and emotions such as fear.
2	Identify the four key parts of the brain.	Brain stem Cerebellum Thalamus Cortex
3	Which psychologist created the four-stage theory of cognitive development?	Jean Piaget
4	Distinguish between the processes of assimilation and accommodation.	Accommodation is where we acquire new information that changes our understanding of a topic so new schemas are formed. Assimilation however adds to our current understanding of a topic to create a more advanced understanding.
5	Define 'Conservation'.	The ability to realise that quantity remains the same even when the appearance of an object or group of objects changes.
6	Who conducted the 'Naughty Teddy Study' which investigated conservation?	McGarrigle and Donaldson (1974)
7	What did Hughes' policeman doll study investigate?	Egocentrism/Egocentricity
8	Name the four stages of cognitive development.	-Sensorimotor stage (ages 0-2 years) -Pre-operational stage (2-7 years) -Concreate operational stage (7-11 years) -Formal operational stage (11+ years)
9	How can we apply Piaget's theory to education?	Readiness Individual learning Application to stages Learning by discovery and the teacher's role
10	Identify the two mindsets from Carol Dweck's Theory of learning (2007)	Growth Mindset Fixed Mindset

11	How can praise effect self-efficacy on motivation?	When facing difficulties, students who have a high sense of self-efficacy for learning are willing to make a greater effort and persist longer than those who doubt their capabilities. Therefore, high self-efficacy leader to greater task persistence and resilience.
12	What does WIllingham's Learning Theory oppose?	Learning Styles – because it is not evidence based.
13	What four areas does Willingham's Learning Theory investigate?	Praise Memory and forgetting Self-regulation Neuroscience
14	Identify the acronym to evaluate a theory	**SCOUT** Supporting study, contradictory study, Opposing theory, Usefulness, Testability
15	Identify the acronym to evaluate a study	**GRAVE** Generalisability, Reliability, Application, Validity, Ethics

RELIGIOUS STUDIES

1	Name the two main denominations of Christianity.	Catholics and Protestants.
2	What was the big schism?	The name given to the moment the denominations of Christianity began.
3	What is a denomination?	A group within a religion.
4	Define omnipotent.	All powerful.
5	Define benevolent.	All loving.
6	Define just.	Bringing about what's right or fair.
7	Define omnipresent	Always there.
8	Define omniscient.	All knowing.
9	What does the Nicene Creed teach?	The nature of the Trinity.
10	Explain what is meant by 'the problem of evil'	The problem of evil is an argument that God cannot be all loving and all powerful whilst evil exists.
11	Is the problem of evil an atheist or theist argument?	atheist

12	What three parts make up the holy trinity?	The Father, The Son and The Holy Spirit.
13	Which part of the Trinity? "Jesus is God in human form, sent to spread the word of God and understand humanity."	The Son
14	Which part of the Trinity? "Believed to be the creator of the Earth and all living things, omnipotent, omniscient, omnibenevolent, omnipresent"	The Father
15	Which part of the Trinity? "This influences people's thoughts, guides people through life, it is the unseen power of God that is at work"	The Holy Spirit
16	What happens in Genesis 1?	God creates the world in 7 days.
17	What happens in Genesis 2?	The story of Adam and Eve.
18	What is this quote referring to 'the Spirit of God hovered over the waters'?	The Holy Spirit.
19	What is a parable?	A story with a moral from the Bible.
20	What is a moral?	A teaching about what is right and wrong.
21	What is the Big Bang Theory?	The scientific account of Creation.
22	What does a literalist Christian believe?	In the account of creation, as it occurred in the Bible.
23	What does a liberalist Christian believe?	That Genesis can be used as a guide and not taken literally, which means there is room for belief in religion and Science.
24	How can somebody believe in both the account of creation in Genesis 1 and The Big Bang Theory?	Both Genesis 1 and The Big Bang Theory show the universe being created in a similar order meaning there isn't a contradiction. Modern scholars say that there could have been mistranslations in the Bible, and that instead of '7 days' the creation story may have been '7 periods of time'.

SCIENCE

1	True or false? Photosynthesis is an exothermic reaction?	False, it's an endothermic reaction
2	Which molecule has the chemical symbol $C_6H_{12}O_6$?	Glucose
3	What is the word equation for photosynthesis?	Carbon dioxide + water —> glucose + oxygen (using the energy from light)
4	What is the name of the pigment found in the chloroplasts of green plants?	Chlorophyll
5	What role does chlorophyll play in photosynthesis?	It absorbs energy from light, which is used to convert carbon dioxide and water into glucose and oxygen.
6	What do plants convert glucose into for storage?	Starch
7	Why do plants convert glucose into starch for storage?	Because it is not soluble, a cell filled with lots of glucose would draw in a lot of water (by osmosis) and swell up.
8	Apart from storage, what else do plants use glucose for?	Respiration, to make cellulose and to make amino acids.
9	Which 3 environmental variables can affect the rate of photosynthesis?	Temperature, light intensity and CO_2 concentration
10	True or false? A positive ion is formed when an atom gains an electron?	False, electrons are negatively charged so atoms that gain electrons form negative ions.
11	If an atom loses two electrons to form an ion, what charge will the ion have?	The ion will have a +2 charge, as electrons are negatively charged.
12	Describe how an ionic bond forms between a metal and a non-metal atom.	The metal atom loses electrons to form a positively charged ion. The non-metal gains these electrons to form a negatively charged ion. These oppositely charged ions are strongly attracted to each other by electrostatic forces, forming an ionic bond.
13	Do ionic compounds have high or low melting points?	High melting points, this is because of the strong electrostatic forces of attraction between the ions.
14	Explain why ionic compounds conduct electricity when molten but not when solid.	For a substance to conduct electricity it must contain charged particles that are free to move and carry the current. The ions in a solid ionic compound are held in place in the rigid lattice structure, so can't move around. When an ionic compound melts, the ionic bonds break and the ions become free to move and can carry an electrical current.

15	How many electrons does each atom donate to form a single covalent bond?	The atoms in a single covalent bond donate one electron each.
16	True or false? Non-metal atoms can form covalent bonds with each other?	True—covalent bonds only form between non-metal atoms.
17	Explain why carbon forms covalent bonds with 4 hydrogen atoms in CH_4?	A non-metal will generally try to form enough covalent bonds to fill its outer shell. Carbon has 4 electrons in its outer shell, so needs to form 4 single covalent bonds to get 8 electrons in its outer shell.
18	Why don't simple molecular substances conduct electricity?	Simple molecular substances aren't charged, so there aren't any free electrons or ions to carry the current.
19	How are the atoms in a polymer joined together?	By covalent bonds
20	True or false? Buckminsterfullerene molecule is shaped like a ball?	True—Buckminsterfullerene is a hollow sphere made of carbon atoms arranged in rings.
21	Why do most metals have high melting points?	Because they are held together by strong metallic bonds, which require a lot of energy to break, it is these bonds that are broken when metals melt, so most metals have high melting points.
22	True or false? The current in a single closed loop of wire is the same at any point.	True
23	What is the equation that links charge flow, current and time?	Charge flow = current x time (Q=It)
24	True or false? For a given potential difference, the smaller the resistance of a component, the smaller the current through it will be.	False, resistance is anything that slows down the flow of charge. So, for a given potential difference, the smaller the resistance of a component, the greater the current through it will be.
25	True or false? A diode has a very high resistance in 1 direction	True, the high resistance in one direction makes it very hard for a current to flow in that direction.
26	What is the relationship between potential difference and current for an ohmic conductor at a constant temperature?	Current is directly proportional to potential difference
27	What happens to the resistance of a thermistor when its temperature decreases?	The resistance increases.
28	True or false? All components connected in series will have the same size current flowing through them?	True, the current is the same at any point in a series circuit.
29	How do you find the total resistance of a series circuit?	By adding the resistance of every component in the circuit.

30	True or false? The current running through all components connected in parallel is always the same?	False, the current is shared between the branches of a parallel circuit, the potential difference across all components connected in parallel is the same
31	True or false? The Mr or a compound is always greater than the Ar of any of the elements in that compound?	True—you find the Mr by adding the Ar of each element, so it must be greater.
32	The Ar or oxygen is 16 and the Ar of nitrogen is 14. Find the Mr of nitric oxide (NO)	16+14=30 There is only 1 atom of element in the formula, so just add the A values together.
33	How do you calculate the percentage mass of an element in a compound?	Multiply the Ar of the element by the number of atoms of that element in the formula of the compound, then divide the Mr and multiply by 100.
34	What is meant by the term 'conservation of mass'?	Conservation of mass means the total mass of the products in a reaction will always be equal to the mass of the reactants. This is because no atoms are ever destroyed or created during a reaction.
35	How does a balanced symbol equation for a reaction show that mass is conserved in a reaction?	In a balanced equation, the sum of the reactants will equal the sum of the products, there will be the same number of each type of atoms on both sides of the equation.
36	How do you find the concentration of a solution in g/dm3?	Divide the mass of solute in grams by the volume of the solution in dm3.
37	In which state of matter do particles move fastest?	Gas
38	In which state of matter is density generally the highest? How is this explained by the particle model?	Solid, particles are arranged closest together in the solid state.
39	Describe the difference between particle arrangements in solids and liquids	In solids, particles are fixed, have regular arrangements, whereas in liquids particles can move past each other and their arrangements are irregular.
40	What does density tell you about an object?	How compact a substance is, or how much mass there is per unit of volume.
41	What's the equation used for calculating density?	Density = mass ÷ volume
42	During which 2 changes in state does liquid become a gas?	Boiling and evaporation
43	What is sublimation?	The physical change of state to a gas state without passing through the liquid state.
44	True or false? The internal energy of a system is equal to the total energy that all the particles in the system have in their kinetic energy stores?	False, it's the total energy in the kinetic and potential energy stores of all the particles

45	What is the specific latent heat of vaporisation of a substance?	The energy needed to change 1kg of the substance from a liquid into a vapour/gas without raising the temperature of the substance.
46	What happens to the internal energy of a substance when it is condensing?	The internal energy decreases, this is because the bonds are forming, which releases energy.

SPANISH - CORE KNOWLEDGE QUESTIONS FOR SPANISH SHOULD BE USED ALONGSIDE YOUR VOCABULARY BOOKLET.

1	What is a noun? What is special about nouns in Spanish?	The name of a person, place, object or thing. All nouns are masculine, feminine or neuter. They begin with a capital letter.
2	What does gender mean in MFL?	Which groups nouns belong to.
3	What is an article?	The words the, a, some.
4	What is the definite article?	The word the
5	What are the 4 definite articles in Spanish?	El, la, los, las
6	What is the indefinite article?	A, some
7	What are the 2 indefinite articles in Spanish?	Un, una
8	What is the word for and what type of word is it?	y It is a connective
9	What is a cognate?	A word in another language that looks or sounds like it's English meaning
10	What is a false friend?	A word in another language that looks or sounds English but does NOT mean the same
11	Why do letters sound different in MFL	Their phonetic pronunciation is different
12	How do you make a sentence negative	Put 'no' in front of the verb
13	How do you say because in Spanish?	porque

14	What verb do you need to form the future tense in Spanish?	ir
16	What does quiero mean?	I want
17	What is an infinitive?	The part of the verb found in a dictionary The 'to' bit of the verb
18	Where does the infinitive go in sentences in the future tense in Spanish?	Voy a + infinitive
19	How do you say I would like in Spanish?	Me gustaria quisiera
20	What are reflexive verbs?	Verbs which have an extra pronoun
21	What other way can you form the future tense in Spanish?	1. Use a time indicator e.g mañana 2. Use the infinitive verb and add the following endings é ás á emos éis án e.g estudiaré = I will study