

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**.

A Ruskin Learning Ready Student

PREPARED:

- Has a good night's sleep
- Eats well and stays hydrated
- Arrives at school and lessons on time
- Wears their uniform correctly
- Enters the room calmly and is ready to learn

ORGANISED:

- Brings the correct equipment
- Manages their time appropriately
- Completes all work, including homework, to the deadline set and to the best of their ability

RESPECTFUL

- Is respectful, kind and tolerant of all people in our diverse school community
- Is a team player
- Listens to others without judgement
- Demonstrates self-respect and takes pride in their work and progress



CONFIDENT:

- Has confidence in their own abilities and strengths
- Is not afraid to ask for help and support
- Can communicate and read with confidence
- Is inquisitive and takes an active role in their learning

AMBITIOUS:

- Has high aspirations for themselves and their future
- Strives to be the best they can be
- Relishes the opportunities offered to them

REFLECTIVE:

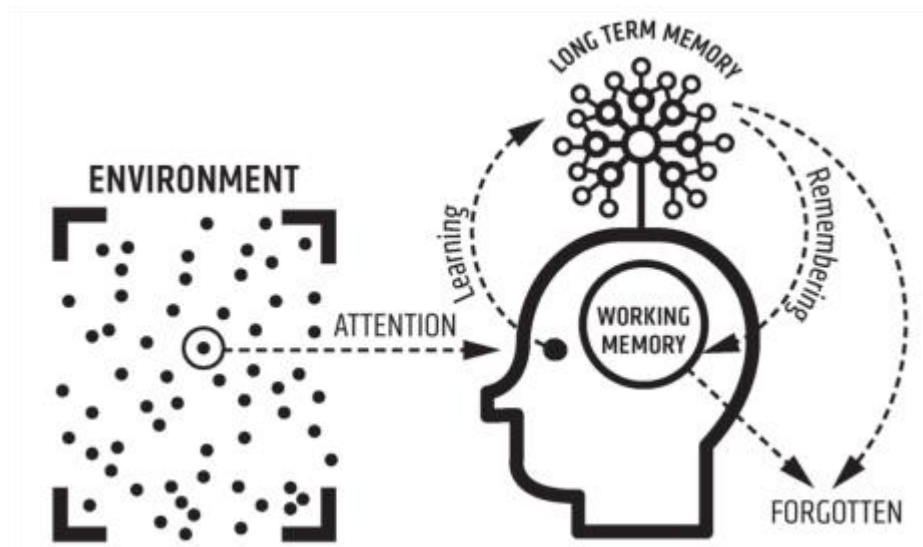
- Listens to and responds to their teachers' feedback
- Is able to identify their next steps and areas for improvement
- Strives to improve

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



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** 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**.



Look, Cover, Write, Check— 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 Look, Cover, Write, Check 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.

Year 9 Core Knowledge Questions

ART

1	What is a Totem Pole?	Totem poles are sculptures carved from large trees, such as the Western Red Cedar. A totem can be the symbol of a tribe, clan, family or individual. Totems tell a story. Totems have animals that have symbolic meanings.
2	On which continent are you most likely to find Totem Poles?	North America
3	What does the term 'animal guide' mean?	An animal with symbolic meaning that represents you. Native American tradition provides that each individual is connected with <u>nine different animals that will accompany each person through life, acting as guides.</u>
4	Can you give 2-3 facts about Totem Poles?	<ul style="list-style-type: none"> • Carved from cedar trees • From 4ft to 75ft in height • Like a book, tells a story • Animals to depict the story • Symbolic • Date back beyond the 1700s • Symbol of a tribe, clan, family or individual
5	What 5 key elements make a successful artist research?	<ul style="list-style-type: none"> • Examples of the artist's work • Title and artists name • Annotations • Visual artist response • Personal points of view
6	What is LINE and TONE?	Line is a path of a moving point and can vary in thickness. 'Line is a dot that has gone for a walk.' Tone is the lightness or darkness of a colour.
7	What is a tonal gradation range?	Value steps going from light to dark
8	What is a sculpture?	A sculpture is a three-dimensional artwork. Sculptures can be carved or modelled using a wide range of materials.
10	What type of art did John Nieto produce?	Acyclic paintings using primary colours. The subject matter is often animals with a symbolic meaning and native American culture.
11	What is a visual artist response/study?	A piece of art inspired by an artist. You could explore similar content/theme, style or use of materials, techniques and processes.
12	What is significant about the look of totem poles?	They are animal heads or faces. Some have the addition of wings, horns etc but are not the whole animal. The 'spirit animal' is often the main animal on the top.
13	What do we mean by colour rendering?	A mark-making technique used to apply colour to the surface. It could be blending, hatching, stippling, cross hatching, layering colours etc.

14	What is batik?	Batik is a method of printing on textiles which is based on using wax to resist dye or ink.
15	What is acrylic paint?	Acrylic paint can be used thickly or watered down. It dries quickly and once dry, it is waterproof. Brushes must be washed out immediately with water after use.
16	What are Native American Textiles?	Textile arts of indigenous peoples of the Americas are decorative, utilitarian (useful), ceremonial, or conceptual (abstract) artworks made from plant, animal, or synthetic fibres by native peoples of both North and South America.
17	What do Navajo textiles look like?	Typical Navajo textiles have strong patterns that are geometric by nature and are woven.
18	What is zentangle?	Zentangle is structured patterns (tangles).
19	How do you create a repeated polypad print?	<ul style="list-style-type: none"> • Create a design on a polypad plate • Roll out ink and apply to plate • Transfer to paper or fabric.
20	What is a reduction print?	Is a multicolour print from the same plate by carving away certain areas and printing one colour at a time.

COMPUTING

1	What are Boolean searches in a search engine?	AND, OR and NOT
2	What do Boolean searches do in a search engine?	Make the search a lot more specific Filter relevant information
3	What is copyright and who does it protect?	A law to stop individuals claiming that other people's work and ideas are their own. It protects the owners of the material/idea
4	What does copyright stop?	Prevents copying without permission
5	What are the consequences of breaching copyright?	Fine Jail
6	How long does copyright last?	70 years
7	What is plagiarism?	Copying somebody else's work and passing it off as your own (a form of copyright)
8	State some examples of social engineering	Phishing Baiting Malware Pretexting Quid Pro Quo
9	What is malware?	Malicious software. Software that can harm your device. <i>Mal is French for bad</i>
10	What does a virus do?	Copies itself and stops a computer working as it should
11	What should a strong password consist of?	At least 6 characters Mix of upper and lower case letters Combination of letters, numbers and special characters Not a word in the dictionary

		Not something that people can guess personal to you
12	Where would you often find the author's name on a website?	Typically, at the bottom
13	What do the following suffixes mean: .com .co.uk (other country) .sch .gov .ac	International company National company School Government Academic (college or university)
14	How could you potentially identify an unreliable website?	Poor spelling Broken links Images do not work Not updated regularly Poor design
15	Who can create a website?	Anybody
16	HT2	
17	What number system do computers use?	Base 2
18	What numbers are used in binary?	1 and 0
19	Why do computers use binary?	Because computers can only represent two states
20	What is the name of the table that represents the binary number for each character on the keyboard?	ASCII
21	What is a pixel?	The smallest element of an image
22	What is sampling?	Recording snippets of sound at set intervals

DRAMA

1	What is dialect?	A form of language that is spoken in a particular area of the world.
2	What is gait?	The way you walk.
3	What are stage directions?	Part of the script of a play that tells the actors how they are to move or speak their lines.
4	When is Blood Brothers set?	1960s.
5	What is cross-cutting?	When there are two scenes going on the same time.
6	Who are the two female main characters?	Mrs Lyons and Mrs Johnstone.
7	Where is the play set?	Liverpool.
8	What is a script?	A written text or play.
9	What does it mean if someone is superstitious?	A widely held belief in supernatural influences, especially as leading to good or bad luck.
10	What is volume?	How loud or quiet your voice is.

11	What is pitch?	How high or low your voice sounds.
12	What is blocking?	Precise staging of actors.
13	What is a narrator?	A person who guides/helps tell the story of the play to the audience.
14	What is a monologue?	A speech carried out by one person.
15	What are the characteristics of Mrs Lyons?	Well spoken. Good posture. Takes care of herself. Well educated. Upper class.
16	What are the characteristics of Mrs Johnstone?	Working class. Very forward. Superstitious. Confident.
17	What is pace?	The speed of the play.
18	Which character is considered working class in blood brothers?	Mrs Johnstone.
19	What is atmosphere?	The tone or feeling of the play, often created by the music, setting, or lighting.
20	What is a duologue?	Conversation between two people.
21	How do you create a character?	Consider details, facial expressions, body language and dialogue.
22	What is body language?	Portraying a character/emotion through the use of your body movement.
23	What is still image/freeze frame?	Frozen picture which communicates meaning.
24	What is structure?	The structure is how the plot or story of a play is laid out, including a beginning, a middle and an end.
25	What is naturalistic acting?	A style of drama that developed in the late 19th century as an attempt to represent real life on stage.
26	What is non-naturalistic acting?	Non-Naturalism drama is a term used to define any theatre that does not focus on life-like representation on stage.
27	What is improvisation?	When you make it up on the spot – creating something spontaneously.

DT

1	What does PPE stand for?	Personal protective equipment. Equipment that provides a barrier between the person wearing it and a potential hazard
2	What is a hazard?	Something that can cause harm
3	What are the 3 golden rules of a workshop?	<ul style="list-style-type: none"> • No teacher, no entry • You must be trained before you touch • Wear the right gear to work in here (PPE)

4	What are precautions in D&T?	Each equipment has its own safety rules that must be followed. For example, wearing goggles, having dust extractor on when using the pillar drill.
5	What is a designer?	Someone who produces designs and ideas for new products.
6	What is product analysis?	Looking at products in detail to understand more about it.
7	What does aesthetic mean?	How well a product appeals to the five senses.
8	What does function mean?	What a product does and how it works.
9	What is ACCESS FM?	Aesthetics Cost, Customer, Environment, Safety, Size, Function, Materials and manufacturing Questions that might be answered in a design specification
10	Why do we look at existing products?	To see what products / design solutions are already available on the market.
11	What are the key design traits of Art Nouveau?	1890s, Organic lines, asymmetrical shapes, curved forms, plant like embellishments, mosaics, stained glass
12	What are the key design traits of Steam Punk?	1900's, Science fantasy and science fiction inspired machinery, Blend of old school and the future, retro and technology, looks mechanical.
13	What are the key design traits of Memphis style?	1980s, scattered, brightly coloured shapes and lines. Typically combines circles and triangles with black and white graphic patterns such as polka dots
14	What are the key design traits of Pop Art?	1960s, bold colours, recognisable imager (everyday objects and subjects), humour, repetition, popular culture
15	What is biomimicry?	Observing 'what works' in nature and mimicking it to solve problems, create and innovate. Its looking at nature for inspiration to solve design problems
16	What is a design context?	Design context is a general situation where there are problems that need solutions.
17	What is iterative design?	A design strategy that follows a recurring make-test-evaluate approach
18	What is user centred design?	esign strategy that considers the needs and wants of the user at each stage of the design process.
19	What is inclusive design?	Is an approach that considers people of all ages, gender and physical abilities when designing.
20	What is freehand sketching?	A quick way to get ideas down on paper. These are often the initial thoughts and can be produced in either 2D or 3D. these are annotated sketches to explain the ideas.
21	Who is a client?	Also known as user; the person or group of people who will buy and/or use the design solution.
22	What is a client profile?	A summary of the clients likes, dislikes and interests.
23	What is market research?	Trying out a product design on possible users to see if they like it or not.
24	What is a physical model?	A model or design made using real materials.
25	What is a virtual model?	A model of a design produced using CAD software.

26	What is a prototype?	A prototype is a model of a design that is not the finished product, a prototype can be adapted and changed. It is a one-off product to evaluate a design idea.
27	Why do we create a prototype?	They are to test an idea and to evaluate it. They can be shown to potential customers for their opinions and thoughts too.
28	How are paper and boards made?	They are mainly made from trees. (The trees are chopped down and turned into pulp which is wood fibres mixed with water)
29	what is corrugated card? Why is it sustainable?	Two layers of card separated by a fluted inner section. Corrugated cardboard is sustainable because it can be recycled and does not go into landfill
30	What is functionality?	How well a product is able to do what it is needed to do.
31	What are the 6 factors of selecting materials?	Functionality (how well it will do what it needs to do) aesthetics (look), availability, cost, environmental factors, social and cultural factors
32	What are polymers/plastics?	A material made from chains of repeating chemical parts called polymers
33	What are the two varieties of plastics/polymers?	Thermoplastics and thermosetting plastics.
34	What are the differences between thermoplastics and thermosetting plastics?	Thermoplastics are generally more flexible, especially when heated. So can be formed in to complex shapes, many can be reformed multiple times and easy to recycle. Thermosetting plastics are more rigid and once formed and cooled they set and cannot be reformed. Often more brittle and not easily recycled.
35	What is a CAM?	Computer Aided Manufacture
36	What is CAM equipment?	Equipment that uses computer software to control machine tools to make products
37	What is CAD?	Computer Aided Design
38	What is a design brief?	A summary of the design opportunity
39	What is a design specification?	A document that limits lists all the design criteria that the finished product must meet
40	What is an exploded view in drawing?	Where parts of a product are drawn slightly separated from each other and suspended in space to show how they are related to each other.
41	What is visual testing?	Where a product is checked using the human eye and without the use of measuring instruments.
42	What is user testing?	Where the end user is involved in the testing and evaluation process
43	What is an evaluation?	Where a designer reflects on the design of a product, looks at what went well during testing and identifies ways that a product could be improved.
44	What are environmental challenges?	Designers have to consider the impact that their product will have on the environment.
45	What is sustainability?	The level to which resources can be used without them becoming unavailable in the future.

46	What are the 6Rs of sustainability?	Refuse, rethink, reduce, reuse, recycle, repair
47	What are social challenges?	These are challenges or issues that has an impact on a community or group of people
48	What are economic challenges?	How money is made, organised and used in society,
49	What are the 4 types of movements?	Linear, rotary, reciprocating and oscillating
50	What is linear motion?	Movement in a straight line, example a train moving along a straight track
51	What is rotary motion?	Movement in a circle, example car wheel turning
52	What is reciprocating motion?	Movement that goes back and forth in a straight line, example a saw moving backwards and forwards to cut a piece of wood
53	What is oscillating motion?	Movement that swings from side to side, example a swing in a park
54	What is a cam and follower?	A mechanism that changes rotary motion into reciprocating motion.
55	What is a wooden vice?	2 pieces of wood attached to a clamp on the side of the work bench, used to keep work still when cutting
56	What is a coping saw?	A smaller sized saw that is used for smaller details and curved cuts in material
57	What is a file?	A metal flat tool with a handle that is used to make the edges of cut material smooth to the touch
58	What is sandpaper?	A tough and thick piece of paper with a varying amount of 'grit'. Used to make surface edges smooth to the touch.

ENGLISH – Blood Brothers

1	What is the correct terminology to use when discussing a play?	The writer of a play is called the <i>playwright</i> . Instead of referring to the reader, we refer to the <i>audience</i> . Other terms: <i>stage directions, acts, scenes, lighting, staging, props</i> .
2	What is accent and dialect and how is it shown through 'Blood Brothers'?	Accent describes the sound of a person's speech. Dialect is the difference between grammar and speech based on where a person is from. It used in Blood Brothers to show class divide/stereotypes of speech.
3	What contextual information is important to enhance understanding of the play?	<ul style="list-style-type: none"> • Recession • Margaret Thatcher's Britain • Strikes and trade unions • Class distinction • The Labour Party • Redundancy • Education
4	What is fate and superstition and how is it explored through 'Blood Brothers'?	Fate refers to events destined to happen that are out of a person's control. Fate is explored through the outcomes of the twins. Superstition is the belief or way of behaving that is based on fear of the unknown and faith in magic or luck. Superstition is associated with the working-class characters in the play which enables the upper class to exploit them.

5	What is the significance of the class distinction through 'Blood Brothers'?	The class distinction in Blood Brothers is used to show the inequality present within society. This is specifically shown through the differences of Mickey and Edward's life and opportunities for the future.
6	What is the stereotype of the working class?	The stereotype of the working class is that they are lazy, involved in violence, easily exploited, gullible and naïve to reality of the society they live in.
7	What is self-insertion?	Self-insertion is the technique in which the writer inserts their own life experiences through the characters in their writing. Russell grew up in Liverpool in a working-class family and therefore experienced first-hand the difficulties they faced.
8	What is a political diatribe?	A political diatribe is the criticism of the way a country is run. Russell creates this diatribe to express the problems the working-class face through their treatment, lack of opportunities and chance to socially mobilise.
9	What is foreshadowing?	Foreshadowing means there is a warning or indication of a future event.
10	What is cyclical structure?	Cyclical structure is when a text starts and ends with a similar idea.
11	What is a self-fulfilling prophecy?	A self-fulfilling prophecy is a prediction that comes true as a result of a person's belief or expectation that said prediction would come true.
12	What is the nature vs nurture debate and how is it relevant to the play?	Nature vs nurture is the debate that your innate nature determines your outcome as opposed to your environment and surroundings. This is highlighted through the characters of Mickey and Edward in Blood Brothers.
13	What is juxtaposition and how is this shown through the characters?	Juxtaposition is the contrast between two opposing ideas. This is explored through the differences between the two families: The Lyons and The Johnstones.
14	What does it mean to be prejudice and how may the way you behave determine how you are perceived?	Prejudice is when you have a preconceived opinion about someone based on their behaviour and characteristics. This is shown through the treatment of different classes within the play.
15	What is a theme and how can you identify them?	A theme is a running idea that is present throughout a text. This is identified through exploring common trends and ideas.
16	What do I need to do when embedding subject terminology?	Subject terminology is embedded when discussing and analysing language through a quotation. E.g <i>Russell uses juxtaposition of the two characters to highlight...</i>
17	What is comparison and how do you write about it?	Comparison is when ideas are contrasted and explored further. Comparative adjectives are helpful when achieving this: <i>similarly, alternatively, dissimilar to this, on the other hand, in comparison...</i>
18	What are the ingredients of analytical writing?	<ul style="list-style-type: none"> • Evidence to support (quotations) • Subject terminology • Writer's intentions • Relevant contextual information
19	What are Russell's intentions and how do you embed this into a response?	Russell's aim throughout this diatribe is to teach the audience about the struggles working-class people face. Analytical verbs/adverbs help when exploring playwright's intentions: Russell <i>purposely/cleverly/deliberately/warns/criticises...</i>

20	What is context and how do you embed the information into an exam response?	Context is the circumstances in which a text is written and also the circumstances in which the text is read. To embed into your writing, you can think about how it can relate to a specific point. E.g. <i>During this time period, women did not have many job opportunities and this is present through Mrs Johnstone as we see her struggling to try and make ends meet.</i>
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ENGLISH – Important Voices

1	What does PAF stand for?	The acronym PAF allows you to work out the purpose, audience and form of a task or a piece of writing. Purpose - refers to the reason for the writing, e.g. to persuade the reader, to entertain them, to share information, to warn, to advise, to explain. Audience - refers to the reader(s) or viewers, e.g. could be an individual, in the case of a text message, or a broader group of people in the case of a magazine article or blog. Form - refers to how and where the writing will appear, e.g. an email, a blog, a recipe, a leaflet, an article, a speech.
2	What are ethos, pathos and logos?	Aristotle's Rhetoric Proofs Ethos – how a writer creates or shows their credibility, usually by referring to their status. Pathos – how a writer shows/appeals to your emotion, usually through emotive language or topics. Logos – how a writer appeals to your logic, usually through the use of statistics or facts.
3	What is rhetoric and the features of DAFOREST?	A persuasive technique is a technique used by the writer to convince the audience to agree with the writer's ideas and opinions. <ul style="list-style-type: none"> • Direct address • Alliteration/anecdotes • Facts • Opinion • Rhetorical questions/repetition • Emotive language • Statistics • Triple
4	What are the features of a formal letter?	<ul style="list-style-type: none"> • Your address on the right-hand side • Recipient's address on the left-hand side • Date on the right-hand side • Dear ... • Yours faithfully,/Yours sincerely ,
5	On which side does your address go in a formal letter? On which side does the recipient's address go on in a formal letter?	The right-hand side. The left-hand side.
6	When should you use 'Yours sincerely' and 'Yours faithfully'?	Yours faithfully is used when writing to someone you do not know or have not met. Yours sincerely is used when you do know the person's name and/or have met them.
7	What does prejudice mean?	To be prejudiced means to have a preconceived opinion that is not based on reason or actual experience.
8	What are the four types of sentences?	Declarative – a statement Imperative – a sentence that gives a command/instruction Interrogative – a sentence that asks a direct question Exclamative – a statement that expresses strong emotion

9	What are the three sentence forms?	<p>Simple – a simple sentence contains a subject and a verb and is one complete thought</p> <p>Compound – a compound sentence is made up of two main clauses separated with a conjunction (for, and, nor, but, or, yet, so)</p> <p>Complex – a complex sentence is made up of a main clause and a subordinate clause connected to each other with a subordinating conjunction</p>
10	What does tone mean?	Tone refers to the general character or attitude of a piece of writing.
11	What is register?	We use the term 'register' to refer to particular varieties or styles of speaking and writing - formal and informal.
12	What features and conventions can you expect in an email?	<ul style="list-style-type: none"> • Subject line • Opener (Dear...) • Yours sincerely/yours faithfully
13	What is a first-person pronoun and an inclusive pronoun?	<p>First-person pronouns are words such as 'I' and 'us' that refer either to the person who said or wrote them (singular), or to a group including the speaker or writer (plural).</p> <p>An inclusive pronoun is a pronoun that includes the speaker and others, using words such as 'we' 'us' and 'our'.</p>
14	What are the features of a speech?	<p>A speech often follows a three part structure:</p> <ul style="list-style-type: none"> • a highly engaging and motivational opening with rhetorical devices (direct address and rhetorical questions) to link to the audience • a well-structured argument with several main points that include objection handling • a dynamic and memorable conclusion
15	What are the key visual features of writing an article?	<ul style="list-style-type: none"> • A catchy, memorable headline is essential to grab your readers' attention and entice them to read the whole article. • Subheadings can be used to signpost the readers. • Articles are usually written in Standard English, but colloquial sayings or phrases might be used to emphasise a point. • Persuasive devices, such as rule of three, rhetorical questions and alliteration can be used to encourage the reader to agree with your point of view.
16	What is a motif?	A motif is a dominant or recurring idea in a piece of writing.
17	What does empathy mean?	The ability to share someone else's feelings or experiences by imagining what it would be like to be in that person's situation.
18	What is hyperbolic language?	A hyperbole is an exaggerated statement which is not meant to be taken literally.
19	What is paragraphing?	A paragraph is <i>a section of writing which consists of one or more sentences grouped together</i> , which deal with one subject or element of the writing as a whole.
20	What are the golden sentences?	A carefully crafted sentence to elevate your creative prose. For example, If, if, if, then, The more, the more or a DE:DE sentence.

FOOD

1	What is good nutrition?	Good nutrition is one of the keys to a healthy life. You can improve your health by keeping a balanced diet. You should eat foods that contain all of the different food groups including vitamins and minerals, carbohydrates, protein, and fats.
2	What is the Eatwell guide?	The Eatwell Guide shows how much of what we eat overall should come from each food group to achieve a healthy, balanced diet.
3	What are macronutrients?	Carbohydrate – Protein - Fat
4	What are micronutrients?	Minerals & Vitamins
5	What does the term Recommended Daily Intake mean?	The Recommended Daily Intake of nutrients breakdowns how much of each food we should be eating.
6	What are the 8 National Guidelines for Healthy Eating?	Base your meals on starchy foods, eat a minimum of 5 fruit and veg a day, eat at least 2 portions of fish a week, cut down on saturated fat and sugar, eat less salt, drink lots of water, do not skip breakfast, be active to be a healthy weight
7	What is the importance of the diet at different stages of life?	Your body has different needs at different stages of life.
8	What are the main stages of life?	Babies, Children, teenagers, adults, late adulthood
9	What does it mean by Energy Balance?	Energy Balance is when we take in exactly the same amount of energy as we use every day
10	What can we do to ensure we do not put on weight?	Ensure that we use as much energy as our calorie intake
11	What is the average calorie requirement of a teenager your age. Boys and girls?	Boys need 2500-2800 calories per day Girls require an average of 2200 calories per day
12	Why do diets need to change at different stages of life?	Because at different stages of life people have very specific dietary needs.
13	What are the dietary restrictions for babies 0- 6 months?	They are fed only milk - either breast or bottle formula
14	What is the process called when baby is introduced to soft or pureed food at 6 months?	Weaning
15	What would you advise parents to do when planning and serving food to small children?	Create regular meal times, develop good eating habits, avoid sugary drinks and treats, provide lots of variety and flavours. Include a well-balanced diet
16	If you were to create a meal for a grandparent what would you consider?	Smaller portions, calcium rich foods e.g. cheese and milk for bones, vitamin D to support the calcium, fibre and water, vitamin C and iron, Vitamin B12 the memory to support
17	What is the process called that was used to make chicken goujons involving egg flour and breadcrumbs?	Enrobing
18	What is Cross Contamination?	Cross contamination: the spread of bacteria

		The process by which bacteria or other micro organisms are transferred from one substance to another with harmful effect.
19	Why is it important to consider the cost of a meal in the current climate?	Because there is a cost of living crisis, food has increased in price by 20% over the last two years. Families are having to face larger bills for all services and wages have not increased at the same rate.
20	What is the nutritional value of a fishcake?	Protein in fish and egg, carbohydrate in potato, flour and breadcrumbs, vitamins in peas or vegetable that is used. Fat in oil used for frying
21	If you wanted to work in a restaurant which course would you choose to study in year 10?	Hospitality and Catering Vocational course
22	What is hospitality?	the business of providing food, drink, and accommodation for customers of restaurants, bars, etc. or guests at hotels:
23	What 4 pieces of advice would you give to someone who is obese	Cut down on fatty foods, restrict sugar, eat plenty of fruit and vegetables, grill, steam or bake foods, use lower fat options, increase physical activity
24	What is anaemia?	A lack of iron in the diet
25	What is an intolerance?	A food intolerance is when you have difficulty digesting certain foods or ingredients in food, causing symptoms such as bloating, tummy pain and headache. The product irritates the digestive system and can't be eaten without a health problem
26	What are the symptoms of an allergy?	Skin rash, Itchy eyes, runny nose, swollen lips, eyelid and face, wheezing or coughing
27	What is Natasha's Law?	All foods, including freshly made food that is pre-packed must be clearly labelled with every ingredient contained in it.
28	What are the 3 methods of Heat Transference?	Conduction. Convection and Radiation
29	Give 3 reasons why microwaves are so popular in the kitchen?	It is quick to cook food, you can reheat food, they are cheap to run, they support busy family lifestyles, they are versatile.
30	What methods of cooking are healthiest. State why?	Steaming, grilling, poaching, baking. Nutrients aren't lost and fat use is limited if used at all
31	What is seasonal food? Give two examples	Some foods are seasonal, this means they are only available at certain times in the year (Strawberries need sun to grow so they do not usually grow in the UK in winter) They are not available all year round but is grown at specific times of the year e.g. Summer strawberries and apples, spring greens
32	Why is it important to buy local food?	It reduces carbon emissions in transport, supports local farmers, you can get fresher food, you can buy seasonal food.

33	What are good skills to demonstrate when you are preparing food?	Knife skills, shaping, forming, pastry making, doughs, layering, sauces, decorating etc
34	What are the nutritional needs of a teenager?	Include essential vitamins and minerals needed for bones and internal organ growth, avoid junk food, provide iron rich foods for teenage girls, protein for growth, carbohydrates for energetic individuals, cut down on bad fats
35	Why is it important to be able to adapt a recipe?	Because individuals can be allergic or intolerant to some ingredients therefore it is important to be able to substitute these foods with other ingredients
36	State 4 ways that you could decorate or enhance a dish to improve the appearance of it?	Garnish with salad or vegetables, decorate with fruit, use sauces to enhance the dish, create patterns with sugar, use special dishes and plates
37	What is a time plan? What should it include?	A step by step guide of how to prepare and make a dish in a given time. Includes timings, methods and health and safety points.
38	When creating a time plan for your cooking what 4 considerations do you need to make?	Cook or prepare things that take longer first. Get everything out and ready before you start Include Washing up and hygiene factors as you go along Consider your oven temperatures if you cook more than one dish Give yourself adequate time for decoration and serving
39	Why has street food become so popular?	It is cheaper than restaurant food, it encourages you to try new foods, it is often cooked in front of you, tasty

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

1	What are the 3 types of verb in French?	ER, IR, RE
2	What is an infinitive?	The 'to' bit of the verb. The part you find in the dictionary. The bit that ends in ER, IR, RE
3	What is a personal pronoun?	The person doing the action: je, tu, il, elle, on, nous, vous, ils, elles
4	How to you create the stem of a verb?	Remove the ER, IR, RE and what is left is the stem.
5	What do we add to the stem of ER, IR, RE verbs to create the past participle?	ER = é IR = i RE = u
6	What auxiliary verb do we use with MOST verbs to form the past tense?	AVOIR = to have J'ai Tu as il/elle/on a nous avons vous avez ils/ells ont

7	What are the 3 steps to form the Perfect (past) tense?	<ol style="list-style-type: none"> 1. Choose the person doing the action from the verb AVOIR 2. Chop the ER/IR/RE off the infinitive to create the STEM 3. Add the past participle to the stem
8	How many verbs use Être (to be) as the auxiliary verb	14 (and all reflexive verbs)
9	What is the mnemonic we use to remember these verbs?	MRS VAN DER TRAMP Or MR V DREAMPANTS
10	What are the verbs that use être as the auxiliary verb?	<p>Monter = to go up</p> <p>Rentrer = to go back</p> <p>Sortir = to go out</p> <p>Venir = to come</p> <p>Arriver = to arrive</p> <p>Naître = to be born</p> <p>Descendre = to go down</p> <p>Entrer = to enter</p> <p>Rester = to stay</p> <p>Tomber = to fall</p> <p>Retourner = to return</p> <p>Aller = to go</p> <p>Mourir = to die</p> <p>Partir = to leave</p>

GEOGRAPHY

1	What is an ecosystem?	An ecosystem is an area that includes all the biotic (living organisms) parts such as plants and animals and the abiotic (non-living) such as soil, rocks and climate sharing an environment.
2	Identify three biotic elements of an ecosystem.	Any three living organisms.
3	Identify three abiotic elements of an ecosystem.	Soil, rock and climate.
4	What is a producer?	A producer is an organism that produces its own food, usually by photosynthesis such as trees.
5	What is the difference between a primary and secondary consumer?	A primary consumer is a herbivore that consumes producers. Secondary consumers are carnivores that consume primary producers.
6	What is a carnivore?	A carnivore is a consumer of herbivores (animals).

7	What is a herbivore?	A herbivore is a consumer of primary producers (plants).
8	What is an omnivore?	An omnivore consumes both producers (plants) and animals.
9	What is a decomposer?	A decomposer is an organism that decomposes and breaks down dead plants and animals.
10	Why are decomposers so important for ecosystems?	A decomposer is an organism that decomposes and breaks down dead plants and animals.
11	Why is photosynthesis so important in ecosystems?	Without photosynthesis there would be no primary consumers which would lead to the break-down of ecosystems as primary consumers would have no source of energy. Likewise, there would be no food for secondary consumers.
12	What is a food chain?	A food chain shows the flow of energy from producer to tertiary consumer
13	What is a food web?	A food web shows a collection of food chains.
14	Give an example of a small-scale ecosystem.	Pond, hedgerow or woods (or any other small scale ecosystem)

GEOGRAPHY

1	What is a biome?	Biomes are very large ecological areas on the earth's surface, with fauna and flora (animals and plants) adapting to their environment.
2	Identify three of the world's major biomes.	Any from tropical rainforest, hot desert, taiga, savanna, polar, deciduous forest etc.
3	Describe the distribution of the tropical rainforest biome.	Tropical rainforests are located between 10°N and 10°S of the Equator where temperatures stay near 28°C throughout the year. Rainforests typically receive over 2000mm of rain each year. The largest rainforests are in the Amazon in Brazil (South America), Democratic Republic of Congo (Africa) and Indonesia (South East Asia). Tropical rainforests are also found in Hawaii and the islands of the Pacific & Caribbean.
4	Explain the distribution of the tropical rainforest biome.	Tropical rainforests are found near the equator due to the amount of rainfall and the amount of sunshine these areas receive. Most tropical rainforests fall between the Tropic of Cancer and the Tropic of

		Capricorn. These areas receive more sunlight and the amount of sunlight and intensity of the sunlight the tropics receive doesn't vary much in comparison to other parts of the globe. The high temperatures means that evaporation happens at a fast rate, resulting in frequent rainfall. Also, air is rising due to the Hadley cell resulting in convectional rainfall.
5	Identify the main layers of found in the tropical rainforest ecosystem.	Emergent, canopy, under canopy, shrub and ground layer.
6	Describe the typical weather and climate of a tropical rainforest ecosystem.	<p>Climate:</p> <ul style="list-style-type: none"> • Very wet with over 2,000 mm of rainfall per year. • Very warm with an average daily temperature of 28°C. The temperature never drops below 20°C and rarely exceeds 35°C. • The atmosphere is hot and humid. • The climate is consistent all year round. There are no seasons. <p>Weather:</p> <ul style="list-style-type: none"> • Heavy rainfall in the afternoon
7	Identify 6 interdependent features of the tropical rainforest	Climate, water, soils, plants, animals and people.
8	Explain 3 ways vegetation has adapted to the rainforest environment.	<p>Any of the following:</p> <ul style="list-style-type: none"> • Plants in the highest layer (emergent) only have branches at their crown (where the most light reaches them), and plants in the under canopy have large leaves to absorb as much light as possible to support photosynthesis. • In the tropical rainforest, most trees in the rainforest have wide buttress roots. This is to support them as they grow incredibly tall (over 20-40m in some cases) as there is great competition for sunlight. In addition to this, roots grow wide rather than deep because nutrients are found in the top layer of soil. • Epiphytes are plants that grow on the surface of another plant. It gets its moisture and nutrients from the air, rain, water or from debris accumulating around it. • Lianas (vines) grow around trees as they climb to reach sunlight. • Tree bark in the tropical rainforest is typically thin. This is because the temperature throughout the year is typically between 26-28°C. Therefore, they do not need protecting from the cold.

		<ul style="list-style-type: none"> Plants drop their leaves gradually throughout the year, meaning they can go on growing all year round. Many trees have smooth, thick bark as there is no need to protect the trunk from cold temperatures. The smooth surface also allows water to run off easily to the soil, so the tree can absorb the water
9	Explain 3 ways animals has adapted to the rainforest environment.	<p>Poison Dart Frog The poison dart frog is known for its bright colour, however, in the animal world, this signifies dangers. The poison dart frog excretes poison through its skin and its bright colour warns potential predators against eating it. Some of the frogs in this family are not poisonous however, they have adapted to their environment by copying the appearance of the poisonous types.</p> <p>Sloth Sloths have adapted to the rainforest ecosystem in a number of ways. Two-toed sloths are nocturnal which enables them to avoid diurnal (or active during the day) predators, by sleeping during the day. Although three-toed sloths are both diurnal and nocturnal, they're largely inactive during the day. Sloths are built for life in the trees because their arms are longer than their legs and their feet are curved which helps them grasp branches. Sloths move very slowly which helps them avoid being seen by predators.</p> <p>Three-toed sloths have tan coats, while two-toed sloths usually have grey-brown fur. These tones match tree trunks and branches providing camouflage. Additionally, they grow algae in their fur which contributes to their camouflage.</p> <p>Three-toed sloths have three extra neck bones which allow them to turn their heads 270° which is a useful adaptation when predators can come from any direction.</p>

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

1	What are the 4 words for the in German?	Masc: der Fem: die Neuter: das Plural: die
2	What is an infinitive?	The 'to' bit of the verb. The part you find in the dictionary.



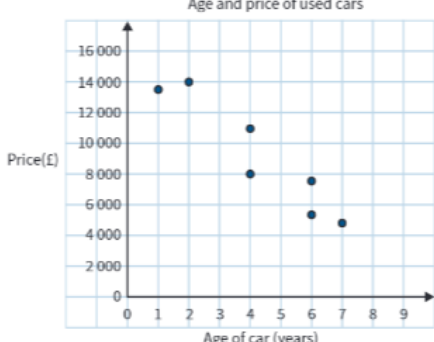
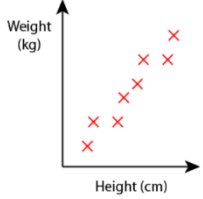
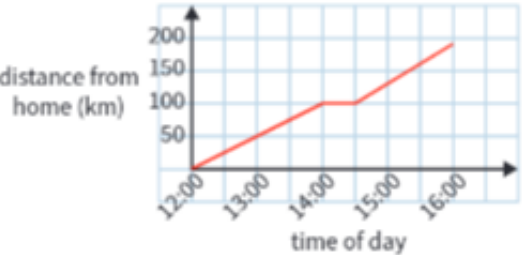
3	What is a personal pronoun?	The person doing the action: ich, du, er, sie, es, wir, ihr, Sie, sie
4	How to you create the stem of a verb?	Remove the EN and what is left is the stem.
5	What are the verbs 'to learn' and 'to wear'?	lernen= to learn tragen= to wear
6	What prefix to we add to the noun to make it 'favourite'?	Liebling.....
7	How do we say 'because' in German?	weil
8	What is the word for 'half'?	Halb
9	What is special about 'halb' with time?	In German they say half to the next hour e.g. Es is halb vier = 3:30
10	How do we say there is/there are a...?	Es gibt... Masc: einen Fem: eine Neuter: ein

HISTORY

1	What does Anti-Semitism mean?	Hatred of Jews.
2	What did Hitler blame the Jews for?	Germany's defeat in the First World War.
3	What was the purpose of the Nuremberg Laws?	To deprive Jewish people of their civil rights.
4	What was the 'Final Solution'?	To murder all Jewish people in Europe.
5	What other groups were persecuted by the Nazis?	<ul style="list-style-type: none"> • Political opponent • Criminals • Immigrants • Jehovah's Witnesses • Homosexuals • Anyone with a disability • Black people
6	Why did the Nazis build ghettos?	To separate Jewish people from the rest of the city or town.
7	What was decided at the Wannsee Conference?	Plans were made for the mass transportation of Jews from across Nazi occupied territory to Eastern Europe, where they would be murdered through forced labour, starvation and disease, or in the gas chambers of newly built extermination camps.

8	What were conditions like in the ghettos?	Conditions in ghettos were appalling. On average, there were between eight and ten people living in every room. Food rations were deliberately low. On average, people received 1,200 calories a day in 1940, and this later dropped further.
9	What were the main extermination camps?	<ul style="list-style-type: none"> • Auschwitz-Birkenau • Belzec • Chelmno • Majdanek • Sobibor • Treblinka
10	How did Jews resist the Nazis?	Warsaw Ghetto uprising/ people resisted by continuing to practice their faith after this was banned/ in the concentration and extermination camps, people resisted by smuggling messages and information about what was happening to the outside world.
11	Which river marked the start of the Great Plains?	The Mississippi
12	When did the Oregon Trail open?	1836
13	What is 'Manifest Destiny'?	The belief of non-native American people that it was their God-given duty to settle across the whole of North America.
14	Who came up with the phrase 'Manifest Destiny'?	John L Sullivan
15	Who were the first Americans to travel west and what was their motive?	The Fur trappers. To obtain and sell fur. Mountain men.
16	What problems did early migrants face?	Travel. Weather. Climate. Food. Clothing. Lack of resources. Terrain.
17	What year did the Donner Party set out?	1846
18	Why did they run into problems?	Bad 'roads' (passing routes), arguments & splits, weather. Delayed reaching Sierra Nevada Mountains. Starvation.
19	Who was the founder of the Mormons?	Joseph Smith
20	Give 3 reasons why the Mormons were unpopular.	They opposed the slave trade, they were wealthy, they supported native Indians and supported polygamy.

MATHS

1	What is a sequence?	<p>A sequence is a list of numbers or objects that follow a rule or pattern e.g. 3, 5, 7, 9, 11</p> 
2	What is a term?	<p>A term is a number or pattern in a sequence e.g. in the sequence 2, 5, 8, 11.....5 is the second term</p>
3	What is a term to term rule?	<p>How a sequence continues from one term to the next e.g. the sequence 10, 8, 6, 4, ... has a term to term rule of "start at 10 and subtract 2"</p>
4	What is the Fibonacci sequence?	<p>The sequence where each term is the sum of the previous two terms e.g. 0, 1, 1, 2, 3, 5, 8, 13, 21, 34....</p> 
5	What is an inequality?	<p>A comparison of two expressions or values that are not equal. The following symbols may be used \geq, $>$, \leq, $<$ and \neq</p>
6	What is a scatter graph?	<p>A scatter graph show how two sets of data are related.</p>  <p>Each point on the graph (coordinate) represents 2 pieces of matching data (the price and age of the car)</p>
7	What is correlation?	<p>Correlation is used to describe the type of relationship between the two sets of data.</p>  <p>This graph shows positive correlation. As weight (kg) increases so does height (cm)</p>
8	What is standard form?	<p>A shorter way of writing very large or very small numbers e.g. 243 000 in standard form is 2.43×10^5 0.0031 in standard form is 3.1×10^{-3}</p>
9	What is speed?	<p>Speed is the rate of change of distance. It is a measure of how fast an object is travelling, calculated using $speed = \frac{distance}{time}$</p>
10	What is a distance time graph?	<p>A graph used to show the distance that an object moves over time. The time is shown on the horizontal axis and distance on the vertical axis</p> 

MUSIC

1	What is Tempo?	The speed of the music.
2	What is BPM?	Beats Per Minute
3	Where and when did Club Dance music originate?	Chicago in the 1980s.
4	How many beats in a bar in Dance Music?	4
5	What is a kick drum?	The bass drum of the drum kit, hit with a pedal and creates a low and boomy sound.
6	What is a snare drum?	The drum in the middle of the kit which has a sharp sound as its metal snares vibrate.
7	What is a hi-hat?	The 2 cymbals which sit on top of each other to the left of the snare drum – they can be open or closed with a foot pedal.
8	Which beat does the kick drum play on?	Every beat – Four on the Floor
9	What beat does the snare drum play on?	2 and 4
10	What beat does the hi-hat play on?	On the off-beat.
11	What is EDM?	Electronic Dance Music.
12	What is meant by editing?	Changing notes to correct them, for example changing the length or the pitch.
13	What is looping?	Repeating a part of the music identically.
14	How many notes are in a chord?	3
15	How do you work out which notes are in a chord?	Start with the name of the chord and follow the pattern: Play one, Miss one, Play one, Miss one, Play one
16	What notes are in a C chord?	C E G
17	What notes are in a F chord?	F A C
18	What notes are in a G chord?	G B D
19	What notes are in a Am chord?	A C E
20	What notes are in a Dm chord?	D F A

21	How many beats is a crotchet?	1
22	How many beats is a quaver?	1/2
23	How many beats is a minim?	2
24	How many beats is a semibreve?	4
25	How many beats is a semiquaver?	1/4
26	What is an off-beat in music?	Playing on the weak beat.
27	How do you loop a track on Garageband?	Hover over the end of the track to be looped and then drag the loopy sign across.
28	How do you copy a track on Garageband?	Command C. Command V (or copy and paste in edit)

PE

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	How do we assess in PE?	Through a combination of 5 physical assessments and 5 holistic assessments (social, thinking, leadership, health and fitness and creative)
3	How do we give effective feedback to others in PE lessons?	Watch your partner Look out for the key teaching points Tell them what they are doing well Tell them what they need to improve. Use full sentences and make reference to the teaching points
4	How do we do retrieval practice in PE?	At the beginning of the lessons, we recap the previous lesson and retrieve key knowledge and skills.
5	What happens to the body when we warm up?	Muscles require higher amounts of oxygen, heart rate and oxygen intake thus increases to transport oxygenated blood to the working muscles via the blood vessels. This increases blood flow prepares the body for exercise.
6	How do we test for agility?	Speed bounce
7	Give 2 sports that require a lot of power.	Rugby Sprint events (swim/run/cycle) Weightlifting Judo/Boxing/MMA

8	Name the 6 areas that make up physical fitness?	BASSFM (Acronym) Balance, Aerobic Endurance, Strength, Speed, Flexibility and Muscular Endurance
9	Define 'flexibility'	The ability to move all joints fluidly through their complete range of movement.
10	Describe 'counter tension' in gymnastics.	Counter tension is when gymnasts perform a balance which involves two or more of them pulling away from each other (or a piece of apparatus), where the weight is not even
11	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
12	How do we give effective feedback to others in PE lessons?	Watch your partner Look out for the key teaching points Tell them what they are doing well Tell them what they need to improve. Use full sentences and make reference to the teaching points
13	Discuss three rules you must follow when playing table tennis	Student led responses based on health and safety/scoring rules/equipment regulations or game based rules.
14	From any sport/activity of your choice, what skills (name 3) do you believe you have done well and think you are a strength.	Student reflective response.
15	For your current activity, what level/grade do you believe that you are and why?	Self-reflection response. Explain your thoughts and reasons.

RELIGIOUS STUDIES

1	What is freewill?	I have the freedom to make my own decisions in the moment.
2	What is determinism?	What I do in the moment is not free choice, it is due to past actions.
3	What is natural evil?	Natural evil is evil that is not caused by humans.
4	What is moral evil?	Moral evil is evil caused by humans.
5	Define omnipotent.	All powerful
6	Define omnipresent.	Always there

7	Define omniscient.	All knowing
8	Define omnibenevolent.	All loving
9	What is the inconsistent triad/the problem of evil?	The inconsistent triad teaches that God cannot be all loving and all powerful whilst evil exists.
10	What is cause and effect?	Everything has a beginning or a cause, something does not come from nothing.
11	Define atheist.	A person who does not believe in God.
12	Define theist.	A person who believes in God.
13	What is a greater good?	A good which is created through overcoming evil.
14	What does the Teleological argument try to prove?	That it makes sense to believe in an intelligent designer; God.
15	What is the watch an analogy of in the Teleological argument?	The watch was an analogy of a complicated and well designed universe.
16	Is the Teleological argument a theist or atheist argument?	Theist
17	What is an analogy?	A comparison between one thing and another.
18	What's the difference between man-made and natural?	Man-made – Made by humans Natural – Naturally occurring, not made by humans
19	What does 'Monkeys on a typewriter' argue about our universe?	Monkeys on a Typewriter argues that the universe was made by chance due to there being infinite time for anything and everything to happen.
20	Is 'Monkeys on a typewriter' an atheist or theist argument?	At atheist argument
21	What is meant by infinite?	Something that goes on forever.
22	What is the Big Bang Theory?	the scientific story of creation.
23	What is the Big Crunch Theory?	The theory that the universe is in an infinite loop of expansion and reduction.
24	How does the Big Crunch Theory disprove the idea that God created the universe?	There is no need for a first cause as the universe natural is in a cycle of reduction and expansion.

SCIENCE – Cells

1	What are the 5 sub-cellular organelles in an animal cell?	Nucleus, cell membrane, ribosomes, cytoplasm, mitochondria
2	What are the 3 sub-cellular organelles only a plant cell has?	Vacuole, Cell wall, Chloroplast
3	What are the function of the mitochondria of a cell?	Where aerobic respiration occurs in a cell
4	What are "eukaryotic cells"?	DNA contained in a nucleus
5	What is a light microscope?	A piece of equipment with glass lenses that allow light through to magnify images. Many types of cell can be seen with a light microscope.
6	What is the equation to calculate magnification?	Magnification = image size ÷ actual size of specimen.
7	What are two adaptations of ciliated cells?	Tiny hairs (cilia), large surface area.
8	What is the function of root hair cells?	Absorb water and minerals from the soil
9	What are "stem cells"?	An undifferentiated (non-specialised) cell
10	Where are stem cells found in plant and animals?	Plants = meristem, animals = bone marrow
11	Which cells DON'T have the full 46 chromosomes?	Sperm & ova cells (the gametes) only have HALF the chromosomes of a regular cell. As the red blood cell doesn't have a nucleus, it has NO chromosomes.
12	What is a gene?	A gene is a short section of the chromosome - it is responsible for a characteristic like eye colour or blood group. Humans have around 20,000 genes. DNA makes up genes, which makes up chromosomes.
13	How is the DNA stored in the cells?	DNA is coiled into packages called CHROMOSOMES which are stored in the nucleus. Most human cells have 46 chromosomes - 23 from each parent.
14	What is mitosis?	Where two identical daughter cells are produced
15	What is mitosis used for in the body ?	It is used to repair broken/damaged tissue.

SCIENCE – Periodic Table

1	What does the atomic number of an element tell you?	the number of protons it contains (the number of electrons will also be the same)
2	What is the mass number of an atom?	The number of protons and neutrons added together
3	What are the masses and relative electrical charges of a proton, neutron, and electron?	P =1; E=1/200; N=1 P=+1; E=-1; N=0
4	What is the overall electrical charge of an atom	No overall charge, it is neutral
5	What is the radius of a typical atom?	1×10^{-10} m (0.1 nanometres)
6	What is a compound?	two or more different elements chemically bonded together
7	What are the general rules for naming compounds?	Non-metal name changes to -ide Non-metal + oxygen changes to -ate
8	Why are the properties of compounds different to the original elements?	Two elements have now bonded together and changed the properties.
9	How are the elements arranged in the modern periodic table?	Atomic number
10	What do the elements in the same group have in common?	Elements with similar properties are in the same group and elements in the same group have the same number of outer electrons.
11	What is an isotope?	Atoms of the same element containing different numbers of neutrons
12	Why are some elements' relative atomic masses not whole numbers? (i.e. Cl 35.5)	due to them having different isotopes
13	How many electrons can occupy each energy level?	1 st energy level=2; 2 nd energy level =8; 3 rd energy level =8; 4 th energy level = 18
14	Describe the properties of metals?	Shiny, high melting point, good conductors of heat and electricity, high density, malleable.
15	Describe the properties of non-metals?	Dull, low melting points, poor conductors of heat and electricity, low density, brittle.
16	How did the plum pudding model describe the structure of the atom?	A ball of positive charge with electrons spread throughout
17	How did the nuclear model of the atom differ to the plum pudding model?	Atoms have a positive nucleus at the centre, where most of the mass is concentrated. A 'cloud' of negative electrons surrounds this nucleus.
18	Who discovered the neutron in the nucleus?	James Chadwick

19	Describe chromatography.	Chromatography is a separation technique used to separate mixtures of soluble substances.
20	What would be the mobile phase in chromatography?	Solvent ie water
21	What does soluble mean?	A substance that can be dissolved.
22	What is a mixture?	Elements or compounds that are not chemically bonded together
23	State the various processes by which mixtures can be separated	Paper Chromatography (separates mixtures made up of liquids of different colours), Filtration (separates an insoluble solid and liquid), Evaporation and Crystallisation (separate a soluble solid and a solution), Simple distillation (separates out a liquid from a mixture), Fractional Distillation (separates a mixture of different liquids)
24	Describe distillation.	Distillation is a separation technique used to separate a <i>solvent</i> from a <i>mixture</i> . For example, water can be separated from salt <i>solution</i> by distillation.
25	What are the two main processes involved in distillation?	Evaporation and condensation

SCIENCE – Energy

1	State the eight different forms of energy store.	Thermal, kinetic, gravitational, elastic, chemical, magnetic, electrostatic and nuclear energy stores.
2	What is meant by a closed system?	A closed system is a system where neither matter nor energy can enter or leave.
3	State the conservation of energy principle.	Energy can be transferred usefully, stored or dissipated, but can never be created or destroyed.
4	What is meant by the term power?	Power is the rate of doing work.
5	State the equations for power. What units are they measured in?	$P=e/t$ and $P=w/t$ P = power in watts, E = energy in Joules, W = work done in Joules and t = time in seconds.
6	State the equation for efficiency.	Efficiency = useful output energy transfer/ total input energy transfer.
7	State one device that is almost 100% efficient.	An electric heater
8	What eventually happens to all the energy wasted by a device?	It is transferred into thermal energy stores.

9	What is conduction? Describe how energy is transferred by conduction.	The transfer of energy by heating through a substance by vibrating particles colliding.
10	What is convection?	The transfer of energy by the movement of more energetic particles in a gas or liquid from a hotter to a cooler region.
11	In which state of matter does convection not happen?	Solids.
12	How is electricity generated by a wind turbine, solar cell, geothermal energy source?	The wind hits the blades of the turbines, which are connected to an electrical generator. When sunlight hits the Earth's surface, we capture some of it using solar panels. Heat from the earth's crust creates steam, steam rotates a turbine which turns a generator.
13	How is electricity generated by hydroelectric, waves and tidal sources?	Water is held behind a dam and allowed through turbines, which are connected to generators. When a wave reaches the coastline, the motion of the wave forces air up through a turbine which drives a generator. Tidal barrages are dams with turbines in them. They stop the tide flowing into rivers so the height difference of water builds up between the sides. It can then flow through a turbine which will turn a generator.
14	What is meant by carbon neutral?	It removes as much carbon dioxide from the atmosphere as it releases.
15	Name the three fossil fuels.	Coal, oil and natural gas.
16	How is electricity generated in a fossil fuel power station?	Fossil fuels are burned to heat water into steam that drives a turbine to generate electricity.

SCIENCE – Diseases

1	What is a pathogen?	Microorganisms that cause disease.
2	What are the four types of pathogens?	Bacteria, virus, fungi and protist.
3	How do pathogens spread?	Water, air, direct contact.
4	Name three viral diseases and give symptoms of all diseases.	Measles – Red skin rash and fever. (Sneeze or cough) HIV – Flu like symptoms at first (Sexual contact/bodily fluids) Tobacco Mosaic virus- Mosaic pattern on the leaves of plants, decolourisation – less photosynthesis.
5	Name a fungal disease and give its symptoms.	Rose black spot – Purple/black spots to develop on leaves of rose plants.
6	Name a protist disease and what measures we can take to prevent it.	Malaria. Mosquitos are vectors. Measures to prevent it are: Removing water sources/Insect repellent/mosquito nets.

7	Give two examples of bacterial diseases and the symptoms of them.	Salmonella – food poisoning. Stomach cramps, fever, vomiting and diarrhoea. Gonorrhoea – STD. Pain when urinating, thick yellow discharge from penis or vagina.
8	Describe how we can reduce and prevent the spread of disease.	Being hygienic, destroying vectors, isolating infected individuals and vaccinations.
9	Give two ways in which the skin helps to defend the body.	Skin acts as a barrier to pathogens and secretes antimicrobial substances which kill pathogens.
10	Give three ways in which white blood cells help to defend the body against disease.	Consuming them, producing antitoxins and producing antibodies.
11	What are vaccinations?	An injection to prevent the spread of a disease.
12	How do vaccinations work?	Injecting a small amount of dead or inactive pathogen. These carry antigen, which cause your white blood cells to produce antibodies to attack them. If live pathogens of the same type then appear at a later date then the white blood cells can rapidly mass produce antibodies to kill the pathogen.
13	How are painkillers and antibiotics different?	Painkillers relieve pain. Antibiotics kill or prevent the growth of bacteria.
14	Describe what aspirin and digitalis are used for and where they originate from.	Aspirin is used as a painkiller and to lower fever. Developed from a chemical found in willow. Digitalis is used to treat heart conditions and was developed from a chemical found in foxgloves.
15	Describe antibiotic resistance.	When bacteria mutate and sometimes these mutations cause them to be resistance to an antibiotic. Usually caused by the over prescribing of antibiotics.
16	What is a placebo?	A fake drug.
17	Name the stages of drug testing.	Pre-clinical trials Clinical trails Blind and double-blind trials.