



## **GCSE Framework of Progression by Subject**

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## Art & Design

<b>Grade</b>	<b>A01 - Develop ideas through investigations, demonstrating critical understanding of sources</b>	<b>A02 - Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes</b>	<b>A03 - Record ideas, observations and insights relevant to intentions as work progresses</b>	<b>A04 - Present a personal and meaningful response that realises intentions and demonstrate understanding of visual language</b>
9	Visually interpret the work of other artists and write reasoned arguments about the processes, thoughts, feelings and ideas behind their work, developing my own ideas through critical analysis	Use a broad range of media and techniques, selecting the most appropriate materials and processes to use in my work. I am able to use the work and influences of other artists in my own work to guide me in my choices	Create detailed artworks and clearly see where my work needs improvement. I am able to set specific targets to help improve my work and develop ideas	Present a 'personal' and 'meaningful' response that demonstrates understanding of visual language and skill when using media and technique and expresses my thoughts, feelings and ideas; realising my intentions
8	Visually interpret the work of other artists using visual and written means and write reasoned arguments about the processes, thoughts, feelings and ideas behind their work, as I develop my own ideas in response	Use and combine a broad range of media and techniques, evaluating and selecting the most appropriate materials and processes to use in my work. I am able to use the work of others to guide me in my choices	Create detailed artworks and clearly see where my work needs improvement. I am able to set specific targets to help improve my work	Present a 'meaningful' response that demonstrates skill when using media and technique and expresses my thoughts, feelings and ideas
7	Visually interpret the work of other artists and write reasoned arguments about the processes, thoughts, feelings and ideas behind their work	Use and combine a range of media and techniques, selecting the most appropriate materials and processes to use in my work	Create accurate artworks and clearly see where my work needs improvement. I am able to set specific targets to help improve my work	Present 'meaningful' artworks that demonstrate skill when using media and technique and express my thoughts, feelings and ideas
6	Visually interpret the work of other artists and include relevant information associated with their work	Use a wide range of media and techniques, selecting the most appropriate materials and processes to use in my work	Create artworks and clearly see where my work needs improvement. I am able to set specific targets linked to my work	Create imaginative artworks that demonstrate skill when using media and technique and express my thoughts, feelings and ideas
5	Find a range of images by other artists with relevant information. I can recreate the work of other artists, commenting on the processes involved and the ideas behind their work	Use a wide range of techniques for different purposes and be selective when using media	Create artworks and see where my work needs improvement. I can write targets linked to my work	Create imaginative artworks that demonstrate skill when using media and technique and which link to my project
4	Find a range of images by other artists with relevant information. I can copy their work, commenting on the processes involved	Use a range of media and techniques in my work for different purposes	Create a detailed drawing and make judgements about my own work as well as setting targets linked to my work	Create imaginative artworks that demonstrate skill when using media and technique

3	Find images by artists with relevant information. I can copy their work and make statements about what processes they have used	Demonstrate a range of media in my work and apply relevant techniques	Create an accurate drawing and make judgements about my own work as well as setting targets	Create creative artwork that demonstrates skill when applying technique
2	Find a range of images by artists and write statements about each one and the processes involved in their work	Demonstrate a range of media in my work	Create a tonal drawing that is accurate	Create relevant artwork and make judgements about my work
1	Find images by artists and write 3 facts about them	Use at least two different media to create an artwork	Create a basic line-drawing which resembles the subject	Create relevant artwork that links to my project

## Computing

Grade	Algorithms	Programming & Development	Hardware & Processing	Communication & Networks	Information Technology
9	Designs a solution to a problem that depends on solutions to smaller instances of the same problem (recursion). Understands that some problems cannot be (e.g. Global warming )	Designs and writes nested modular programs that enforce reusability utilising sub-routines wherever possible. Understands the difference between 'While' loop and 'For' loop, which uses a loop counter. Understands and uses two dimensional data structures.	Has practical experience of a small (hypothetical) low level programming language. (AB) (AL) (DE) (GE) Understands and can explain Moore's Law. (GE) Understands and can explain multitasking by computers. (AB) (AL) (DE)	Understands the hardware associated with networking computer systems, including WANs and LANs, understands their purpose and how they work, including MAC addresses.	Understands the ethical issues surrounding the application of information technology, and the existence of legal frameworks governing its use e.g. Data Protection Act, Computer Misuse Act, Copyright etc.
8	Recognises that the design of an algorithm is distinct from its expression in a programming language (which will depend on the programming constructs available). Evaluates the effectiveness of algorithms and models for similar problems. Recognises where information can be filtered out in generalizing problem solutions. Uses logical reasoning to explain how an algorithm works. Represents algorithms using structured language. (Psuedocode).	Appreciates the effect of the scope of a variable e.g. a local variable can't be accessed from outside its function. ) Understands and applies parameter passing. Understands the difference between, and uses, both pre-tested e.g. 'while', and post-tested e.g. 'until' loops. Applies a modular approach to error detection and correction.	Knows that processors have instruction sets and that these relate to low-level instructions carried out by a computer.	Knows the purpose of the hardware and protocols associated with networking computer systems. Understands the client-server model including how dynamic web pages use server-side scripting and that web servers process and store data entered by users. Recognises that persistence of data on the internet requires careful protection of online identity and privacy.	Undertakes creative projects that collect, analyse, and evaluate data to meet the needs of a known user group. Effectively designs and creates digital artefacts for a wider or remote audience. Considers the properties of media when importing them into digital artefacts. Documents user feedback, the improvements identified and the refinements made to the solution. Explains and justifies how the use of technology impacts on society, from the perspective of social, economical, political, legal, ethical and moral issues. (e.g Copyright issues)
7	Understands a recursive solution to a problem repeatedly applies the same solution to smaller instances of the problem. Recognises that some problems share the same characteristics and use the same algorithm to solve both. Understands the notion of performance for algorithms and appreciates that some algorithms have different performance characteristics for the same task.	Uses nested selection statements. Appreciates the need for, and writes, custom functions including use of parameters. I understand why this is an efficient approach. Knows the difference between, and uses appropriately, procedures and functions. Understands and uses negation with operators. Uses and manipulates one dimensional data structures.	Understands the von Neumann architecture in relation to the fetch execute cycle, including how data is stored in memory. Understands the basic function and operation of location addressable memory (Little Man Computer)	Knows the names of hardware e.g. hubs, routers, switches, and the names of protocols e.g. SMTP, iMAP, POP, FTP, TCP/IP, associated with networking computer systems. Uses technologies and online services securely, and knows how to identify and report inappropriate conduct.	Justifies the choice of and independently combines and uses multiple digital devices, internet services and application software to achieve given goals. Evaluates the trustworthiness of digital content and considers the usability of visual design features when designing and creating digital artifacts for a known audience.

6	Understands that iteration is the repetition of a process such as a loop. Recognises that different algorithms exist for the same problem. Represents solutions using structured and readable algorithms (psuedocode). Can identify similarities and differences in situations and can use these to solve problems ( e.g pattern recognition in cryptography).	Understands that programming bridges the gap between algorithmic solutions and computers. Has practical experience of a high-level textual language, including using standard libraries when programming. (e.g Python and Python modules) Uses a range of operators and expressions e.g.Boolean, and applies them in the context of program control. Selects the appropriate data types.	Recognises and understands the function of the main internal parts of basic computer architecture. Understands the concepts behind the fetch-execute cycle ( ie. How the CPU works) Knows that there is a range of operating systems and application software for the same hardware.	Understands how search engines rank search results. Understands how to construct static web pages using HTML and CSS. Understands data transmission between digital computers over networks,including the internet i.e. IP addresses and packet switching.	Evaluates the appropriateness of digital devices, internet services and application software to achieve given goals. Recognises ethical issues surrounding the application of information technology beyond school (e.g. privacy ). Designs criteria to critically evaluate the quality of solutions, uses the criteria to identify improvements and can make appropriate refinements to the solution.
5	I can explain which solutions are best attempted by either humans or computers. In designing a solution I can break the problem down into a series of smaller solutions. I am aware that more than one solution can be attempted to solve a problem	I can write an efficient program using if and if, then and else statements. I can use a variable and a relational operator to govern when a loop should stop. I can debug a program independently with limited intervention. E.g syntax errors	I understand why and when computers are used. I understand the main functions of the operating system. I can explain the the difference between physical, wireless and mobile networks.	I can effectively use search engines and can explain how a search engine selects results. I can also use a range of different online services and know to report safety concerns.	I can design digital content for a given audience. I can evaluate the quality of a digital solution against a set of criteria and make appropriate improvements.
4	I can write or show an algorithm which uses if, then and else and can predict the outcomes of such an algorithm.	I can create a program from an algorithm that uses a loops and selection statements including if, then and else.	I can explain the difference between data and information and I know that computers collect data from different input devices including sensors. I know the difference between hardware and application software and their purpose.	I can explain the difference between the Internet and the World Wide Web. I also understand what sort of behaviour is acceptable online.	I can use and combine a variety of software to produce digital content. I can share content with others using social media e.g. Blogs and Google docs etc. I can also respond to feedback and making improvements based on online feedback.
3	I understand that a correctly constructed algorithm is essential for an effective and efficient program. I am also able to identify and detect errors in an algorithm	I can use mathematical operators, if statements and loops in a program. I can predict what the outcome of a program will be.	I understand that computers are embedded in a range of different applications and can identify and use input, output and storage devices and processes.	I can use the Internet to carry out a range of different searches and can sort my findings into useful information.	I can use a range of different technology confidently and independently and can represent, edit and manipulate digital content so that it can be shared meaningfully with others.
2	I can carefully write or represent as a flow chart a simple algorithm to solve a problem	I can write a simple program using a language such as Sonic, Scratch or Python to achieve a solution	I understand that computer hardware has no intelligence and needs instructions for it to perform a function.	I can navigate the web using a web browser. I can identify unsafe content and know what to do should I feel unsafe.	I can use a range of digital devices to create, store and share content which I can then edit and improve.
1	I can carefully write a simple algorithm to solve a problem	I can write a simple program using a language such as Sonic, Scratch or Python to achieve a solution	I understand that computer hardware has no intelligence and needs instructions for it to perform a function.	I can navigate the web using a web browser. I can identify unsafe content and know what to do should I feel unsafe.	I can use a range of digital devices to create, store and share content which I can then edit and improve.

## Drama

<b>Grade</b>	<b>AO1 (20%)</b> <b>Create and develop ideas to communicate meaning for theatrical performance. (Creating)</b>	<b>AO2 (30%)</b> <b>Apply theatrical skills to realise artistic intentions in live performance. (Performing)</b>	<b>AO3 (30%)</b> <b>Demonstrate knowledge and understanding of how drama and theatre is developed and performed. (Responding)</b>	<b>AO4 (20%)</b> <b>Analyse and evaluate their own work and that of others. (Evaluating)</b>
9	<p>A very productive leader who is very effective at co-operation and compromise. A very positive working atmosphere exists because of their adaptability and perceptiveness.</p> <p>Their own creations are brilliantly written showing outstanding confidence and creativity. This work always far outstrips the demands of the criteria set. Has complete control over all Drama techniques, often using them with surprising, original and impressive results.</p>	<p>Is completely committed to the roles they play and the performances they take part in. Any lines set to learn are delivered faultlessly, with creative and confident characterisation.</p> <p>Has complete control over the mental and physical skills needed to perform entirely convincing and impressive characters.</p>	<p>Diaries and written reflections are outstanding with very perceptive and intelligent comment and reflection across all areas.</p> <p>Demonstrates an advanced understanding of the theory of the style in use, including reference to any relevant practitioners and has strong awareness of the social, historical, political and cultural context of the work and the impact this has on the Drama.</p>	<p>Can respond to questions and feedback in class with very perceptive comments and original and challenging ideas.</p> <p>Makes very original suggestions for improvement, reflecting on skills and end result.</p>
8	<p>A strong leader who is very committed to the drama and able to keep the working atmosphere positive and productive. They are able to make changes to the way a group works in order to make it successful.</p> <p>Their own creations are very confidently and creatively written, consistently going beyond the demands of the criteria set. Can use many Drama techniques very creatively and with very effective and original results.</p>	<p>Can stay in role all the time, showing an impressive commitment to the performances they do. Any lines set to learn are delivered with flair, confidently and with a good sense of character.</p> <p>Can construct and perform a wide variety of characters with depth and sensitivity. Characters are interpreted with originality and flair.</p>	<p>Demonstrates an excellent understanding of the theory of the style in use, including reference to any relevant practitioners and has awareness of the social, historical, political and cultural context of the work and the impact this has on the Drama.</p> <p>Diaries and written reflections show an excellent level of analysis and evaluation, with perceptive comments on strengths and weaknesses.</p>	<p>Can respond to questions and feedback in class very well, showing that they have a deep understanding of Drama and can interpret ideas with originality and flair.</p> <p>Makes original suggestions for improvement, reflecting on the end result.</p>
7	<p>Contributes ideas very well to their group and shows good leadership skills. They understand why team work is important and how to make it successful.</p> <p>Their own creations show very good confidence and creativity, going beyond the criteria set. Can recognise and use various different Drama techniques with definite confidence and creativity.</p>	<p>Can consistently stay in role for the whole of a performance. Any lines set to learn are delivered without mistakes.</p> <p>Can perform a variety of convincing characters with confidence and originality.</p>	<p>Demonstrates a very good understanding of the theory of the style in use, including reference to any relevant practitioners and has very good awareness of the social, historical, political and cultural context of the work and the impact this has on the Drama.</p> <p>Diaries and written reflections show a good level of analysis and some evaluation, with confident awareness of strengths and weaknesses.</p>	<p>Can respond to questions and feedback in class intelligently and without encouragement.</p> <p>Makes some original suggestions for improvement, reflecting on the end result.</p>

6	<p>Contributes ideas well to their group and is capable of showing good leadership skills. They understand why team work is important. Their own creations show good confidence and creativity, sometimes going beyond the criteria set. Can recognise and use various different Drama techniques with definite confidence and creativity.</p>	<p>Can consistently stay in role for the whole of a performance. Any lines set to learn are delivered with very few mistakes.</p> <p>Can perform a variety of convincing characters with confidence.</p>	<p>Demonstrates a good understanding of the theory of the style in use, including reference to any relevant practitioners and has good awareness of the social, historical, political and cultural context of the work.</p> <p>Diaries and written reflections show a good level of analysis, with confident awareness of strengths and weaknesses.</p>	<p>Can respond to questions and feedback in class with comments that are thought through and positive.</p> <p>Makes good suggestions for improvement, reflecting on the end result.</p>
5	<p>Will make a positive contribution to a group, sharing ideas and showing some leadership. Can explain why this is important.</p> <p>Their own creations show a growing confidence and creativity, consistently achieving the criteria set. Can recognise and use a wider variety of Drama techniques with growing confidence and creativity.</p>	<p>Can stay in role for most of the performance with few distractions. Any lines set to learn are delivered with occasional prompting.</p> <p>Can perform characters that are different from themselves with growing confidence and originality.</p>	<p>Demonstrates an understanding of the theory of the style in use, and has awareness of the social, historical, political and cultural context of the work and the impact this has on the Drama.</p> <p>Diaries and written reflections begin to show a detailed level of explanation, with clear awareness of strengths and weaknesses.</p>	<p>With some encouragement, they can respond to questions and feedback in class with comments that show some reflective thought. Makes suggestions for improvement, reflecting on the end result.</p>
4	<p>Will make reasonable suggestions and contribution to their groups work, sharing some simple ideas.</p> <p>Their own creations show some thought and creativity, achieving the basic demands of the criteria set. Can recognise and use different Drama techniques with reasonable confidence.</p>	<p>Can stay in role for good parts of their performance, occasionally struggling to keep focused. Any lines set to learn are performed with frequent prompting.</p> <p>Can perform a character that shows some thought and difference from themselves</p>	<p>Demonstrates a reasonable understanding of the theory of the style in use and has reasonable awareness of some of the context of the work.</p> <p>Diaries and written reflections are often brief, but with some explanation of strengths and weaknesses.</p>	<p>Can respond to questions and feedback in class with basic descriptive responses. Will need strong teacher encouragement to do this. Makes reasonable suggestions for improvement.</p>
3	<p>Will be more comfortable being led by others in a group situation.</p> <p>Their own creations are basic. Can use basic Drama techniques with some success.</p>	<p>Can stay in a role they have created for some of the performance. They struggle to remember scripted lines.</p> <p>Can choose some appropriate movement and voice for a basic character.</p>	<p>Demonstrates some understanding of the theory of the style in use and has some awareness of the social, historical, political and cultural context of the work. Diaries and written reflections are basic, with basic descriptions. Description, rather than explanation is common.</p>	<p>Can respond to questions with simple statements.</p> <p>Makes simple suggestions for improvement.</p>
2	<p>Sometimes does as instructed by other group members.</p>	<p>Can take on a basic character but struggles to maintain this for anything longer than a few minutes. Scripted</p>	<p>Demonstrates basic understanding of the theory of the style in use. May have basic awareness of the context of the work.</p>	<p>Can respond to questions with basic statements.</p>

	Their own creations are basic and will often not fulfil the criteria set. Can use basic Drama techniques	lines are not learnt. Can create a character similar to themselves.	Diaries are basic with very little reflection. They use simple statements.	Makes basic suggestions for improvement.
I	Does not show awareness of other group members.  Their own creations are very basic and do not fulfil the criteria set. When prompted, will use some basic Drama techniques.	Becomes a very basic character but cannot sustain this for more than a few minutes. Does not know scripted lines.  Creates characters the same as themselves.	May demonstrate limited understanding of the theory of the style in use. Has limited awareness of the context of the work.  Diaries are very basic and lack reflection.	Describes what they saw.  Makes no suggestions for improvement.

## Design & Technology

Grade	A01 Identify, investigate and outline design possibilities to address needs and wants	A02 Design and make prototypes that are fit for purpose	A03 Analyse and evaluate: <ul style="list-style-type: none"> <li>• design decisions and outcomes, including for prototypes made by themselves and others</li> <li>• wider issues in design and technology</li> </ul>	A04 Demonstrate and apply knowledge and understanding of: <ul style="list-style-type: none"> <li>• technical principles</li> <li>• designing and making principles</li> </ul>
9	I can identify and explore my own innovative design problems working confidently within a range of domestic, local and industrial contexts, such as the home, health, leisure, culture, engineering, manufacturing, construction, energy and agriculture. I can carry out analysis and resolve design conflict. I manage compromise resolving criteria clashes whilst retaining focus. Effectively, I specify needs, requirements, opportunities and constraints, which subsequently fully influence my design developments.	Creatively, innovatively and coherently I can respond to the specification, additionally using CAD and related software packages to validate my designs in advance of manufacture and mathematical modeling to indicate likely performance before using physical materials and components, for instance when developing circuits or gearing systems. I can take creative risks and decide which design criteria clash and which should take priority. My on-going testing is fully recorded and dynamically advances design developments.	I carry out on-going analysis, testing, evaluation and refinement against my specification, fully considering and engaging users results in excellent progression of future design developments and final prototype/s. I am thorough when reporting on further modifications required to improve performance, including in relation to life cycle analysis, consumption, positive and negative impacts on the wider world, new and emerging technologies and the concept of, 'cradle to grave' and the circular economy.	I can produce thorough technical information, using digital applications where appropriate, offering effective information for another user. Additionally I can undertake and apply detailed risks assessments. I can work independently, flexibly and accurately making multiple justified modifications. I fully exploit CAD/CAM and swiftly develop new skills as required, my work is demanding and complex resulting in a final prototype(s) that fully responds to user requirements and has good market potential.
8	I can identify and explore my own design problems. I gather valuable broad based, multi medium research, additionally considering environmental, cost, safety and maintenance issues and analysing where human values may conflict and compromise has to be achieved. I can reformulate design problems, resolve criteria clashes and clarify hierarchies. Competently, I specify needs, requirements, opportunities and constraints, which subsequently influence my design developments.	Imaginatively I can respond to the specification, additionally using a variety of approaches, for example biomimicry and user-centred design, to generate creative, innovative, functional and appealing products that respond to a variety of situations and avoid design fixation. I take creative risks when making design decisions and decide which design criteria clash and determine, which should take priority. I carry out regular testing successfully which advances design developments that are authentically recorded.	Regularly I can test, evaluate and refine my ideas and products against my specification, considering intended users and other interested groups, ensuring good progression to future design developments and final prototype/s. I can reports well on further modifications required to improve performance, including in relation to life cycle analysis, positive and negative impacts, new and emerging technologies and the concept of, 'cradle to grave'.	I can produce accurate spreadsheets that consider cost savings and detailed, technical/production plans, with timeframes, that communicate well to a third party. I can work independently, flexibly, accurately and safely with a broad range of resources, exploiting CAD/CAM, developing new skills as required. I undertake demanding and complex work incorporating multiple, justified modifications. My final prototype(s) meet user requirements and have market potential.
7	Additionally, I identify and explore my own design problems and further consider the influence of a range of lifestyle factors and consumer choices.	Imaginatively, I can respond to the specification, additionally using a variety of approaches, for example biomimicry and user-centred design, to generate creative ideas and avoid focussing on only one	I can select appropriate methods to periodically evaluate my products in use against their specification, actively involving users in the process. Subsequently I incorporate appropriate	My design solutions and illustrated technical information offer competent communication to another user. I can apply and explain the benefits of CAD/CAM. I can justify material, equipment and process selection, working

	<p>I am <b>confident</b> in investigating, obtaining, generating, analysing and managing relevant, creative and pertinent research.</p> <p>I develop <b>detailed</b> design specifications that <b>positively</b> guide and influence my developed design ideas.</p>	<p>design. I can further <b>consider</b> ergonomics and anthropometrics and demonstrate <b>good</b> thinking and problem solving techniques and <b>on-going</b> testing to successfully <b>advance</b> design development and design solutions offering <b>real-time</b> evidence of step by step progress.</p>	<p>judgements/modifications that offer <b>sound</b> progression to future design developments and the final prototype. I can produce <b>competent</b> end reports stating two+ modifications to <b>improve</b> performance that consider at least two of the following; life cycle analysis, positive and negative impacts, new and emerging technologies and the concept of, 'cradle to grave'.</p>	<p>safely and <b>accurately</b> with a <b>broad</b> range of manufacturing and finishing techniques, I can <b>recognise</b> the need to develop new skills and <b>adapt</b> to changing circumstances. My final prototype(s) <b>reflect</b> user requirements and offer <b>reasonable</b> market potential.</p>
6	<p>I can gather <b>valuable</b> information when carrying out research that is labelled with the needs (of the user), look/style, construction, health/wellbeing, cultural, religious factors and function of products</p> <p>I can reformulate design problems and appropriately analyse and signify the importance of primary and secondary research.</p> <p><b>Competently</b>, I create a specification showing needs, requirements, opportunities and constraints. I ensure that these <b>influence</b> my designs when developing them further.</p>	<p><b>I am able to</b> respond to the specification, additionally considering ergonomics and anthropometrics and sound thinking and problem solving techniques that <b>progress</b> design development. I am able to combine ideas, develop creative and <b>thorough</b> annotated ideas and designs via a range of 2D &amp; 3D sketching, technical, CAD drawing and modelling as well as using physical modelling, including CAM, to explore and produce <b>successfully</b> advance solutions.</p>	<p>With guidance I can periodically test and evaluate my designs in use and against their specification and the views of users and I can make adequate judgements on future design developments. With <b>guidance</b> I can produce reports on my findings and identify <b>more than one</b> modification to improve performance. When I am encouraged to evaluate existing products and my own prototypes, I can reflect on and <b>reasonably respond</b> to life cycle analysis, positive and negative impacts, new and emerging technologies and the concept of, 'cradle to grave'.</p>	<p>With <b>little support</b> I can communicate technical detail, sequences and I can schedule work covering most steps and provide costings. I can <b>utilise</b> material properties and personally select and use equipment, tools and processes to mark out, manufacture and apply finishes, with <b>reasonable</b> accuracy. I can use at least three joining techniques, am <b>aware of</b> the benefits to quality, scales of production and accuracy of CAD/CAM, I work safely and undertake simple risk assessments. My final prototype <b>fairly reflects</b> user requirements and market potential.</p>
5	<p>I can gather <b>valuable</b> information when carrying out research that is labelled with the needs (of the user), look/style, construction, health/wellbeing, cultural, religious factors and function of products</p> <p>I can reformulate design problems and appropriately analyse and signify the importance of primary and secondary research.</p> <p><b>Competently</b>, I create a specification showing needs, requirements, opportunities and constraints. I ensure that these <b>influence</b> my designs when developing them further.</p>	<p><b>I am able to</b> respond to the specification, additionally considering ergonomics and anthropometrics and sound thinking and problem solving techniques that <b>progress</b> design development. I am able to combine ideas, develop creative and <b>thorough</b> annotated ideas and designs via a range of 2D &amp; 3D sketching, technical, CAD drawing and modelling as well as using physical modelling, including CAM, to explore and produce <b>successfully</b> advance solutions.</p>	<p>With guidance I can periodically test and evaluate my designs in use and against their specification and the views of users and I can make adequate judgements on future design developments. With <b>guidance</b> I can produce reports on my findings and identify <b>more than one</b> modification to improve performance. When I am encouraged to evaluate existing products and my own prototypes, I can reflect on and <b>reasonably respond</b> to life cycle analysis, positive and negative impacts, new and emerging technologies and the concept of, 'cradle to grave'.</p>	<p>With <b>little support</b> I can communicate technical detail, sequences and I can schedule work covering most steps and provide costings. I can <b>utilise</b> material properties and personally select and use equipment, tools and processes to mark out, manufacture and apply finishes, with <b>reasonable</b> accuracy. I can use at least three joining techniques, am <b>aware of</b> the benefits to quality, scales of production and accuracy of CAD/CAM, I work safely and undertake simple risk assessments. My final prototype <b>fairly reflects</b> user requirements and market potential.</p>

4	<p>I can gather <b>suitable</b> information when carrying out research that is labelled with the needs (of the user), look/style, construction and function of products</p> <p>I will analyse professional practice, investigate and disassemble familiar and unfamiliar products. I communicate information <b>indicating</b> significance, providing <b>some</b> evidence of analysis.</p> <p><b>Adequately</b>, I create a specification showing needs, requirements, opportunities and constraints. I ensure that these have some <b>influence</b> developing my designs further.</p>	<p>When <b>instructed</b> and <b>supported</b> I can demonstrate a level of thinking and problem solving, <b>appropriate</b> to the stage of development that <b>adequately</b> responds to specification, considering functionality, aesthetics and context. I can develop <b>satisfactory</b> annotated ideas and designs experimenting with a range of 2D &amp; 3D sketching, technical, CAD drawing and modelling as well as using physical modelling, including CAM, to explore and produce <b>reasonably</b> advance solutions.</p>	<p>I can use different methods to <b>predominantly</b> test and evaluate my products in use and against my specification. With <b>encouragement</b> I can consider the views of users. With <b>structured</b> prompts I can produce short reports on my findings <b>adequately</b> identifying <b>some</b> improvements, modifications and refinements. When evaluating existing products and my own prototypes, with <b>full support</b>, I can reflect on and <b>partially respond</b> to life cycle analysis, positive and negative impacts, new and emerging technologies and the concept of, 'cradle to grave'.</p>	<p>.With <b>support</b> I can communicate <b>adequate</b> technical detail, I can put in order work covering most steps and add costings. I can recognise material properties and with <b>moderate guidance</b> select and use equipment, tools and processes to mark out, manufacture and apply finishes, with <b>passable</b> accuracy. I can use two+ joining techniques, am aware of the benefits of CAD/CAM, work safely and show <b>some</b> awareness of risk. My final prototype(s) <b>fairly reflects</b> user requirements and <b>reasonably developed</b> market potential.</p>
3	<p>I can gather <b>suitable</b> information when carrying out research that is labelled with the needs (of the user), look/style, construction and function of products</p> <p>I will analyse professional practice, investigate and disassemble familiar and unfamiliar products. I communicate information <b>indicating</b> significance, providing <b>some</b> evidence of analysis.</p> <p><b>Adequately</b>, I create a specification showing needs, requirements, opportunities and constraints. I ensure that these have some <b>influence</b> developing my designs further.</p>	<p>When <b>instructed</b> and <b>supported</b> I can demonstrate a level of thinking and problem solving, <b>appropriate</b> to the stage of development that <b>adequately</b> responds to specification, considering functionality, aesthetics and context. I can develop <b>satisfactory</b> annotated ideas and designs experimenting with a range of 2D &amp; 3D sketching, technical, CAD drawing and modelling as well as using physical modelling, including CAM, to explore and produce <b>reasonably</b> advance solutions.</p>	<p>With <b>given</b> templates, I can test and evaluate my product, in use, against my specification. With <b>structured</b> prompts, I will consider the views of users and record their findings listing <b>limited</b> improvements, modifications or refinements. When exploring existing products and my own prototypes, with <b>full support</b> and structured resources, I will respond to life cycle analysis, positive and negative impacts, new and emerging technologies and the concept of, 'cradle to grave'</p>	<p>With <b>support</b> I can communicate <b>adequate</b> technical detail, I can put in order work covering most steps and add costings. I can recognise material properties and with <b>moderate guidance</b> select and use equipment, tools and processes to mark out, manufacture and apply finishes, with <b>passable</b> accuracy. I can use two+ joining techniques, am aware of the benefits of CAD/CAM, work safely and show <b>some</b> awareness of risk. My final prototype(s) <b>fairly reflects</b> user requirements and <b>reasonably developed</b> market potential.</p>
2	<p>I can gather <b>some suitable</b> information when carrying out research that is labelled with the needs (of the user), look/style, construction and function of products</p> <p>When <b>led</b> I will analyse professional practice, investigate and disassemble familiar and unfamiliar products. I collate the research showing <b>limited</b> evidence of analysis.</p>	<p>When <b>instructed</b> and <b>supported</b> I can demonstrate a <b>basic</b> level of thinking and problem solving that responds to <b>some</b> of the aspects of the specification, considering functionality, aesthetics and context. I can develop <b>simple</b> sparsely annotated ideas and designs, <b>trying</b> a range of 2D &amp; 3D sketching, technical, CAD drawing and modelling as well as using physical modelling, including CAM, to explore <b>basic</b> solutions.</p>	<p>With <b>given</b> templates, I can test and evaluate my product, in use, against my specification. With <b>structured</b> prompts, I will consider the views of users and record their findings listing <b>limited</b> improvements, modifications or refinements. When exploring existing products and my own prototypes, with <b>full support</b> and structured resources, I will respond to life cycle analysis, positive and negative impacts, new and emerging</p>	<p>With <b>support</b> I endeavour to communicate <b>limited</b> technical detail, list work covering some steps and <b>attempt</b> costings. With <b>significant guidance</b> I can select and use equipment, tools and processes to mark out, manufacture and apply finishes, with <b>some</b> accuracy. I can use one+ joining techniques, am <b>aware of</b> CAD/CAM and I work safely with close monitoring. My final prototype(s) acknowledges <b>some</b> user requirements and the intended market.</p>

	<p>With <b>assistance</b>, I create a specification showing needs, requirements, opportunities and constraints. I ensure that these have some <b>influence</b> developing my designs further</p>		<p>technologies and the concept of, 'cradle to grave'.</p>	
I	<p>I can gather <b>limited</b> information when carrying out research that is labelled with the needs (of the user), look/style, construction and function of products</p> <p>I can show <b>minimal</b> analysis to explain what I have found out from the research. With assistance, I create a specification that will have some <b>influence</b> help me develop my designs further</p>	<p>I require <b>instruction</b> and <b>support</b> to respond to <b>some</b> aspects of the specification. I can develop <b>simple</b> ideas and designs using <b>a/few</b> of the following; sketching, technical and CAD drawing and physical modelling, including CAM, to explore <b>basic</b> responses.</p>	<p>With <b>given</b> templates, I test and/or evaluate my product against my specification. With <b>structured prompts</b> I will collect the view of a user. I can consider an improvement or modification. When I am <b>made aware of</b> broader factors that affect design and I challenge them, I can see the impact on my own prototype/s.</p>	<p>With <b>support</b> such as <b>structured resources</b>, I <b>practise</b> communicating technical detail. With <b>close monitoring</b> I can select and use equipment, tools and processes with <b>limited</b> accuracy. My final prototype(s) <b>fulfils</b> a user requirement.</p>

## English Reading

Grade	<b>AO1 Identify and interpret explicit and implicit information and ideas Select and synthesise evidence from different texts 10%</b>	<b>AO2 Explain, comment on and analyse how writers use language and structure to achieve effects and influence readers, using relevant subject terminology to support their views 17.5%</b>	<b>AO3 Compare writers' ideas and perspectives, as well as how these are conveyed, across two or more texts 10%</b>	<b>AO4 Evaluate texts critically and support this with appropriate textual references 12.5%</b>
<b>9</b>	Shows a comprehensive understanding of subtle differences and similarities between texts.	Shows detailed and perceptive understanding of language Offers alternative readings of how a writer uses language.	Shows a detailed understanding of the differences between the ideas and perspectives Analyses how methods are used to convey ideas and perspectives Selects range of judicious quotations from texts.	Critically evaluates the text in a detailed and original way Offers judicious examples from the text to explain views convincingly Analyses effects of a range of writer's choices
<b>8</b>	Responses to texts are concise and precise Offers perceptive and considered interpretation of different texts	Demonstrates flair in developing ideas and refers in detail to aspects of language, structure and presentation.	Makes highly original comparisons within and between texts. Selects and compares a range of judicious quotations from both texts	Explores and evaluates alternative and original interpretations. Selects and explores range of judicious quotations
<b>7</b>	Shows a detailed understanding of differences Offers perceptive interpretation of both texts Synthesises evidence between texts	Analyses the different effects of the writer's choices of language Uses sophisticated subject terminology accurately Precise and perceptive analysis of how language used contributes to the overall effect.	Compares ideas and perspectives in a perceptive way Selects and compares a range of thoughtful quotations from both texts	Selects a range of relevant quotations to validate views Explores different meanings and interpretations of a text.
<b>6</b>	Shows an assured understanding of differences between the texts Demonstrates clear connections between texts Connections are made between insights Selects pertinent quotations/references from both texts to support response.	Shows clear understanding of language Clearly explains the effects of the writer's choices of language Selects a range of relevant quotations Uses subject terminology accurately Demonstrates an appreciation of how the language used contributes to the overall effect.	Shows a clear understanding of differences between the ideas and perspectives Compares ideas and perspectives in a clear and relevant way Explains, in detail, how methods are used to convey ideas and perspectives Selects relevant quotations to support from both texts	Shows a clear understanding of differences between the ideas and perspectives Compares ideas and perspectives in a clear and relevant way Thoroughly explains how methods are used to convey ideas and perspectives Selects, from both texts, appropriate quotations to support views
<b>5</b>	Begins to imaginatively interpret both texts Selects appropriate quotations/references from both texts to support response Shows a sustained understanding of differences between the texts	Shows clear understanding of language Clearly explains the effects of the writer's choices of language Selects a range of relevant quotations Uses subject terminology accurately Demonstrates an appreciation of how the language used contributes to the overall effect	Shows a clear understanding of differences between the ideas and perspectives Compares ideas and perspectives in a clear way Explains clearly how methods are used to convey ideas and perspectives Selects relevant quotations to support from both texts	Shows a detailed understanding of differences between the ideas and perspectives Compares ideas and perspectives in a clear and relevant way Explains clearly how methods are used to convey ideas and perspectives Selects, from both texts, relevant quotations to support views.

<b>4</b>	Shows a clear understanding of differences between the texts Begins to interpret both texts Selects relevant quotations/references from both texts to support response	Shows clear understanding of language Clearly explains the effects of the writer's choices of language Selects a range of relevant quotations Uses subject terminology accurately Demonstrates an appreciation of how the language used contributes to the overall effect.	Shows a clear understanding of differences between the ideas and perspectives Compares ideas and perspectives Explains how methods are used to convey ideas and perspectives Selects relevant quotations to support from both texts	Shows a thoughtful understanding of differences between the ideas and perspectives Explains how methods are used to convey ideas and perspectives Selects some relevant quotations to support views
<b>3</b>	Attempts inference from one/both texts Links evidence between texts Identifies some differences Selects some quotations/references; not always supporting (from one/both texts)	Shows some understanding of language Attempts to comment on the effect of language Selects some relevant quotations Uses some subject terminology, not always appropriately	Identifies key differences between the ideas and perspectives Attempts to compare relevant ideas and perspectives Comments on how language and structure are used to convey ideas and perspectives Selects some quotations/references from both texts	Attempts evaluative comment on the text Offers an example from the text to explain view(s) Comment on the effects of a writer's methods Selects relevant quotations, which sometimes support views
<b>2</b>	Attempts some inference from one/both texts Attempts to link evidence between texts Identifies some differences Selects some quotations/references; not always supporting (from one/both texts)	Attempts to comment on the effect of language Selects some relevant quotations Uses some subject terminology, not always appropriately	Identifies some differences between the ideas and perspectives Attempts to compare ideas and perspectives Some comment on how methods are used to convey ideas and perspectives Selects some quotations/references, not always supporting (from one or both texts)	Attempts evaluative comment on the text Offers an example from the text to explain view(s) Attempts to comment on writer's methods Selects some quotations, which occasionally support views
<b>1</b>	Shows simple awareness of difference(s) Offers paraphrase rather than inference Makes simple or no links between texts Simple reference or textual details from one/both texts	Shows simple awareness of language Offers simple comment on the effect of language Simple references or textual details Simple mention of subject terminology	Simple awareness of different ideas and/or perspectives Simple cross reference of ideas and/or perspectives Simple identification of how differences are conveyed	Simple evaluative comment on the text Offers simple example from the text which may explain view Simple mention of writer's methods Simple references or textual details
	Students in this band will not have offered any differences. Nothing to reward	No comments offered on the use of language. Nothing to reward	No ideas offered about the differences Nothing to reward	No relevant comments offered in response to the statement, no impressions, no evaluation

## English Writing

Grade	<b>AO5 Communicate clearly, effectively and imaginatively, selecting and adapting tone, style and register for different forms, purposes and audiences Organise information and ideas, using structural and grammatical features to support coherence and cohesion of texts 30%</b>	<b>AO6 Candidates must use a range of vocabulary and sentence structures for clarity, purpose and effect, with accurate spelling and punctuation. 20%</b>	
<b>9</b>	Communication is convincing, imaginative and compelling throughout Style and register assuredly matched to purpose, form and audience. Tone is consciously manipulative, subtle and increasingly abstract. Extensive and ambitious vocabulary with sustained crafting of linguistic devices	Highly structured and developed writing, incorporating a range of integrated and complex ideas Fluently linked paragraphs with seamlessly integrated discourse markers Varied and inventive use of structural features.	Sentence demarcation is consistently secure and consistently accurate Makes imaginative use of a full range of apt sentence forms for effect High level of accuracy in spelling, including ambitious vocabulary
<b>8</b>	Communication is convincing and absorbing Tone, style and register consistently match purpose, form and audience. Extensive vocabulary with evidence of conscious crafting of linguistic devices	Structured and developed writing with a range of engaging complex ideas Assuredly linked paragraphs with effortlessly integrated discourse markers Varied and effective structural feature	Wide range of punctuation is used with a high level of accuracy Uses a full range of appropriate sentence forms for effect Extensive and ambitious use of vocabulary for impact
<b>7</b>	Communication is convincing Tone, style and register reliably and thoughtfully match purpose, form and audience; Extensive vocabulary with evidence of conscious crafting of linguistic devices	Structured and developed writing with a range of engaging complex ideas Consistently coherent use of paragraphs with integrated discourse markers Varied and effective structural features	Wide range of punctuation is used with a high level of accuracy Uses Standard English consistently and appropriately with secure control of complex grammatical structures Extensive and ambitious use of vocabulary
<b>6</b>	Communication is consistently clear and effective Tone, style and register is effectively matched to purpose, form and audience Increasingly sophisticated vocabulary and phrasing, chosen for effect with a range of appropriate linguistic devices	Writing is engaging using a range of detailed connected ideas Coherent paragraphs with integrated discourse markers Effective use of structural features	Sentence demarcation is mostly secure and mostly accurate Uses a variety of sentence forms for effect Generally accurate spelling, including complex and irregular words
<b>5</b>	Communication is reliably clear and thoughtfully expressed Tone, style and register generally matched to purpose, form and audience Vocabulary clearly chosen for effect and successful use of linguistic devices	Writing is engaging with a range of connected ideas Usually coherent paragraphs with range of discourse markers Usually effective use of structural features	Increasingly sophisticated use of vocabulary Mostly uses Standard English appropriately with mostly controlled grammatical structures Range of punctuation is used, mostly with success.
<b>4</b>	Communication is consistently clear Tone, style and register generally matched to purpose, form and audience Vocabulary clearly chosen for effect and successful use of linguistic devices	Writing is engaging with a range of connected ideas Usually coherent paragraphs with range of discourse markers Usually effective use of structural features	Increasingly sophisticated use of vocabulary Mostly uses Standard English appropriately with mostly controlled grammatical structures Range of punctuation is used, mostly with success.
<b>3</b>	Communication is mostly successful	Increasing variety of linked and relevant ideas	Sentence demarcation is mostly secure and sometimes accurate

	<p>Some sustained attempt to match purpose, form and audience; some control of register</p> <p>Conscious use of vocabulary with some use of linguistic devices</p>	<p>Some use of paragraphs and some use of discourse markers</p> <p>Some use of structural features</p>	<p>Attempts a variety of sentence forms</p> <p>Some accurate spelling of more complex words</p>
2	<p>Communicates with some success</p> <p>Attempts to match purpose, form and audience; attempts to control register</p> <p>Begins to vary vocabulary with some use of linguistic devices</p>	<p>Some linked and relevant ideas</p> <p>Attempt to write in paragraphs with some discourse markers, not always appropriate</p> <p>Attempts to use structural features</p>	<p>Some control of a range of punctuation</p> <p>Some use of Standard English with some control of agreement</p> <p>Varied use of vocabulary</p>
1	<p>One or two relevant ideas, simply linked</p> <p>Random paragraph structure</p> <p>Evidence of simple structural features</p> <p>One or two unlinked ideas</p>	<p>One or two relevant ideas, simply linked</p> <p>Random paragraph structure</p> <p>Evidence of simple structural features</p> <p>One or two unlinked ideas</p>	<p>Occasional use of sentence demarcation</p> <p>Some evidence of conscious punctuation</p> <p>Simple range of sentence forms</p> <p>Occasional use of Standard English with limited control of agreement</p>

## Food Preparation & Nutrition

Grade	Food Preparation and Cooking Techniques	Food, Nutrition and Health	Food Provenance	Food Science	Food Choice	Food Safety	Communication
9	I can make appropriate and complex decorations and garnishes using high level skills. I can select, construct and deftly utilise specialist kitchen equipment such as food mixers and pasta machines Use garnishes and decorative techniques to improve the aesthetic qualities, demonstrate portioning presenting and finishing.	I understand the implications of dietary excess or deficiency of a range of micro nutrients. I know which factors that affect BMR, such as age, gender and PAL, and their importance in achieving balance. I can apply BMR and PAL in my menu planning when needed. I am aware of the percentage of recommended energy sources from nutrients	I know and understand the challenges to provide the world's growing population with a sustainable, secure, supply of safe, nutritious and affordable high-quality food. I am aware climate change/global warming/land issues in discussing food security in the local and global markets/communities.		I can evaluate a wide range of ingredients and foods from British and international cuisines.		I can critically evaluate products I have made by discussing consumer acceptability, nutritional content, cost, sensory properties and commercial viability. I can accurately calculate costs. I use subject specific terms (culinary terms) in my writing.
8	I can use a range of refined preparation techniques such as paring vegetables, crimping, shaping, forming and bread crumbing. I can accurately portion finished food products such as tray bakes, cakes and lasagne. Plan, make and modify dishes calculating energy and nutritional values Consistently use a range of tools, equipment, materials and components with precision, to produce a precisely made	I can adapt a recipe to make it suitable for specific nutritional requirements, including allergies. I can identify a wide range of ways to reduce the fat, saturated fat, sugar and salt in a recipe. I know the Basal Metabolic Rate (BMR) and physical activity level (PAL) and their importance in determining energy requirements.	I am aware of drought and flooding affecting the availability of food in some communities I am aware of the disparity between first and third world countries and their access to safe food and our waste of food. I can suggest ways to minimise waste in my planning.	I know the science behind how you stabilise an emulsion. I am aware of food products from British and international cuisines and their presentation styles and the variations between traditional and modern recipes.	When selecting recipes students explain and justify their reasons for choice. I can evaluate how guide preferences and modify my food accordingly. I can test sensory qualities of a wide range of foods and combinations. I am aware of the specific effects heating and drying have on the sensory characteristics of milk.		I can factor a recipe up or down to adjust the number of portions. I can take a recipe in cups, lbs or oz and convert it to g/ml accurately. I adjust my writing style to reflect the task. Extended writing is well constructed with very good SPaG.

	<p>product that could be sold in a shop.</p> <p>I can make and plate up a dish with relevant seasonal accompaniments.</p>					
7	<p>I can plan a healthy and varied diet.</p> <p>I can use a wide range of preparation techniques such as stir-frying, steaming and blending.</p> <p>I can make a batch of products with precision.</p> <p>I can change the taste and aroma of food through the use of infusions, herbs and spices, pastes, jus and reduction.</p> <p>I can change texture and flavour, use browning (caramelisation/dextrinization) and glazing, add crust, crisp and crumbs.</p>	<p>I know the main dietary requirements of the different life stages.</p> <p>I understand the implications of dietary excess or deficiency of macro nutrients.</p> <p>I can plan and modify recipes, meals and diets to reflect the nutritional guidelines for a healthy diet.</p> <p>I am aware of the role of anti-oxidants in protecting body cells from damage – in particular vitamins A, C and E.</p> <p>I can use current nutritional information and data (food tables and nutritional software) to calculate energy and nutritional value.</p>		<p>I am aware of food products from British and international cuisines and their equipment and cooking equipment used and their traditional eating patterns.</p>	<p>I can examine, carry out sensory analysis and evaluate existing products with their impact on health for existing products that have been modified and fortified.</p> <p>I know and understand factors which may affect food choice such as occasion, cost, lifestyle, preferences, availability, seasonality, income, health, time of day and time available.</p> <p>When planning recipes and dishes I can carry out costing of the dishes.</p> <p>I am aware of how to set-up a taste panel under controlled conditions for sensory testing.</p> <p>I am aware of the loss of vitamins through these processes including wet-based cooking methods and loss through heating and drying.</p> <p>Confidently explore the needs of others in depth, considering/including; Different cultures, lifestyle factors,</p>	<p>I can structure paragraphs using PEE(L).</p> <p>I can contribute ideas to develop existing products and communicate these in a variety of ways-written, drawn, spoken.</p>

					ergonomics, anthropometrics and dietary requirements.		
6	<p>I can use electrical equipment safely and independently.</p> <p>I use taste, texture and smell to select ingredients.</p> <p>Select appropriate tools, equipment, techniques and processes, to produce a detailed production schedule for my product.</p> <p>Take into consideration the working properties of equipment and materials.</p> <p>Consistently organise my practical work so that I can carry out the processes accurately.</p> <p>Consistently use a range of tools, equipment, materials and components with precision, to produce a well finished product.</p> <p>Adapt the manufacture of a product when I have recognised an alternative way of productions where I could learn new skills.</p> <p>I can work independently and support others in using a range of cooking techniques that can be used at home.</p>	<p>I can analyse the nutritional content of a dish and suggest improvements.</p> <p>I know the function and sources of the main nutrients.</p> <p>I know about different levels of processing of food from origin.</p> <p>Use my research to inform innovative, functional and appealing product ideas that respond to the needs of identified users.</p> <p>Understand the principles of nutrition and health and can apply this to make nutritious products.</p> <p>How food marketing can influence food choice (ie. Bogof, special offers, meal deals, media influence, advertising and PoS marketing).</p> <p>I know the difference between mono- and poly- unsaturated fats.</p> <p>I know the recommended percentage of energy intake provided by protein, fat and carbohydrates.</p> <p>I know the function, source, DRVs and</p>	<p>Confidently explore the needs of others in depth, considering/including; Different cultures, lifestyle factors, ergonomics, anthropometrics and dietary requirements.</p> <p>Analyse where human values may conflict and compromise in a product has to be achieved.</p> <p>Consider health and well-being, cultural, religious and social-economic contexts of your intended user.</p> <p>Analyse the work of past and present professionals and explain how this has impacted on your ideas and final product.</p> <p>I understand the source, seasonality and characteristics of a broad range of ingredients and could use this to independently plan meal ideas in the future.</p>	<p>Take into consideration the working properties of equipment and materials.</p> <p>Consistently organise my practical work so that I can carry out the processes accurately.</p> <p>I understand the scientific principles of gelatinisation, dextrinisation and caramelisation when preparing and cooking food.</p> <p>I understand the scientific principles underlying protein denaturation/coagulation, gluten formation and foam formation when preparing and cooking food.</p> <p>I understand the working characteristics, functional and chemical properties of proteins.</p> <p>I know how acids denature and coagulate protein.</p> <p>I understand the technological developments to better health and food production including fortification and modified foods with</p>	<p>Explore the needs of others, considering/including; different cultures, lifestyle factors and dietary requirements.</p> <p>Review and modify my products to benefit individuals, society, the environment and the community.</p> <p>Take into account the properties of materials, explaining why I am using them.</p> <p>Analyse existing products to find out how they are made and how they function and use this to inform my own ideas. I will consider how to make my own product simpler or cheaper to produce by considering the functions of different types of materials and components.</p> <p>Consider the positive and negative impacts that product and manufacturing processes can have on the wider world</p> <p>When preparing recipes and meals consider lifestyle/consumer choice etc.</p>	<p>I consistently demonstrate high levels of personal, kitchen and food hygiene.</p> <p>Explain HACCP in detail for each step.</p> <p>Understand the procedures for health and safety rules.</p> <p>I know the scientific details of the sources of bacterial contamination (campylobacter, e-coli, salmonella, listeria and staphylococcus aureus)</p>	<p>I can make targeted recommendations to improve to my dishes sensory qualities.</p> <p>I can conduct a written sensory analysis, using sensory descriptors within well-constructed sentences.</p> <p>I can explain skills I have developed and what I have learnt in a lesson succinctly.</p> <p>I can compile a detailed response, which is clearly influenced by my research, showing the relationship between user and design needs</p> <p>Produce short reports, explaining the choices and decisions made in my designs and making of the product, particularly when there has been changes from the original plan.</p> <p>Select and use a range of evaluation techniques.</p>

	<p>Include costing's and plan a schedule for making using planning tools so that other people can easily follow it, e.g. Gantt charts.</p> <p>I can make an emulsion.</p> <p>I can make a marinade to add flavour and moisture when preparing vegetables, meat, fish and alternatives.</p> <p>I can portion a chicken, fillet a fish, slice evenly and accurately raw and cooked products (including products such as tofu and halloumi).</p>	<p>deficiency/excess issues of fluoride, iodine and phosphorus.</p> <p>Know the difference between water soluble (A, D, E, K) and fat soluble (B group 1, 2, 3 &amp;12, C) vitamins and the implications for health.</p> <p>I know the DRVs for fats, proteins, carbs and the major vitamins and minerals.</p> <p>I can plan a balanced meal for specific dietary needs: vegetarian, vegan, coeliac, lactose intolerant and high fibre diets.</p> <p>I know and can apply protein complementation to my meals</p>		<p>health benefits and the efficacy of these.</p> <p>I am aware of food products from British and international cuisines and their distinctive features and characteristics of cooking.</p>	<p>I am aware of the use of discrimination testing (triangle) and grading tests (ranking, rating and profiling).</p> <p>I am aware of secondary processing and how raw primary foods are processed into a food product (flour into bread/pasta, milk into cheese or yoghurt, fruit into jams).</p>		
5	<p>I can apply heat in a variety of different ways. (conduction, convection and radiation)</p> <p>I can adapt methods of cooking to improve health (grill v fry; bake v roast)</p> <p>I know how the preparation and cooking of food affect the appearance, colour, flavour, texture, smell and overall palatability of food.</p>	<p>I know that food and drink contains specific nutrients, water and fibre.</p> <p>I can use nutrition information on food labels to make informed choices.</p> <p>Understand the principles of nutrition and health and can apply this to make nutritious products.</p> <p>I understand mandatory information included on food packaging in accordance with</p>	<p>I understand the source, seasonality and characteristics of a broad range of ingredients and could use this to independently plan meal ideas in the future.</p> <p>I am aware of the benefits of purchasing Fairtrade foods.</p> <p>I know the benefits of such programs as Red Tractor, Certified Organics amongst others.</p>	<p>Take into consideration the working properties of equipment and materials.</p> <p>I know the working characteristics, functional and chemical properties of carbohydrates.</p> <p>Investigate new and emerging Technologies and explain how my ideas/product could be influenced by this.</p>	<p>Consider health and well-being, cultural, religious and social-economic contexts of your intended user.</p> <p>Use my research to inform innovative, functional and appealing product design ideas that respond to the needs of identified users.</p> <p>I know that food is influenced by availability, season, need, cost, where the food is produced, culture and religion.</p>	<p>I can select, use and clean a wide range of kitchen utensils safely</p> <p>Include HACCP in my plan.</p> <p>Understand the procedures for health and safety rules.</p> <p>I take appropriate care with high risk foods.</p> <p>I know the sources of bacterial contamination (campylobacter, e-coli, salmonella, listeria and staphylococcus aureus)</p> <p>I can recognise the signs of food spoilage</p>	<p>I can identify specific areas for improvement and development in my work.</p> <p>I can produce a star diagram to communicate a sensory analysis.</p> <p>I can discuss my work using full sentences and paragraphs appropriately.</p> <p>Most SPaG is accurate.</p> <p>I can compile a detailed response, which is clearly influenced by my research, showing the</p>

<p>I know that food is produced, processed and sold in different ways.</p> <p>I can use finishing techniques effectively.</p> <p>Select appropriate tools, equipment, techniques and processes, including CAM, to produce a detailed step by step plan for my product.</p> <p>Select appropriate preparation, cooking methods and times to achieve desired characteristics.</p> <p>Include costing's and plan a schedule for making using planning tools so that other people can easily follow it, e.g. Gantt charts.</p> <p>Consistently organise my practical work so that I can carry out the processes accurately.</p> <p>Use a range of tools, equipment, materials and components with some precision, to produce a finished product.</p> <p>I can work independently and support others in using a range of cooking techniques that can be used at home.</p> <p>I can set a mixture on heating such as denatured and/or</p>	<p>current EU and FSA legislation.</p> <p>I know about non-mandatory information such as food provenance and serving suggestions.</p> <p>I can interpret nutritional labelling.</p> <p>Know the effects of deficiency/excess of the basic food groups of proteins (HBV &amp; LBV), fats (Sat/Unsat), carbohydrates (starches – poly, sugars – mono/di, fibre - MSP), minerals (calcium, sodium &amp; iron) and vitamins (A, D, E, K, B group 1, 2, 3 &amp;12, C).</p> <p>I know which nutrients are fat and water soluble, and what that means when preparing and cooking ingredients.</p> <p>Know how diet can affect health and how nutritional needs change in relation to: obesity, cardiovascular health (CHD &amp; high blood pressure), bone health (rickets and osteoporosis), dental health, iron deficiency (anaemia) and Type 2 diabetes.</p> <p>I know how nutritional needs change through life and how to plan a balanced diet for these.</p>			<p>Take into account the properties of materials, explaining why I am using them.</p> <p>Analyse existing products to find out how they are made and how they function and use this to inform my own ideas.</p> <p>I will consider how to make my own product simpler or cheaper to produce by considering the functions of different types of materials and components.</p> <p>Review and modify my products to benefit individuals, society, the environment and the community.</p> <p>I can make food choice based upon religions and cultures such as Buddhism, Christianity, Hinduism, Islam, Judaism, Rastafarianism and Sikhism.</p> <p>I can make food choice linked to ethical and moral beliefs such as animal welfare, Fairtrade, local produce, organic or genetically modified foods.</p> <p>I can make food choices based upon intolerances (gluten and lactose) and allergies (nuts, eggs, milk, wheat, fish and shellfish).</p>	<p>such as enzymic action (ripening of bananas and browning of fruits), mould growth (cheese and fruits) and yeast action (on grapes, strawbs and toms).</p>	<p>relationship between user and design needs.</p> <p>Explain the choices and decisions made in my designs and making of my products.</p> <p>Select and use a range of evaluation techniques.</p>
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	<p>coagulated protein in eggs.</p> <p>I know how the selection of appropriate preparation and cooking methods can conserve or modify nutritive value or improve palatability (such as water based, dry based or fat based methods).</p> <p>I can judge and modify sensory properties.</p> <p>I can discuss how the preparation and cooking affect the appearance, colour, flavour, texture, smell and overall palatability of food. (eg the use of marinades for example and what they do)</p> <p>I can create a starch based sauce demonstrating gelatinisation for an infused veloute, or béchamel.</p> <p>I can confidently and independently produce a range of savoury dishes using different cooking techniques.</p>	<p>I can modify a recipe to reduce total fat</p> <p>I can portion size and cost when meal planning</p> <p>Know the function and main sources of the basic food groups of proteins (HBV &amp; LBV), fats (Sat/Unsat), carbohydrates (starches – poly, sugars – mono/di, fibre - MSP), minerals (calcium, sodium &amp; iron) and vitamins (A, D, E, K, B group 1, 2, 3 &amp;12, C).</p>			<p>I can modify recipes for a vegan/vegetarian diet</p> <p>I am aware of the importance of the senses (sight, taste, touch and aroma) when preparing food.</p> <p>I am aware that primary processing occurs to ingredients related to the: rearing, fishing, growing, harvesting and cleaning of raw food material (including the milling of wheat to flour, and the heat treatment of milk – pasteurising, UHT, sterilisation and micro-filtered).</p> <p>Explore the needs of others in depth, considering/including; Different cultures, needs of users, lifestyle factors and consumer choices.</p>		
4	<p>I know about seasonal cooking.</p> <p>I know food is cooked to: make food safe to eat, develop flavours, improve texture, improve shelf life and give variety to the diet.</p>	<p>I know a balanced diet is depicted on the Eatwell plate.</p> <p>I can state a range of food and drink I need to be healthy and active.</p>	<p>Take into consideration the working properties of equipment and materials.</p> <p>Consider environmental,</p>	<p>Take into account the properties of materials, explaining why I am using them.</p> <p>I know what gelatinisation, dextrinisation and caramelisation are.</p>	<p>Use my research to inform innovative, functional and appealing product design ideas that respond to the needs of identified users.</p>	<p>Consider health and safety for each step.</p> <p>Understand the procedures for health and safety rules.</p> <p>I can correctly use food temperature probes.</p>	<p>I can discuss my progress during the lesson, explaining www and ebi.</p> <p>I can explain my practical work in full sentences using the</p>

<p>I can adapt a recipe to change appearance, taste, texture and aroma.</p> <p>I can make a batch of similar products.</p> <p>Make a pastry, shape and finish a pastry.</p> <p>Select appropriate tools, equipment, techniques and processes to produce a step by step plan for my product.</p> <p>Include costing's and plan timings for each step.</p> <p>Select and use a range of tools, equipment and materials with precision to produce a well finished product.</p> <p>Use skills independently, that can be used in daily life and in the wider world.</p> <p>Take into account the properties of materials, explaining why I am using them.</p> <p>Identify and modify any design weaknesses.</p> <p>I am competent in using a range of cooking techniques that can be used at home.</p> <p>I can taste and season during the cooking process as well as select and adjust cooking times</p> <p>I can use starch to set a mixture on chilling</p>	<p>Understand the principles of nutrition and health and can apply this to make nutritious products.</p> <p>Know the function of the basic food groups of proteins (HBV &amp; LBV), fats (Sat/Unsat), carbohydrates (starches, sugars &amp; fibre), minerals (calcium, sodium &amp; iron) and vitamins (A, D, E, K, B &amp; C).</p> <p>I know alternative proteins to choose for a healthy diet (TVP, soya, mycoprotein and tofu).</p> <p>I know there are different needs for different life stages (young children, teenagers, adults and the elderly)</p> <p>I know how to maintain a healthy body weight through life.</p> <p>I can modify a recipe to increase fibre</p>	<p>aesthetic, cost, quality and safety issues.</p> <p>Correct cooking times</p> <p>Appropriate temperature controls including defrosting and reheating</p> <p>I understand the source, seasonality and characteristics of a broad range of ingredients (including organic and conventional farming, free range, intensive and sustainable farming, as well as the ads/dis of local produced foods, transportation and carbon footprint, seasonal foods and GM foods.)</p>	<p>I know what protein denaturation/coagulation, gluten formation and foam formation are.</p> <p>I am aware of some technological developments such as fortifying foods.</p> <p>I am aware that some foods have colourings, emulsifiers &amp; stabilisers, flavourings and preservatives.</p> <p>Know and understand shortening, aeration, plasticity and emulsification of fats and oils including the scientific principles underlying these principles and the working characteristics, functional and chemical properties of fats and oils.</p>	<p>Consider environmental, aesthetic, cost, quality and safety issues.</p> <p>Invite feedback from intended users and use the feedback to improve my work.</p> <p>Analyse existing products to find out how they are made and how they function and use this to inform my own ideas. I will consider how to make my own product simpler or cheaper to produce.</p> <p>I understand the source, seasonality and characteristics of a broad range of ingredients and could use this to plan meal ideas in the future.</p> <p>I am aware that there is the primary and secondary processing of foods.</p> <p>I can test my product against a set criteria, using this to improve ideas.</p> <p>I am aware of some sensory testing methods such as paired preference tests and hedonic testing.</p>	<p>I take appropriate care with high risk foods.</p> <p>I use correct temperatures during preparation, production and serving of food (including defrosting, cooking and reheating).</p> <p>I understand the scientific processes of food spoilage such as enzymic action (ripening of bananas and browning of fruits), oxidation, mould growth (cheese and fruits) and yeast action (on grapes, strawbs and toms).</p> <p>I can control enzymic action through blanching of veg before freezing or use acids to prevent browning</p> <p>I can control microorganism growth through temperature, pH and water availability.</p> <p>I am aware of high risk foods – high protein and ready to eat (they do not require any further heating or cooking) foods that easily support pathogenic bacteria</p> <p>I know the risk to foods from bacterial contamination during production from the people cooking, pests, work surfaces &amp; equipment,</p>	<p>evaluation sheet provided.</p> <p>Take into account the properties of materials, explaining why I am using them.</p> <p>I can develop a detailed critical response that is clearly influenced by my research that will inform innovative and appealing design ideas.</p>
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	<p>for layered desserts such as custard.</p> <p>I can create a starch based sauce demonstrating gelatinisation such as: roux, all in one or blended.</p> <p>I understand how starch/liquid ratios affect viscosity.</p> <p>I can use a food pro, mixer, pasta machine and microwave</p> <p>I can use a food processor to make pastry.</p> <p>I can produce a range of savoury dishes using different cooking techniques such as casseroles and/or tagines and braising.</p> <p>Select appropriate tools, equipment, techniques and processes, including CAM, to produce a step by step plan for my product.</p>					contaminated foods (meat, poultry, eggs, seafood and vegetables) and waste food and rubbish.	
3	<p>I can use a heat source safely.</p> <p>I can spread, knead and bake.</p> <p>I know the difference between the water based methods (steaming, boiling, simmering; blanching; poaching)</p> <p>I know the difference between dry heat and fat based methods</p>	<p>I understand the eight tips for healthy eating.</p> <p>Understand how nutrients affect our diet and use this to design and make nutritious products.</p> <p>Understand the principles of nutrition and health and can apply this to make nutritious products.</p>	<p>I can name foods that are grown (fruits, vegetables and cereals), reared (meat and poultry) or caught (fish).</p> <p>I am aware of some environmental issues with food such as organic foods, food waste and excessive packaging)</p> <p>Identify key inventors/designers</p>	<p>Reflect on the properties of the materials used.</p> <p>Take into account the properties of materials.</p> <p>Investigate new and emerging Technologies.</p> <p>Understand the use of microorganisms in food including moulds (cheese), yeasts</p>	<p>Evaluate my product, considering the user.</p> <p>Take into account the properties of materials.</p> <p>Analyse existing products to find out how they are made and how they function</p> <p>Understand the use of microorganisms in food including moulds (cheese), yeasts</p>	<p>I keep myself, equipment, work surfaces and my food safe and clean.</p> <p>Follow health and safety rules.</p> <p>Separate raw and cooked foods and use separate equipment</p> <p>I understand and know the growth conditions for microorganisms (temp, food source, time and moisture).</p>	<p>I can write a sentence suggesting one way in which my product can be improved.</p> <p>I can state something new I learnt in each lesson.</p> <p>Analyse existing products to find out how they are made and how they function and use this to inform my own ideas.</p>

<p>using the hob (dry fry, shallow fry, stir fry)</p> <p>I can independently produce a range of savoury dishes using different cooking techniques.</p> <p>Select and use tools, equipment (hand/electric equipment) and materials with some accuracy to produce a product.</p> <p>Use basic skills that can be used in daily life and in the wider world.</p> <p>Understand the procedures for health and safety rules.</p> <p>Select and use tools, equipment and materials accurately to produce a complete product.</p> <p>Use skills that can be used in daily life and in the wider world.</p> <p>Test my product and explain how the product could be improved.</p> <p>I can produce a range of savoury dishes using different cooking techniques with some guidance.</p> <p>I can test for readiness I am aware of costing's.</p> <p>I can use the grill for a range of foods (meats, fish, seeds, nuts, chargrill or toast.)</p>	<p>I know about how one food is processed ready to eat.</p> <p>I know that the food and drink I consume have health implications now and in the future.</p> <p>I know that different foods provide different nutrients to my body. The importance of hydration and the functions of water in the diet. (used for cooling, digestion, and waste removal).</p> <p>I know how much water is needed per day, when extra water is required and how water is lost from the body,</p> <p>Know the basic food groups of proteins (HBV &amp; LBV), fats (Sat/Unsat), carbohydrates (starches, sugars, fibre), minerals (calcium, sodium &amp; iron) and vitamins (A, D, E, K, B &amp; C).</p>	<p>and understand how they impacted on the industry.</p>	<p>(breads) and bacteria (yoghurt and cheese). Understand the different varieties of raising agents, the scientific principles underlying these processes when preparing and cooking food as well as the working characteristics, functional and chemical properties of raising agents. (All to include chemical – baking powder, bi-carb and self-raising flours that produce CO<sub>2</sub> – mechanical – whisking, beating, folding, sieving, creaming and rubbing in which incorporate air – biological – yeast – and the production of steam during baking. Know about shortening, aeration, plasticity and emulsification of fats and oils.</p>	<p>simpler or cheaper to produce.</p> <p>I understand the source, seasonality and characteristics of a broad range of ingredients.</p> <p>I know what primary processing is.</p>	<p>I know the basic safety principles when buying and storing foods – such as temperature control (freezing, chilling, the danger zone, cooking and reheating), the use of date marks (best before and use by) and covering foods.</p> <p>I know the symptoms of food poisoning</p> <p>I know names of the different sources of bacterial contamination (campylobacter, e-coli, salmonella, listeria and staphylococcus aureus)</p>	<p>Study the needs of others and use research to help me design ideas that are suitable for the user. Use my research to inform innovative, functional and appealing product ideas.</p> <p>Use colour and detailed annotation to communicate my design ideas.</p> <p>Identify what has worked well and what could be improved.</p> <p>Evaluate what I have done, using the views of intended users and evaluating against my design task.</p>
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	I can use the oven for baking and roasting.						
2	<p>I know that food comes from plants or animals.</p> <p>I can cut, peel and grate safely (including even sized pieces such as dice, baton and julienne).</p> <p>I can use the claw grip and bridge hold.</p> <p>I can peel, chop, slice and grate.</p> <p>Select appropriate tools, equipment, techniques and processes.</p> <p>Use tools, equipment and materials to make a product.</p> <p>Evaluate my product, Analyse existing products to find out how they are made and how they function. Suggest some changes to improve my product.</p> <p>I can weigh and measure liquids and solids accurately</p> <p>I can prepare ingredients and equipment</p>	<p>I can sort food into the five main groups of the Eatwell plate.</p> <p>I know I should eat at least 5-a-day.</p> <p>I know food provides energy.</p> <p>Understand how nutrients affect our diets.</p> <p>I know the current guidelines for a healthy diet,</p> <p>I understand the functions of basic ingredients from the Eatwell Guide and can use this to inform cooking choices.</p>	<p>I know why food is cooked</p> <p>I know the different methods of heat transfer.</p>			<p>Follow health and safety rules.</p> <p>I can hygienically prepare myself to cook.</p>	<p>I can bullet point facts or terms I have learnt.</p> <p>I can construct simple sentences to describe my product.</p> <p>Gather research of existing items.</p> <p>Identify a target audience.</p> <p>Use colour and annotation to communicate my design ideas.</p> <p>Select appropriate tools, equipment and processes to produce a simple step by step plan.</p> <p>Gather research from multiple sources, including different cultures, to help me design ideas that are suitable for the user.</p> <p>Use my research to inform innovative, appealing product ideas.</p>
1	<p>I can say who a recipe is for.</p> <p>I can talk about my own work.</p> <p>I can choose and assemble prepared ingredients.</p>	<p>I know I need food, water and exercise to keep me well.</p>				<p>Personal hygiene</p> <p>Clean work surfaces</p>	<p>I can list some things I have learnt.</p> <p>I can label a picture or diagram with one or two main components.</p>

## Geography

Grade	<b>A01 - Demonstrate knowledge of locations, places, environments and different scales</b>	<b>A02 - Demonstrate geographical understanding of: concepts and how they are used in relation to places, environments and processes; the inter-relationship between places, environments and processes</b>	<b>A03 - Apply knowledge and understanding to interpret, analyse and evaluate geographical information and issues to make judgements</b>	<b>A04 - Select, adapt and use a variety of skills and techniques to investigate questions and issues and communicate findings</b>
9	Explain and predict change in the features of places and landscapes over time – and at a variety of scales.	Analyse complex geographical patterns. Explain complex interactions within and between human and physical processes.	Evaluates effectively using a wide range of evidence Independently uses critical-thinking and problem-solving skills to come to well-developed conclusions Uses fieldwork to collect analyse and interpret places and data. Carries out geological investigations independently at different scales.	Able to produce and use all types of maps; photos and statistics. Confident in manipulating data and able to draw conclusions from using it (including explaining anomalies)
8	Analyse changes in the features of places and landscapes over time using your knowledge and understanding of a wide range of locations.	Analyse any links between processes and show how those links create diversity, interdependence and change.	Evaluates effectively using evidence Uses critical-thinking and problem-solving skills to come to sound conclusions Creates an effective sequence of investigation. Uses fieldwork to collect analyse and interpret places and data.	Able to draw and interpret a wide range of graphs (including more complex ones); able to use photos to interpret landscapes; good grasp of map skills (including contours and scale); able to interpret statistics effectively
7	Make links in your knowledge and understanding and use these links to analyse the features of places and landscapes, using your knowledge of a wide range of locations.	Analyse geographical patterns at a range of scales.  Explain any links between processes.	Evaluates effectively using evidence Uses critical-thinking and problem-solving skills to come to reasonable conclusions Begins to create own route to enquiry. Uses fieldwork to collect analyse and interpret places and data.	Able to draw and interpret a wide range of graphs (including more complex ones); able to use photos to interpret landscapes; good grasp of full range of map skills
6	Explain in detail the physical and human features of places and landscapes in a range of locations.  Begin to make links in your knowledge and understanding. Use these links to begin to analyse features of places and landscapes.	Identify geographical patterns at a range of scales.  Explain in detail how geographical processes produce the different features of places.	With some guidance, begin to create own route to enquiry. Uses problem-solving to draw some conclusions Uses fieldwork to collect analyse and interpret places and data.	Able to draw and interpret a range of graphs; some ability to describe using data; able to interpret photos and some ability to use maps (e.g. symbols; 4 figure and 6 GRs; scale)
5	Explain the physical and human features of places and landscapes in a range of locations.	Identify geographical patterns at a range of scales.  Explain how geographical processes produce the different features of places.	Suggests appropriate routes to enquiry. Able to draw some conclusions with support Uses fieldwork to collect a data and analyse and interpret places with support	Able to draw and interpret a range of graphs; some ability to describe using data; able to interpret photos and some ability to use maps (e.g. symbols; 6 figure GRs)

4	Describe the physical and human features of places and landscapes in detail, relating it to where they are in the world. Suggest reasons for these features.	Describe geographical patterns effectively. Describe how processes affect places and people in detail Suggest reasons for these patterns	Suggests relevant questions and use appropriate ways of presenting information.  Uses fieldwork to collect some data.	Able to draw and interpret a range of graphs; able to describe photos and recognise and interpret a range of map features (including 4 fig GRs, direction and scale)
3	Some ability to describe the physical and human features of place and landscapes, relating it to where they are in the world.	Describe geographical patterns  Describe how processes affect places and people Suggesting reasons for these patterns	Suggests some relevant questions and use appropriate ways of presenting information.  Is able to complete fieldwork with support	Able to draw and interpret a range of graphs; able to describe photos and recognise a range of features on maps,
2	Recognise the physical and human features of places and landscapes and recognise the importance of where they are in the world.	Recognise simple geographical patterns. Recognise that physical and human processes can change places and people.	Begins to suggest suitable geographical questions.  Is able to complete fieldwork with support	Able to draw and interpret some basic graphs; limited ability to describe photos and recognise basic features on maps
1	State the features of different places and landscapes and give basic reasons for the locations of those features.	State some similarities and differences between places.	Able to answer a range of geographical questions.with support  Is able to complete fieldwork with significant support	Very basic ability to draw and interpret simple graphs ; very basic description of photos

## History

Grade	Cause & Consequences	Change & Continuity	Evidences	Interpretations	Knowledge
9	<p>Construct an analytical multi-causal explanation that is directed consistently at the specific question asked. There is a clear argument that is coherent and logically structured. Accurate knowledge is precisely selected to support the argument. Contextual knowledge of the period or country studied is evident throughout the answer.</p> <p>Explain how an event may have different consequences depending on focus and scale (e.g. political/social or national/regional).</p> <p>An argument is sustained throughout the answer.</p>	<p>Recognise and begin to explain the way in which historians use change and continuity as historical markers. Understand that different historians will identify different changes as being significant.</p> <p>Confident in using the language of change.</p> <p>Excellent contextual knowledge of the period studied.</p> <p>Understand that significance can change depending on perspective</p>	<p>Make confident use of a range of different sources to reach judgments based on valid criteria for a specific enquiry or for a particular use.</p> <p>Use both the content and provenance (NOP) of the sources to support judgements of utility and reliability.</p> <p>Excellent contextual knowledge is used to analyse sources and apply criteria for judgements.</p> <p>Ask valid historical questions and select a range of appropriate sources in order to carry out a source enquiry.</p>	<p>Confidently handle different interpretations with skill.</p> <p>Identify the different evidence and arguments used by their creators.</p> <p>Make judgements based on clear criteria.</p> <p>Apply specific contextual knowledge of more than one period (<i>i.e. the period in which the interpretation is created and the period that it refers to</i>) in order to support a judgement.</p>	<p>Assimilate new knowledge by showing specific awareness of period and place.</p> <p>Establish a sense of period by referencing key features and use own research to fill in gaps in knowledge.</p> <p>Show a good appreciation of where it is appropriate to generalise and where it is necessary to highlight similarity and difference in the past.</p> <p>Vocabulary is historically accurate, relevant and sophisticated. Linking subject-specific language with conceptual terms to show deeper historical understanding.</p> <p>Writing is analytical, coherent and logically structured. They have an excellent understanding of relevant concepts. Select, and deploy with precision, accurate and relevant information that shows an excellent understanding of the question asked.</p>
8	<p>Construct an analytical multi-causal explanation that is directed mainly at the question asked.</p> <p>Use mostly accurate and relevant knowledge of the period to support arguments.</p> <p>Organisation is strong, and a sustained argument is becoming apparent. Use of own knowledge is precise and used with some care.</p>	<p>Explanations about change and continuity include different lines of development.</p> <p>Analyse the pace, extent and direction of change.</p> <p>The examples used show a good understanding of the whole period being studied.</p> <p>Good linking of examples.</p> <p>Good use of contextual knowledge. Explain why changes and developments are seen as historically significant and begin to describe how this has changed over time.</p>	<p>Make judgements about the utility of sources by using mostly valid criteria.</p> <p>Make precise use of source content and use judgements about provenance (NOP) appropriately, depending on the source and nature of the enquiry.</p> <p>Good contextual knowledge is mostly used to validate the criteria and comments made, although this may not appear all of the time. Ask valid historical questions and begin to use the</p>	<p>Analyse different interpretations to comment on the evidence and arguments used by their creators. Judgements on the validity of the interpretation use mostly clear and relevant criteria. Well-selected contextual knowledge used to support a judgement, although it may not be fully sustained.</p> <p>An appreciation of both the period when the interpretation was created as well as the period that it refers to.</p>	<p>Starting to move beyond just explaining what happened in the past and gaining a sense of "period".</p> <p>Make appropriate generalisations and discuss features of similarity and difference across periods appropriately. Relevant vocabulary is used accurately and consistently. Linking subject-specific language with conceptual terms to show deeper historical understanding.</p>

			selected sources to pursue an enquiry.		Writing is analytical and mostly coherent in structure. They have a good understanding of relevant concepts (e.g. <i>focus on causation, consequence, change</i> ). Select accurate and relevant information that shows a good understanding of the question asked.
7	<p>Construct a causal argument which shows analysis of a number of features. Argument is supported with accurate knowledge that is mostly relevant to the question asked. Argument is mostly organised, but possibly not fully sustained. Confident use knowledge to support the answer.</p> <p>Explain the consequences of an event by analysing period features</p> <p>Appreciate that some actions or causes may have unintended consequences in history.</p>	<p>Describe how lines of development often interact with each other, pulling in different directions and affecting the pace, extent and direction of change.</p> <p>Arguments are supported and linked with well-chosen examples of causes. Construct an explanation of why changes and developments are significant within the period studied</p>	<p>Make judgements about the utility of sources for a specified enquiry. Select criteria for making a judgement on sources. Starting to use both the content and provenance (NOP) of sources and mostly use these successfully when making judgements. Good contextual knowledge is used to support some judgements. Ask valid historical questions of sources and explain why certain sources should be used to pursue an enquiry.</p>	<p>Understand that interpretations are based on evidence and opinions.</p> <p>Use valid criteria to distinguish the relative validity of interpretations. Support judgements using mostly relevant contextual knowledge. Tends to talk about one of the features of an interpretation rather than a range.</p> <p>Attempts an overall judgement using relevant criteria when evaluating interpretations.</p>	<p>Confident in assimilating new knowledge and beginning to question prior learning.</p> <p>Confident in talking about key features of a period.</p> <p>Demonstrate an understanding of why historians need to make generalisations.</p> <p>Usually uses accurate and relevant vocabulary, including subject-specific and period language.</p> <p>Writing shows analysis and some coherence within a mostly planned structure.</p> <p>Select relevant knowledge that is mostly accurate and shows a sound understanding of the question asked.</p>
6	<p>Use knowledge to construct a causal argument, although knowledge may not be fully relevant to the question asked. Some attempt to organise answers. Starting to form an argument in some sections of an answer.</p> <p>Starting to place understanding of causes in a wider knowledge of the period or country studied.</p>	<p>Select some examples of change over a long period of time to support a simple argument about change and continuity or significance.</p> <p>Examples will tend to be separate and fixed (e.g. <i>the beginning, middle and end of the period studied</i>) and relatively simplistic.</p>	<p>Starting to make judgements about sources and how they can be used for a specified enquiry. Support comments by using precise content from sources and backing it up with sound contextual knowledge.</p> <p>Starting to consider nature, origin and purpose (NOP) in judgements. Can confidently ask historical source questions and can describe the types of sources which would be useful.</p>	<p>Explain the key features of an interpretation, including how and why it has been constructed. Make a case for or against an interpretation and use some relevant contextual knowledge to support an evaluation. Judgements tend to be assertive and lack clear justification.</p>	<p>Beginning to research about the past independently. Starting to challenge generalisations about the past using knowledge of the period.</p> <p>Starting to appreciate that different people had different ideas at different times.</p> <p>Historical vocabulary, including new words, is used confidently. Vocabulary is often adapted depending on the period or country being studied.</p> <p>Writing often shows some sound analysis and an understanding of some relevant</p>

					historical concepts. Writing may show some evidence of logical planning, but there is no overall coherence. Select relevant knowledge that has some links with the topic and the question.
5	Explain why an event happened using historical knowledge. Identify particular causes or groups of causes as being important. Starting to select knowledge to strengthen points. Explain why events had certain consequences and begin to recognise that one cause may have many consequences. Simple explanations of how causes and consequences connect.	Using the language of change with confidence to begin to explain why some changes are seen as significant depending on perspective. Explain lines of development in which changes work in the same direction or pull in different directions. Limited linking of different lines of development (e.g. religious, political, economic) to each other.	Distinguish between ideas of utility and reliability. Support comments on sources by using source content and sometimes by referencing the provenance of a source. Draw limited conclusions from ideas of nature, origin and purpose (NOP). Use generalised knowledge of the period studied to support comments. Formulate historical questions, but limited ability to follow them up.	Explain how and why an interpretation may have been constructed using simple points relating to purpose, viewpoint, background, source availability and selection. Understand that interpretations can be tested for validity, but may not be sure how to do this.	Building an overall chronological picture by beginning to use both 'facts' and historical ideas. Comment on simple ideas of similarity and difference in the past in broad terms (e.g. rich and poor, male and female). Routinely use historical vocabulary and approach new vocabulary with confidence. Vocabulary is sometimes adapted depending on the period or country being studied. Writing often attempts to show analysis and some appreciation of the relevant historical concept (e.g. constructing a narrative of a cause), but can be unfocused and/ or lacking in logic. Select mostly relevant knowledge to add to the quality of the work.
4	Confidently link causes to construct a sound explanation of why something happened. Prioritise some causes as more important than others, with limited explanation. Beginning to be selective when deploying historical knowledge, although this may be patchy. There is little or no evidence of sustained argument.	Explain about historical developments and how they are measured in different ways (e.g. political, economic, pace, extent). Understand that the historical significance of changes differs depending on the timescale used or the person looking at the change. Starting to link changes to show lines of development rather than just individual changes.	Make supported inferences about the past by using a source and the detail contained within it. Learners can comment on the utility of a source as well as its reliability, but may muddle the two up. Support undeveloped comments on utility and reliability by using content from sources that they are given. Ask questions that are loosely based on a line of enquiry.	Link the construction of different interpretations to the use of different sources. Understand that historians can explain the same event through different stories (e.g. the abolition of the slave trade as an economic argument, as the work of white abolitionists, or as a story of slave revolts and resistance). Learners may still see interpretations as being either "right" or "wrong".	Developing a simple overall chronological picture, and can place new periods or topics within this. Make simple inferences about a period based on prior knowledge. Historical vocabulary, including new vocabulary, is used appropriately and with increasing confidence. Writing is sometimes analytical, but may still be disorganised or not relevant.

3	<p>Linking categories of causes to begin to explain why something happened in history.</p> <p>Describing, in simple terms, one or more of the consequences of an event or development in isolation from other consequences.</p> <p>Starting to use simple knowledge of the event or period to back up statements</p>	<p>Simple descriptions about the pace or extent of changes using the language of change.</p> <p>Understand that a change may be important to one society or group of people but is not important to others. Limited linking of changes together</p>	<p>Sources are used to make simple inferences about the past. Use a small group of sources together to make simple inferences and present this as evidence.</p> <p>Limited ability to ask historically valid questions about sources or identify appropriate sets of sources.</p>	<p>Select and describe the key features of a variety of interpretations (e.g. visual, written, spoken etc.).</p> <p>Explain reasons for the construction of interpretations (e.g. to entertain, to inform, to persuade).</p> <p>Simple statements linked to who made the interpretations.</p>	<p>Able to place a new period or topic within a timeline.</p> <p>Beginning to make links between different periods studied, and how they fit together in the “Big Picture”.</p> <p>Use historical vocabulary correctly and routinely.</p> <p>Can describe “what happened” with a small amount of organisation and/or analysis.</p> <p>Can use information that is sometimes accurate, but may lack relevance in places.</p>
2	<p>Categorise different causes with some confidence.</p> <p>Beginning to recognise that groups of causes are linked e.g. <i>a poor harvest can have effects on both the economy and society</i>.</p> <p>Links are not yet prioritised.</p>	<p>Identify and describe some historical changes that took place in historical periods.</p> <p>Describe some broad historical developments and trends (e.g. <i>technological progress</i>).</p> <p>Limited accuracy or linking to chronology.</p>	<p>Appreciate that historians need to interrogate sources to work out what happened in the past.</p> <p>Understand that historians use sources with the benefit of hindsight.</p> <p>Basic comments on the reliability of sources.</p> <p>Limited understanding of how historians link sources.</p>	<p>Recognise that history is made up of different stories about the past. Recognise that the arguments that people have had about the past are important to the subject of History.</p> <p>Give simple descriptions of two opposing interpretations of an event or person.</p>	<p>Use simple terms like “sixteenth century” or “Middle Ages” and apply them to historical situations.</p> <p>Construct a simple timeline of periods.</p> <p>Recall historical vocabulary for more than one historical period.</p> <p>Can describe “what happened”, but with no development or organisation.</p> <p>Use some information to support their work, but this may lack detail and/or relevance.</p>
1	<p>Identify and categorise a number of types of causes, e.g. <i>short-term and long-term</i> or ‘things to do with money’.</p> <p>Limited linking of points.</p> <p>Limited understanding of how causes lead to consequences.</p>	<p>Identify some historical changes that took place in historical periods.</p> <p>Identify some broad historical developments and trends (e.g. <i>technological progress</i>).</p> <p>Limited accuracy or linking to chronology.</p>	<p>Appreciate that historians need to interrogate sources to work out what happened in the past.</p> <p>Understand that historians use sources with the benefit of hindsight.</p> <p>Basic comments on the reliability of sources ('biased' may be used as a catch-all term).</p> <p>Limited linking of sources.</p>	<p>Recognise that history is made up of different stories about the past. Recognise that the arguments that people have had about the past are important to the subject of History.</p> <p>Give simple descriptions of two opposing interpretations of an event or person.</p>	<p>Use simple terms like year, decade or century, and apply them to historical situations.</p> <p>Construct a simple timeline of periods.</p> <p>Recall historical vocabulary for more than one historical period.</p> <p>Can describe “what happened”, but with no development or organisation.</p>

					Use some information to support their work, but this may lack detail and/or relevance.
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## Maths

### Key Concepts by Unit and Stage

Unit	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9	Stage 10
<b>Numbers and the Number System</b>	a	a	a	a	a		
<b>Counting and Comparing</b>	b	b		b	b		
<b>Investigating Properties of Shapes</b>	c	e	e	e			a
<b>Calculating: Addition and Subtraction</b>	d	c					
<b>Calculating: Multiplication and Division</b>	e	d	c				
<b>Exploring Time and Money</b>	f	g					
<b>Exploring FDP</b>	g	h	g	g	f		l
<b>Measuring Space</b>	h	j	j	j			
<b>Investigating Angles</b>	i	k	k	k	i		
<b>Calculating FDP</b>	j	l	l	l	j		
<b>Calculating Space</b>	k	m	n	n	l	g	i
<b>Checking/Approximating and Estimating</b>	l	n	o	o			
<b>Mathematical Movement</b>	m	o	p	p			d/q
<b>Presentation of Data</b>	n	p	q	q	o	l	
<b>Visualising and Constructing</b>		f	d	d	c	b	
<b>Pattern Sniffing</b>		i	i	i	h	e	g
<b>Calculating</b>			b	c		a	b
<b>Algebraic Proficiency: Using Formulae</b>			f				
<b>Proportional Reasoning</b>			h	h	g	d	f
<b>Solving Equations and Inequalities</b>			m	m	k	f/j	c/h/m
<b>Measuring Data</b>			r	r	p		
<b>Algebraic Proficiency: tinkering</b>				f	e	c	e
<b>Understanding Risk</b>					d/n	k	n
<b>Algebraic Proficiency: visualising</b>					m	i	k/p
<b>Conjecturing</b>						h	j
<b>Analysing Statistics</b>							o

Numbers and The Number System						
Stage 4a	Stage 5a	Stage 6a	Stage 7a	Stage 8a	Stage 9	Stage 10
<ul style="list-style-type: none"> <li>Work with numbers less than 10 000;</li> <li>Understand and use Roman numerals;</li> <li>Explore the history of our number system;</li> <li>Explore ways of representing numbers;</li> <li>Develop skills of estimation;</li> </ul>	<ul style="list-style-type: none"> <li>identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</li> <li>know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</li> <li>establish whether a number up to 100 is prime and recall prime numbers up to 19</li> <li>recognise and use square numbers and cube numbers, and the notation for squared (<math>^2</math>) and cubed (<math>^3</math>)</li> </ul>	<ul style="list-style-type: none"> <li>identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places</li> <li>read, write, order and compare numbers up to 10 000 000 and determine the value of each digit</li> <li>use negative numbers in context, and calculate intervals across zero</li> <li>identify common factors, common multiples and prime numbers</li> </ul>	<ul style="list-style-type: none"> <li>Solve problems involving prime numbers</li> <li>Use highest common factors to solve problems</li> <li>Use lowest common multiples to solve problems</li> <li>Explore powers and roots</li> <li>Investigate number patterns</li> </ul>	<ul style="list-style-type: none"> <li>use the concepts and vocabulary of prime numbers, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation theorem</li> <li>round numbers and measures to an appropriate degree of accuracy (e.g. to a specified number of decimal places or significant figures)</li> <li>interpret standard form <math>A \times 10^n</math>, where <math>1 \leq A &lt; 10</math> and <math>n</math> is an integer</li> </ul>		

Counting and Comparing						
Stage 4b	Stage 5b	Stage 6	Stage 7b	Stage 8b	Stage 9	Stage 10
<ul style="list-style-type: none"> <li>order and compare numbers beyond 1000;</li> <li>count in multiples of 6, 7, 9, 25 and 1000;</li> <li>count backwards through zero to include negative numbers;</li> <li>compare numbers with the same number of decimal places up to two decimal places</li> </ul>	<ul style="list-style-type: none"> <li>read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit;</li> <li>read Roman numerals to 1000 (M) and recognise years written in Roman numerals;</li> <li>interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero;</li> </ul>		<ul style="list-style-type: none"> <li>order positive and negative integers, decimals and fractions;</li> <li>use the symbols =, ≠, &lt;, &gt;, ≤, ≥</li> </ul>	<ul style="list-style-type: none"> <li>apply the four operations, including formal written methods, to integers, decimals and simple fractions (proper and improper), and mixed numbers – all both positive and negative;</li> <li>use conventional notation for priority of operations, including brackets, powers, roots and reciprocals</li> </ul>		

Investigating Properties of Shapes						
Stage 4c	Stage 5e	Stage 6e	Stage 7e	Stage 8	Stage 9	Stage 10a
<ul style="list-style-type: none"> <li>identify lines of symmetry in 2-D shapes presented in different orientations</li> <li>complete a simple symmetric figure with respect to a specific line of symmetry</li> <li>compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</li> </ul>	<ul style="list-style-type: none"> <li>use the properties of rectangles to deduce related facts and find missing lengths and angles</li> <li>distinguish between regular and irregular polygons based on reasoning about equal sides and angles</li> </ul>	<ul style="list-style-type: none"> <li>compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons</li> <li>illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> </ul>	<ul style="list-style-type: none"> <li>identify properties of the faces, surfaces, edges and vertices of: cubes, cuboids, prisms, cylinders, pyramids, cones and spheres</li> <li>derive and apply the properties and definitions of: special types of quadrilaterals, including square, rectangle, parallelogram, trapezium, kite and rhombus; and triangles and other plane figures using appropriate language</li> </ul>			<ul style="list-style-type: none"> <li>make links to similarity (including trigonometric ratios) and scale factors</li> <li>know the exact values of <math>\sin\theta</math> and <math>\cos\theta</math> for <math>\theta = 0^\circ, 30^\circ, 45^\circ, 60^\circ</math> and <math>90^\circ</math>; know the exact value of <math>\tan\theta</math> for <math>\theta = 0^\circ, 30^\circ, 45^\circ</math> and <math>60^\circ</math></li> <li>know the trigonometric ratios, <math>\sin\theta = \text{opposite/hypotenuse}</math>, <math>\cos\theta = \text{adjacent/hypotenuse}</math>, <math>\tan\theta = \text{opposite/adjacent}</math></li> <li>apply it to find angles and lengths in right-angled triangles in two dimensional figures</li> </ul>

Calculating: Addition and Subtraction						
Stage 4d	Stage 5c	Stage 6	Stage 7	Stage 8	Stage 9	Stage 10
<ul style="list-style-type: none"> <li>find 1000 more or less than a given number</li> <li>add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</li> <li>solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why</li> </ul>	<ul style="list-style-type: none"> <li>add and subtract numbers mentally with increasingly large numbers</li> <li>add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</li> <li>solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</li> </ul>					

Calculating: Multiplying and Dividing						
Stage 4e	Stage 5d	Stage 6c	Stage 7	Stage 8	Stage 9	Stage 10
<ul style="list-style-type: none"> <li>recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math></li> <li>recognise and use factor pairs and commutativity in mental calculations</li> <li>find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the</li> </ul>	<ul style="list-style-type: none"> <li>multiply and divide numbers mentally drawing upon known facts</li> <li>multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</li> <li>multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including</li> </ul>	<ul style="list-style-type: none"> <li>divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division; interpret remainders as whole number remainders, fractions, or by rounding, as</li> </ul>				

<p>answer as ones, tenths and hundredths</p> <ul style="list-style-type: none"> <li>use place value, known and derived facts to multiply and divide mentally, including:</li> <li>multiplying by 0 and 1; dividing by 1;</li> <li>multiplying together three numbers</li> </ul> <ul style="list-style-type: none"> <li>multiply two-digit and three-digit numbers by a one-digit number using formal written layout</li> <li>solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as <math>n</math> objects are connected to <math>m</math> objects</li> </ul>	<ul style="list-style-type: none"> <li>long multiplication for two-digit numbers</li> <li>divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context</li> <li>solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</li> <li>solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</li> <li>solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</li> </ul>	<p>appropriate for the context</p> <ul style="list-style-type: none"> <li>divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context</li> <li>use written division methods in cases where the answer has up to two decimal places</li> <li>solve problems involving division</li> <li>use their knowledge of the order of operations to carry out calculations involving the four operations</li> </ul>				
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Exploring Time and Money						
Stage 4f	Stage 5g	Stage 6	Stage 7	Stage 8	Stage 9	Stage 10
<ul style="list-style-type: none"> <li>read, write and convert time between analogue and digital 12- and 24-hour clocks</li> <li>solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days</li> <li>estimate, compare and calculate different measures, including money in £ and pence</li> </ul>	<ul style="list-style-type: none"> <li>solve problems involving converting between units of time</li> <li>complete, read and interpret information in tables, including timetables</li> </ul>					

Exploring FDP						
Stage 4g	Stage 5h	Stage 6g	Stage 7g	Stage 8f	Stage 9	Stage 10l
<ul style="list-style-type: none"> <li>recognise and show, using diagrams, families of common equivalent fractions</li> <li>recognise and write decimal equivalents of any number of tenths or hundredths</li> <li>recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{3}{4}</math></li> </ul>	<ul style="list-style-type: none"> <li>compare and order fractions whose denominators are all multiples of the same number</li> <li>identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</li> <li>recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> </ul>	<ul style="list-style-type: none"> <li>use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li>compare and order fractions, including fractions <math>&gt; 1</math></li> <li>associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375]</li> </ul>	<ul style="list-style-type: none"> <li>express one quantity as a fraction of another, where the fraction is less than 1 or greater than 1</li> <li>define percentage as 'number of parts per hundred'</li> <li>express one quantity as a percentage of another</li> </ul>	<ul style="list-style-type: none"> <li>work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 and <math>\frac{7}{2}</math> or 0.375 or <math>\frac{3}{8}</math>)</li> </ul>		<ul style="list-style-type: none"> <li>change recurring decimals into their corresponding fractions and vice versa</li> <li>set up, solve and interpret the answers in growth and decay problems, including compound interest</li> </ul>

	<ul style="list-style-type: none"> <li>read and write decimal numbers as fractions [for example, <math>0.71 = \frac{71}{100}</math>]</li> <li>read, write, order and compare numbers with up to three decimal places</li> <li>recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal</li> </ul>	<p>for a simple fraction [for example, <math>\frac{3}{8}</math>]</p> <ul style="list-style-type: none"> <li>recall and use equivalences between simple fractions, decimals and percentages, including in different contexts</li> </ul>			
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Measuring Space						
Stage 4h	Stage 5j	Stage 6j	Stage 7j	Stage 8	Stage 9	Stage 10
<ul style="list-style-type: none"> <li>convert between different units of measure [for example, kilometre to metre; hour to minute]</li> <li>solve simple measure and money problems involving fractions and decimals to two decimal places</li> </ul>	<ul style="list-style-type: none"> <li>convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)</li> <li>understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints</li> </ul>	<ul style="list-style-type: none"> <li>use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places</li> </ul>	<ul style="list-style-type: none"> <li>use standard units of measure and related concepts (length, area, volume/capacity, mass, time, money, etc.)</li> <li>use standard units of mass, length, time, money and other measures (including standard compound measures) using decimal quantities where appropriate</li> <li>change freely between related standard units (e.g.</li> </ul>			

	<ul style="list-style-type: none"> <li>use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling</li> </ul>		<ul style="list-style-type: none"> <li>time, length, area, volume/capacity, mass) in numerical contexts</li> <li>measure line segments and angles in geometric figures</li> </ul>			
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Investigating Angles						
Stage 4i	Stage 5k	Stage 6k	Stage 7k	Stage 8i	Stage 9	Stage 10
<ul style="list-style-type: none"> <li>identify acute and obtuse angles and compare and order angles up to two right angles by size</li> </ul>	<ul style="list-style-type: none"> <li>know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles</li> <li>draw given angles, and measure them in degrees (<math>^{\circ}</math>)</li> <li>identify: angles at a point and one whole turn (total <math>360^{\circ}</math>); angles at a point on a straight line and <math>1/2</math> a turn (total <math>180^{\circ}</math>); other multiples of <math>90^{\circ}</math></li> </ul>	<ul style="list-style-type: none"> <li>recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles</li> </ul>	<ul style="list-style-type: none"> <li>apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles</li> </ul>	<ul style="list-style-type: none"> <li>understand and use alternate and corresponding angles on parallel lines</li> <li>derive and use the sum of angles in a triangle (e.g. to deduce and use the angle sum in any polygon, and to derive properties of regular polygons)</li> </ul>		

Calculating FDP						
Stage 4j	Stage 5l	Stage 6l	Stage 7l	Stage 8j	Stage 9	Stage 10
<ul style="list-style-type: none"> <li>count up and down in hundredths; recognise that hundredths arise when dividing an object by one</li> </ul>	<ul style="list-style-type: none"> <li>recognise mixed numbers and improper fractions and convert from one form to the other and write</li> </ul>	<ul style="list-style-type: none"> <li>add and subtract fractions with different denominators and mixed numbers, using the concept</li> </ul>	<ul style="list-style-type: none"> <li>apply the four operations, including formal written methods, to simple fractions (proper and</li> </ul>	<ul style="list-style-type: none"> <li>interpret fractions and percentages as operators</li> <li>work with percentages greater than 100%</li> </ul>		

<ul style="list-style-type: none"> <li>hundred and dividing tenths by ten</li> <li>add and subtract fractions with the same denominator</li> <li>solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number</li> </ul>	<ul style="list-style-type: none"> <li>mathematical statements <math>&gt; 1</math> as a mixed number [for example, <math>\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}</math>]</li> <li>add and subtract fractions with the same denominator and denominators that are multiples of the same number</li> <li>multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</li> <li>solve problems which require knowing percentage and decimal equivalents of <math>\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}</math> and those fractions with a denominator of a multiple of 10 or 25</li> <li>solve problems involving number up to three decimal places</li> </ul>	<ul style="list-style-type: none"> <li>of equivalent fractions</li> <li>multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, <math>\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}</math>]</li> <li>divide proper fractions by whole numbers [for example, <math>\frac{1}{3} \div 2 = \frac{1}{6}</math>]</li> <li>multiply one-digit numbers with up to two decimal places by whole numbers</li> <li>solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison</li> </ul>	<ul style="list-style-type: none"> <li>improper), and mixed numbers</li> <li>interpret percentages and percentage changes as a fraction or a decimal, and interpret these multiplicatively</li> <li>compare two quantities using percentages</li> <li>solve problems involving percentage change, including percentage increase/decrease</li> </ul>	<ul style="list-style-type: none"> <li>solve problems involving percentage change, including original value problems, and simple interest including in financial mathematics</li> <li>calculate exactly with fractions</li> </ul>		
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Calculating Space						
Stage 4k	Stage 5m	Stage 6n	Stage 7n	Stage 8l	Stage 9g	Stage 10i
<ul style="list-style-type: none"> <li>measure and calculate the perimeter of a rectilinear figure (including squares)</li> </ul>	<ul style="list-style-type: none"> <li>measure and calculate the perimeter of composite rectilinear shapes in</li> </ul>	<ul style="list-style-type: none"> <li>recognise that shapes with the same areas can have different</li> </ul>	<ul style="list-style-type: none"> <li>use standard units of measure and related concepts (length, area, volume/capacity)</li> </ul>	<ul style="list-style-type: none"> <li>compare lengths, areas and volumes using ratio notation</li> </ul>	<ul style="list-style-type: none"> <li>identify and apply circle definitions and properties, including: tangent,</li> </ul>	<ul style="list-style-type: none"> <li>calculate surface area and volume of spheres, pyramids, cones and composite solids</li> </ul>

<p>in centimetres and metres</p> <ul style="list-style-type: none"> <li>find the area of rectilinear shapes by counting squares</li> </ul>	<p>centimetres and metres</p> <ul style="list-style-type: none"> <li>calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (<math>\text{cm}^2</math>) and square metres (<math>\text{m}^2</math>) and estimate the area of irregular shapes</li> <li>estimate volume [for example, using 1 <math>\text{cm}^3</math> blocks to build cuboids (including cubes)] and capacity [for example, using water]</li> </ul>	<p>perimeters and vice versa</p> <ul style="list-style-type: none"> <li>calculate the area of parallelograms and triangles</li> <li>calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (<math>\text{cm}^3</math>) and cubic metres (<math>\text{m}^3</math>), and extending to other units [for example, <math>\text{mm}^3</math> and <math>\text{km}^3</math>]</li> <li>recognise when it is possible to use formulae for area and volume of shape</li> <li>solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</li> </ul>	<ul style="list-style-type: none"> <li>calculate perimeters of 2D shapes</li> <li>know and apply formulae to calculate area of triangles, parallelograms, trapezia</li> <li>calculate surface area of cuboids</li> <li>know and apply formulae to calculate volume of cuboids</li> <li>understand and use standard mathematical formulae</li> </ul>	<ul style="list-style-type: none"> <li>calculate perimeters of 2D shapes, including circles</li> <li>identify and apply circle definitions and properties, including: centre, radius, chord, diameter, circumference</li> <li>know the formulae: circumference of a circle = <math>2\pi r = \pi d</math>, area of a circle = <math>\pi r^2</math></li> <li>calculate areas of circles and composite shapes</li> <li>know and apply formulae to calculate volume of right prisms (including cylinders)</li> </ul>	<p>arc, sector and segment</p> <ul style="list-style-type: none"> <li>calculate arc lengths, angles and areas of sectors of circles</li> <li>calculate surface area of right prisms (including cylinders)</li> <li>calculate exactly with multiples of <math>\pi</math></li> <li>know the formulae for: Pythagoras' theorem, <math>a^2 + b^2 = c^2</math>, and apply it to find lengths in right-angled triangles in two dimensional figures</li> </ul>	<ul style="list-style-type: none"> <li>apply the concepts of congruence and similarity, including the relationships between length, areas and volumes in similar figures</li> </ul>
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Checking, Approximating and Estimating						
Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9	Stage 10
<ul style="list-style-type: none"> <li>round any number to the nearest 10, 100 or 1000</li> <li>round decimals with one decimal</li> </ul>	<ul style="list-style-type: none"> <li>round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</li> </ul>	<ul style="list-style-type: none"> <li>solve problems which require answers to be rounded to specified degrees of accuracy</li> </ul>	<ul style="list-style-type: none"> <li>round numbers and measures to an appropriate degree of accuracy (e.g. to a specified number)</li> </ul>			

<ul style="list-style-type: none"> <li>place to the nearest whole number</li> <li>estimate and use inverse operations to check answers to a calculation</li> <li>solve number and practical problems that involve all of the above and with increasingly large positive numbers</li> </ul>	<ul style="list-style-type: none"> <li>round decimals with two decimal places to the nearest whole number and to one decimal place</li> <li>use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</li> </ul>	<ul style="list-style-type: none"> <li>use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy</li> <li>round any whole number to a required degree of accuracy</li> </ul>	<ul style="list-style-type: none"> <li>of decimal places or significant figures)</li> <li>estimate answers; check calculations using approximation and estimation, including answers obtained using technology</li> <li>recognise and use relationships between operations, including inverse operations (e.g. cancellation to simplify calculations and expressions)</li> </ul>			
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Mathematical Movement							
Stage 4m	Stage 5o	Stage 6p	Stage 7p	Stage 8	Stage 9	Stage 10d	Stage 10q
<ul style="list-style-type: none"> <li>describe positions on a 2-D grid as coordinates in the first quadrant</li> <li>plot specified points and draw sides to complete a given polygon</li> <li>describe movements between positions as translations of a given unit to the</li> </ul>	<ul style="list-style-type: none"> <li>identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed</li> </ul>	<ul style="list-style-type: none"> <li>describe positions on the full coordinate grid (all four quadrants)</li> <li>draw and translate simple shapes on the coordinate plane, and reflect them in the axes</li> </ul>	<ul style="list-style-type: none"> <li>work with coordinates in all four quadrants</li> <li>understand and use lines parallel to the axes, <math>y = x</math> and <math>y = -x</math></li> <li>solve geometrical problems on coordinate axes</li> <li>identify, describe and construct congruent shapes including on coordinate</li> </ul>			<ul style="list-style-type: none"> <li>identify, describe and construct similar shapes, including on coordinate axes, by considering enlargement (including fractional scale factors)</li> <li>make links between similarity and scale factors</li> <li>describe the changes and invariance achieved by combinations of rotations, reflections and translations</li> </ul>	<ul style="list-style-type: none"> <li>apply addition and subtraction of vectors, multiplication of vectors by a scalar, and diagrammatic and column representations of vectors</li> </ul>

left/right and up/down			axes, by considering rotation, reflection and translation • describe translations as 2D vectors				
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Presentation of Data						
Stage 4n	Stage 5p	Stage 6q	Stage 7q	Stage 8o	Stage 9l	Stage 10
<ul style="list-style-type: none"> <li>interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs</li> <li>solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs</li> </ul>	<ul style="list-style-type: none"> <li>solve comparison, sum and difference problems using information presented in a line graph</li> </ul>	<ul style="list-style-type: none"> <li>interpret and construct pie charts and line graphs and use these to solve problems</li> </ul>	<ul style="list-style-type: none"> <li>interpret and construct tables, charts and diagrams, including frequency tables, bar charts, pie charts and pictograms for categorical data, vertical line charts for ungrouped discrete numerical data and know their appropriate use</li> </ul>	<ul style="list-style-type: none"> <li>interpret, analyse and compare the distributions of data sets from univariate empirical distributions through appropriate graphical representation involving discrete, continuous and grouped data</li> <li>use and interpret scatter graphs of bivariate data</li> <li>recognise correlation</li> </ul>	<ul style="list-style-type: none"> <li>interpret and construct tables, charts and diagrams, including tables and line graphs for time series data and know their appropriate use</li> <li>draw estimated lines of best fit; make predictions</li> <li>know correlation does not indicate causation; interpolate and extrapolate apparent trends whilst knowing the dangers of so doing</li> </ul>	

Visualising and Constructing						
Stage 4	Stage 5f	Stage 6d	Stage 7d	Stage 8c	Stage 9b	Stage 10
	<ul style="list-style-type: none"> <li>identify 3-D shapes, including cubes and other cuboids, from 2-D representations</li> </ul>	<ul style="list-style-type: none"> <li>draw 2-D shapes using given dimensions and angles</li> <li>recognise, describe and build simple 3-D shapes, including making nets</li> </ul>	<ul style="list-style-type: none"> <li>use conventional terms and notations: points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons, regular polygons and polygons with reflection and/or rotation symmetries</li> <li>use the standard conventions for labelling and</li> </ul>	<ul style="list-style-type: none"> <li>measure line segments and angles in geometric figures, including interpreting maps and scale drawings and use of bearings</li> <li>identify, describe and construct similar shapes, including on coordinate axes, by considering enlargement</li> </ul>	<ul style="list-style-type: none"> <li>use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from/at a given point, bisecting a given angle)</li> <li>use these to construct given figures and solve loci problems; know that the</li> </ul>	

			<ul style="list-style-type: none"> <li>referring to the sides and angles of triangles</li> <li>draw diagrams from written description</li> </ul>	<ul style="list-style-type: none"> <li>interpret plans and elevations of 3D shapes</li> <li>use scale factors, scale diagrams and maps</li> </ul>	<p>perpendicular distance from a point to a line is the shortest distance to the line</p> <ul style="list-style-type: none"> <li>construct plans and elevations of 3D shapes</li> </ul>	
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<b>Pattern Sniffing</b>						
<b>Stage 4</b>	<b>Stage 5i</b>	<b>Stage 6i</b>	<b>Stage 7i</b>	<b>Stage 8h</b>	<b>Stage 9e</b>	<b>Stage 10g</b>
	<ul style="list-style-type: none"> <li>count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</li> </ul>	<ul style="list-style-type: none"> <li>generate and describe linear number sequences</li> </ul>	<ul style="list-style-type: none"> <li>generate terms of a sequence from a term-to-term rule</li> </ul>	<ul style="list-style-type: none"> <li>generate terms of a sequence from either a term-to-term or a position-to-term rule</li> </ul> <p>deduce expressions to calculate the nth term of linear sequences</p>	<ul style="list-style-type: none"> <li>recognise and use Fibonacci type sequences, quadratic sequences</li> </ul>	<ul style="list-style-type: none"> <li>deduce expressions to calculate the nth term of quadratic sequences</li> <li>recognise and use simple geometric progressions (<math>r^n</math> where n is an integer, and r is a rational number <math>&gt; 0</math> )</li> </ul>

Calculating						
Stage 4	Stage 5	Stage 6b	Stage 7c	Stage 8	Stage 9a	Stage 10b
		<ul style="list-style-type: none"> <li>perform mental calculations, including with mixed operations and large numbers</li> <li>solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</li> <li>multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</li> <li>solve problems involving addition, subtraction and multiplication</li> <li>use their knowledge of the order of operations to carry out calculations</li> </ul>	<ul style="list-style-type: none"> <li>understand and use place value (e.g. when working with very large or very small numbers, and when calculating with decimals)</li> <li>apply the four operations, including formal written methods, to integers and decimals</li> <li>use conventional notation for priority of operations, including brackets</li> <li>recognise and use relationships between operations, including inverse operations (e.g. cancellation to simplify calculations and expressions)</li> </ul>		<ul style="list-style-type: none"> <li>calculate with roots, and with integer indices</li> <li>calculate with standard form <math>A \times 10^n</math>, where <math>1 \leq A &lt; 10</math> and n is an integer</li> <li>use inequality notation to specify simple error intervals due to truncation or rounding</li> <li>apply and interpret limits of accuracy</li> </ul>	<ul style="list-style-type: none"> <li>estimate powers and roots of any given positive number</li> <li>calculate with roots, and with integer and fractional indices</li> <li>calculate exactly with surds</li> <li>apply and interpret limits of accuracy, including upper and lower bounds</li> </ul>

I. Algebraic Proficiency: Using Formulae						
Stage 4	Stage 5	Stage 6f	Stage 7	Stage 8	Stage 9	Stage 10
		<ul style="list-style-type: none"> <li>use simple formulae</li> <li>convert between miles and kilometres</li> </ul>				

Proportional Reasoning						
Stage 4	Stage 5	Stage 6h	Stage 7h	Stage 8g	Stage 9d	Stage 10f
		<ul style="list-style-type: none"> <li>solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</li> <li>solve problems involving similar shapes where the scale factor is known or can be found</li> <li>solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</li> </ul>	<ul style="list-style-type: none"> <li>use ratio notation, including reduction to simplest form</li> <li>divide a given quantity into two parts in a given part:part or part:whole ratio</li> </ul>	<ul style="list-style-type: none"> <li>express the division of a quantity into two parts as a ratio; apply ratio to real contexts and problems (such as those involving conversion, comparison, scaling, mixing, concentrations)</li> <li>identify and work with fractions in ratio problems</li> <li>understand and use proportion as equality of ratios</li> <li>express a multiplicative relationship between two quantities as a ratio or a fraction</li> <li>use compound units (such as speed, rates of pay, unit pricing)</li> <li>change freely between compound units (e.g. speed, rates of pay, prices) in numerical contexts</li> <li>relate ratios to fractions and to linear functions</li> </ul>	<ul style="list-style-type: none"> <li>solve problems involving direct and inverse proportion including graphical and algebraic representations</li> <li>apply the concepts of congruence and similarity, including the relationships between lengths in similar figures</li> <li>change freely between compound units (e.g. density, pressure) in numerical and algebraic contexts</li> <li>use compound units such as density and pressure</li> </ul>	<ul style="list-style-type: none"> <li>interpret equations that describe direct and inverse proportion</li> <li>recognise and interpret graphs that illustrate direct and inverse proportion</li> <li>understand that <math>X</math> is inversely proportional to <math>Y</math> is equivalent to <math>X</math> is proportional to <math>1/Y</math></li> </ul>

Solving Equations and Inequalities									
Stage 4	Stage 5	Stage 6m	Stage 7m	Stage 8k	Stage 9f	Stage 9j	Stage 10c	Stage 10h	Stage 10m
		<ul style="list-style-type: none"> <li>enumerate possibilities of combinations of two variables</li> <li>express missing number problems algebraically</li> <li>find pairs of numbers that satisfy an equation with two unknowns</li> </ul>	<ul style="list-style-type: none"> <li>recognise and use relationships between operations, including inverse operations (e.g. cancellation to simplify calculations and expressions)</li> <li>solve linear equations in one unknown algebraically</li> </ul>	<ul style="list-style-type: none"> <li>solve linear equations with the unknown on both sides of the equation</li> <li>find approximate solutions to linear equations using a graph</li> </ul>	<ul style="list-style-type: none"> <li>understand and use the concepts and vocabulary of inequalities</li> <li>solve linear inequalities in one variable</li> <li>represent the solution set to an inequality on a number line</li> </ul>	<ul style="list-style-type: none"> <li>solve, in simple cases, two linear simultaneous equations in two variables algebraically</li> <li>derive an equation (or two simultaneous equations), solve the equation(s) and interpret the solution</li> <li>find approximate solutions to simultaneous equations using a graph</li> </ul>	<ul style="list-style-type: none"> <li>find approximate solutions to equations numerically using iteration</li> <li>solve two linear simultaneous equations in two variables algebraically</li> </ul>	<ul style="list-style-type: none"> <li>solve linear inequalities in two variables</li> <li>represent the solution set to an inequality using set notation and on a graph</li> </ul>	<ul style="list-style-type: none"> <li>solve quadratic equations algebraically by factorising</li> <li>solve quadratic equations (including those that require rearrangement) algebraically by factorising</li> <li>find approximate solutions to quadratic equations using a graph</li> <li>deduce roots of quadratic functions algebraically</li> </ul>

Measuring Data						
Stage 4	Stage 5	Stage 6r	Stage 7r	Stage 8p	Stage 9	Stage 10
		<ul style="list-style-type: none"> <li>calculate and interpret the mean as an average</li> </ul>	<ul style="list-style-type: none"> <li>interpret, analyse and compare the distributions of data sets from univariate empirical distributions through appropriate measures of central tendency (median,</li> </ul>	<ul style="list-style-type: none"> <li>interpret, analyse and compare the distributions of data sets from univariate empirical distributions through appropriate measures of central tendency</li> </ul>		

			mean and mode) and spread (range)	(median, mean, mode and modal class) and spread (range, including consideration of outliers) • apply statistics to describe a population		
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Algebraic Proficiency: tinkering						
Stage 4	Stage 5	Stage 6	Stage 7f	Stage 8e	Stage 9c	Stage 10e
			<ul style="list-style-type: none"> <li>understand and use the concepts and vocabulary of expressions, equations, formulae and terms</li> <li>use and interpret algebraic notation, including: <math>ab</math> in place of <math>a \times b</math>, <math>3y</math> in place of <math>y + y + y</math> and <math>3 \times y</math>, <math>a^2</math> in place of <math>a \times a</math>, <math>a^3</math> in place of <math>a \times a \times a</math>, <math>a/b</math> in place of <math>a \div b</math>, brackets</li> <li>simplify and manipulate algebraic expressions by collecting like terms and multiplying a single term over a bracket</li> <li>where appropriate, interpret simple expressions as functions with inputs and outputs</li> <li>substitute numerical values into formulae and expressions</li> <li>use conventional notation for priority of operations, including brackets</li> </ul>	<ul style="list-style-type: none"> <li>use and interpret algebraic notation, including: <math>a^2b</math> in place of <math>a \times a \times b</math>, coefficients written as fractions rather than as decimals</li> <li>understand and use the concepts and vocabulary of factors</li> <li>simplify and manipulate algebraic expressions by taking out common factors and simplifying expressions involving sums, products and powers, including the laws of indices</li> <li>substitute numerical values into scientific formulae</li> <li>rearrange formulae to change the subject</li> </ul>	<ul style="list-style-type: none"> <li>understand and use the concepts and vocabulary of identities</li> <li>know the difference between an equation and an identity</li> <li>simplify and manipulate algebraic expressions by expanding products of two binomials and factorising quadratic expressions of the form <math>x^2 + bx + c</math></li> <li>argue mathematically to show algebraic expressions are equivalent, and use algebra to support and construct arguments</li> <li>translate simple situations or procedures into algebraic expressions or formulae</li> </ul>	<ul style="list-style-type: none"> <li>simplify and manipulate algebraic expressions involving algebraic fractions</li> <li>manipulate algebraic expressions by expanding products of more than two binomials</li> <li>simplify and manipulate algebraic expressions (including those involving surds) by expanding products of two binomials and factorising quadratic expressions of the form <math>x^2 + bx + c</math>, including the difference of two squares</li> <li>manipulate algebraic expressions by factorising quadratic expressions of the form <math>ax^2 + bx + c</math></li> </ul>

Understanding Risk							
Stage 4	Stage 5	Stage 6	Stage 7	Stage 8d	Stage 8n	Stage 9k	Stage 10n
				<ul style="list-style-type: none"> <li>relate relative expected frequencies to theoretical probability, using appropriate language and the 0 - 1 probability scale</li> <li>record describe and analyse the frequency of outcomes of probability experiments using tables</li> <li>construct theoretical possibility spaces for single experiments with equally likely outcomes and use these to calculate theoretical probabilities</li> <li>apply the property that the probabilities of an exhaustive set of outcomes sum to one</li> </ul>	<ul style="list-style-type: none"> <li>apply systematic listing strategies</li> <li>record describe and analyse the frequency of outcomes of probability experiments using frequency trees</li> <li>enumerate sets and combinations of sets systematically, using tables, grids and Venn diagrams</li> <li>construct theoretical possibility spaces for combined experiments with equally likely outcomes and use these to calculate theoretical probabilities</li> <li>apply ideas of randomness, fairness and equally likely events to calculate expected outcomes of multiple future experiments</li> </ul>	<ul style="list-style-type: none"> <li>calculate the probability of independent and dependent combined events, including using tree diagrams and other representations, and know the underlying assumptions</li> <li>enumerate sets and combinations of sets systematically, using tree diagrams</li> <li>understand that empirical unbiased samples tend towards theoretical probability distributions, with increasing sample size</li> </ul>	<ul style="list-style-type: none"> <li>apply systematic listing strategies including use of the product rule for counting</li> <li>calculate and interpret conditional probabilities through representation using expected frequencies with two-way tables, tree diagrams and Venn diagrams.</li> </ul>

	Algebraic Proficiency: visualising						
Stage 4	Stage 5	Stage 6	Stage 7	Stage 8m	Stage 9i	Stage 10k	Stage 10p
				<ul style="list-style-type: none"> <li>plot graphs of equations that correspond to straight-line graphs in the coordinate plane</li> <li>identify and interpret gradients and intercepts of linear functions graphically</li> <li>recognise, sketch and interpret graphs of linear functions and simple quadratic functions</li> <li>plot and interpret graphs and graphs of non-standard (<i>piece-wise linear</i>) functions in real contexts, to find approximate solutions to problems such as simple kinematic problems involving distance and speed</li> </ul>	<ul style="list-style-type: none"> <li>identify and interpret gradients and intercepts of linear functions algebraically</li> <li>use the form <math>y = mx + c</math> to identify parallel lines</li> <li>find the equation of the line through two given points, or through one point with a given gradient</li> <li>interpret the gradient of a straight line graph as a rate of change</li> <li>recognise, sketch and interpret graphs of quadratic functions</li> <li>recognise, sketch and interpret graphs of simple cubic functions and the reciprocal function <math>y = 1/x</math> with <math>x \neq 0</math></li> <li>plot and interpret graphs (including reciprocal graphs) and graphs of non-standard functions in real contexts, to find approximate solutions to problems such as simple kinematic problems involving distance, speed and acceleration</li> </ul>	<ul style="list-style-type: none"> <li>plot and interpret graphs (including exponential graphs) and graphs of non-standard functions in real contexts, to find approximate solutions to problems such as simple kinematic problems involving distance, speed and acceleration</li> <li>calculate or estimate gradients of graphs and areas under graphs (including quadratic and other non-linear graphs), and interpret results in cases such as distance-time graphs, velocity-time graphs and graphs in financial contexts</li> <li>interpret the gradient at a point on a curve as the instantaneous rate of change</li> <li>identify and interpret roots, intercepts, turning points of quadratic functions graphically</li> </ul>	<ul style="list-style-type: none"> <li>use the form <math>y = mx + c</math> to identify perpendicular lines</li> <li>recognise and use the equation of a circle with centre at the origin</li> <li>find the equation of a tangent to a circle at a given point</li> </ul>

Conjecturing						
Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9h	Stage 10j
					<ul style="list-style-type: none"> <li>use the basic congruence criteria</li> </ul>	<ul style="list-style-type: none"> <li>apply and prove the standard circle</li> </ul>

					<ul style="list-style-type: none"> <li>for triangles (SSS, SAS, ASA, RHS)</li> <li>apply angle facts, triangle congruence, similarity and properties of quadrilaterals to conjecture and derive results about angles and sides, including Pythagoras' Theorem and the fact that the base angles of an isosceles triangle are equal, and use known results to obtain simple proofs</li> </ul>	theorems concerning angles, radii, tangents and chords, and use them to prove related results
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Analysing Statistics						
Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9	Stage 10
						<ul style="list-style-type: none"> <li>infer properties of populations or distributions from a sample, whilst knowing the limitations of sampling</li> <li>construct and interpret diagrams for grouped discrete data and continuous data, i.e. cumulative frequency graphs, and know their appropriate use</li> <li>interpret, analyse and compare the distributions of data sets from univariate empirical distributions through</li> </ul>

appropriate graphical representation involving discrete, continuous and grouped data, including box plots

- interpret, analyse and compare the distributions of data sets from univariate empirical distributions through appropriate measures of central tendency including quartiles and inter-quartile range

## Music

<b>Grade</b>	<b>AO1 30%</b> <b>Perform with technical control, expression and interpretation</b>	<b>AO2 30%</b> <b>Compose and develop musical ideas with technical control and coherence</b>	<b>AO3 20%</b> <b>Demonstrate and apply musical knowledge</b>	<b>AO4 20%</b> <b>Use appraising skills to make evaluative and critical judgements about music</b>
1	I can perform but I make mistakes and play with hesitation.	I can demonstrate some use of techniques and devices. My piece sounds unfinished.	I can identify the use the elements of music.	I can describe music in basic terms. I can WWW and EBI.
2	I can perform with hesitation and limited accuracy in pitch, rhythm, intonation and/or fluency.	I can demonstrate simple use of techniques and devices. My work will have a simple structure.	I can confidently identify the use the elements of music.	I can describe music using some key words. I can WWW and EBI.
3	I can perform but with some accuracy with occasional slips in pitch, rhythm, intonation and/or fluency.	I can more-or-less demonstrate the ability to use techniques and devices effectively so they are used composition, though not necessarily consistently.	I can identify the use of chords, drone, ostinato, syncopation, tonality and other techniques within a piece of music.	I can demonstrate limited use of music vocabulary. I can make some judgements on my own work and other people's work.
4	I can perform with confidence but with occasional slips in pitch, rhythm, intonation and/or fluency.	I can demonstrate the ability to use techniques and devices effectively so they are used consistently in the composition.	I can identify the use of chords, drone, ostinato, cadences, tonality, syncopation and other techniques within a piece of music.	I can demonstrate some use of music vocabulary. I can make some judgements on my own work and other people's work.
5	I can perform mostly accurately with occasional slips in pitch, rhythm, intonation and/or fluency.	I can competently demonstrate the ability to use techniques and devices effectively so they are used throughout my composition.	I can listen to a piece of music with increasing discrimination regarding devices and techniques within a piece of music.	I can demonstrate appropriate use of music vocabulary. I can express and justify my opinion using music vocabulary.
6	I can perform generally accurately with regards to pitch, rhythm, intonation and fluency.	I can competently demonstrate the ability to use techniques and devices effectively so they are used consistently in my composition.	I can discriminate between the use of musical devices and techniques within a piece of music.	I can demonstrate good use of music vocabulary with confidence. I can make informed judgements on my own work and other people's work.
7	I can perform with high levels accuracy, pitch, rhythm, intonation and fluency.	I can competently demonstrate the ability to use techniques and devices effectively so they are used to develop my piece.	I can confidently analyse and the use of musical devices and techniques within a piece of music.	I can demonstrate good use of music vocabulary. And make informed judgements on my own work and other people's work.
8	I can perform with high levels accuracy, pitch, rhythm, intonation and fluency.	I can demonstrate the ability to use and develop a range of techniques and devices successfully.	I can accurately analyse and discriminate between the use of musical devices and techniques and their intended purpose.	I can demonstrate very good use of music vocabulary. And make critical judgements on my own work and other people's work.
9	I can perform with total accuracy, pitch, rhythm, intonation and fluency.	I can demonstrate the ability to use a wide range of techniques and devices idiomatically.	I can accurately analyse and discriminate between the use of musical devices and techniques and their intended purpose.	I can demonstrate excellent use of music vocabulary. And make critical judgements on my own work and other people's work.

## PE

Grade	A01 - Demonstrates a range of skills	A02 - Quality of skills performed	A03 - Physical Attributes	A04 - Decision making
9	Demonstrates all core skills and all advanced skills for the activity in isolation and under competitive pressure in authentic performance situations	Core skills are performed consistently with an <b>outstanding</b> standard of accuracy, control and fluency  The advanced skills demonstrated are performed consistently with an <b>outstanding</b> standard of accuracy, control and fluency	Demonstrates outstanding levels of physical fitness and psychological control to perform very effectively	Successfully selects and uses <b>advanced</b> skills on nearly all occasions.  Applies appropriate team strategies/tactics/compositional ideas demonstrating an <b>outstanding</b> understanding of the activity.  Demonstrates <b>outstanding</b> awareness of the rules/regulations of the activity during performance.  Demonstrates <b>outstanding</b> awareness of and response to the strengths, weaknesses and actions of other player (s)/ performer (team activities only).  Communication with other player(s)/performer(s) is <b>outstanding</b> (team activities only).
8	Demonstrates all core skills and nearly all advanced skills for the activity in isolation and under competitive pressure in authentic performance situations	Core skills are performed consistently with an <b>excellent</b> standard of accuracy, control and fluency  The advanced skills demonstrated are performed consistently with an <b>excellent</b> standard of accuracy, control and fluency	Demonstrates excellent levels of physical fitness and psychological control to perform very effectively	Successfully selects and uses <b>advanced</b> skills on most occasions.  Applies appropriate team strategies/tactics/compositional ideas demonstrating an <b>excellent</b> understanding of the activity on most occasions.  Demonstrates <b>excellent</b> awareness of the rules/regulations of the activity during performance.  Demonstrates <b>excellent</b> awareness of and response to the strengths , weaknesses and actions of other player (s)/ performer (team activities only).  Communication with other player(s)/performer(s) was <b>excellent</b> (team activities only).
7	Demonstrates all core skills and most of the advanced skills for the activity in isolation and under competitive pressure in authentic performance situations	Core skills are performed consistently with a <b>very good</b> standard of accuracy, control and fluency,  The advanced skills demonstrated are performed consistently with a <b>very good</b> standard of accuracy, control and fluency	Demonstrates very good levels of physical fitness and psychological control to perform very effectively	Successfully selects and uses <b>advanced</b> skills on many occasions.  Applies appropriate team strategies/tactics/compositional ideas demonstrating a <b>very good</b> understanding of the activity Demonstrates <b>very good</b> awareness of the rules/regulations/of the activity during performance. Demonstrates a <b>very good</b> awareness of and response to the strengths, weaknesses and actions of other player(s)/performer(s)/(team activities only)

6	Demonstrates all core skills and some advanced skills for the activity in isolation and under competitive pressure in authentic performance situations	<p>Core skills are performed consistently with a <b>good</b> standard of accuracy, control and fluency,</p> <p>The advanced skills demonstrated are performed consistently with a <b>good</b> standard of accuracy, control and fluency</p>	<p>Demonstrates good levels of physical fitness and psychological control to perform very effectively</p>	<p>Successfully selects and uses <b>advanced</b> skills on some occasions.</p> <p>Applies appropriate team strategies/tactics/compositional ideas demonstrating a <b>good</b> understanding of the activity</p> <p>Demonstrates <b>good</b> awareness of the rules/regulations/of the activity during performance.</p> <p><b>Demonstrates a very good awareness of and response to the strengths, weaknesses and actions of other player(s)/performer(s)/(team activities only)</b></p>
5	Demonstrates most core skills and some advanced skills for the activity in isolation and under competitive pressure in authentic performance situations	<p>Core skills are performed with <b>more consistency and</b> with a good standard of accuracy, control and fluency</p> <p>The advanced skills demonstrated are performed with more consistency and a good standard of accuracy, control and fluency</p>	<p>Demonstrates appropriate levels of physical fitness and psychological control to perform effectively</p>	<p>Successfully select and uses <b>appropriate</b> skills on <b>most</b> occasions.</p> <p>Applies appropriate team strategies/tactics/compositional ideas demonstrating a <b>reasonable</b> understanding of the activity.</p> <p>Demonstrates a <b>reasonable</b> awareness of the rules/regulations of the activity during performance.</p> <p>Demonstrates <b>reasonable</b> awareness of and response to the strengths, weakness and actions of other player(s)/performer(s) (Team activities only)</p> <p>Communication with other players)/Performers is <b>reasonable</b> (Team activities only)</p>
4	Demonstrates a reasonable range of core skills and few advanced skills for the activity in isolation and under competitive pressure in authentic performance situations	<p>Core skills are performed with a <b>degree of consistency</b> and some standard of accuracy, control and fluency</p> <p>The advanced skills demonstrated are performed with a <b>degree of consistency</b> and <b>can sometimes</b> lack accuracy, control and fluency</p>	<p>Demonstrates reasonable physical fitness and psychological control to perform with some effectiveness</p>	<p>Selects and uses appropriate skills on <b>many</b> occasions.</p> <p>Sometimes applies appropriate team strategies/tactics/compositional ideas demonstrating some understanding of the activity</p> <p>Demonstrates <b>some</b> awareness of the rules/regulations of the activity during performance</p> <p>Demonstrates <b>some</b> awareness of and response to the strengths, weakness and actions of other player(s)/performer(s) (Team activities only)</p> <p>Communication with other players)/Performers is <b>variable</b> (Team activities only))</p>
3	Demonstrates some core skills and few advanced skills for the activity in isolation and under competitive pressure in authentic performance situations	<p>Core skills are performed with <b>some</b> consistency and <b>some</b> accuracy, control and fluency</p> <p>Any advanced skills demonstrated are performed with <b>some consistency</b> and</p>	<p>Demonstrates some physical fitness and psychological control to perform with some effectiveness</p>	<p>Selects and uses appropriate skills on <b>limited</b> occasions.</p> <p>Sometimes applies appropriate team strategies/tactics/compositional ideas demonstrating <b>limited</b> understanding of the activity.</p> <p>Demonstrates <b>limited</b> awareness of the rules/regulations of the activity during performance.</p>

		often lack accuracy, control and fluency		Demonstrates <b>limited</b> awareness of and response to the strengths, weakness and actions of other player(s)/performer(s) (Team activities only)  Communication with other players)/Performers is <b>limited</b> (Team activities only))
2	Demonstrates a limited number of core skills and few if any advanced skills for the activity in isolation and under competitive pressure in authentic performance situations	Core skills are performed with <b>limited consistency</b> and <b>limited</b> accuracy, control and fluency  Few if any advanced skills are demonstrated or are performed with <b>limited consistency</b> and often lack accuracy, control and fluency	Demonstrates limited physical fitness and psychological control to perform with some effectiveness	Selects and uses appropriate skills on <b>few</b> occasions.  Sometimes applies appropriate team strategies/tactics/compositional <b>PE</b> ideas demonstrating <b>a basic</b> understanding of the activity  Demonstrates <b>a basic</b> awareness of the rules/regulations of the activity during performance  Demonstrates <b>a basic</b> awareness of and response to the strengths, weakness and actions of other players/performers) (Team activities only)  <b>Communication with other players/Performers is limited (Team activities only))</b>
1	Demonstrates some core skills for the activity in isolation and under limited pressure in authentic performance situation Few, if any of the advanced skills for the activity are attempted	Core skills are performed inconsistently and with <b>limited</b> accuracy, control and fluency  No advanced skills attempted or are performed with little success	Demonstrates limited physical fitness and psychological control during performance	Selects and uses <b>basic</b> skills on <b>few</b> occasions  Rarely applies team strategies/tactics/compositional ideas demonstrating little understanding of the activity  Demonstrates little awareness of the rules /regulations of the activity during performance  Demonstrates little awareness of and response to the strengths, weaknesses and actions of other player(s)/performer(s) (team activities only)  Rarely communicates with other players/performers (team activities only)

**RS**

Grade	AO1: Demonstrate knowledge and understanding of religion and belief including: (50%)			AO2: Analyse and evaluate aspects of religion and belief, including their significance and influence. (50%)
	Beliefs, practices and sources of authority.	Influence on individuals, communities and societies.	Similarities and differences within and/ or between religions and beliefs.	
9	Analyse and evaluate beliefs, practices and sources of authority from a range of religions.	Analyse and evaluate the influence religions and beliefs have on individuals, communities and societies.	Analyse and evaluate similarities and differences within and/ or between religions and beliefs.	Analyse and evaluate aspects of religion and belief, including their significance and influence. Show awareness of numerous religions/beliefs.
8	Use knowledge and understanding of different religions to analyse beliefs, practices and sources of authority.	Use knowledge and understanding of different religions to analyse the influence they have on individuals, communities and societies.	Use knowledge and understanding of different religions to analyse similarities and differences within and/ or between religions and beliefs.	Analyse and evaluate aspects of religion and belief, including their significance and influence.
7	Analyse beliefs, practices and sources of authority.	Analyse the influence religion and beliefs have on individuals, communities and societies.	Analyse the reasons for similarities and differences within and/ or between religions and beliefs.	Analyse aspects of religion and belief, including their significance and influence.
6	Explain in detail the reasons for beliefs and practices. Begin to analyse sources of authority.	Explain in detail why religion and beliefs have an influence on individuals, communities and societies. Refer to different religious beliefs.	Explain in detail the reasons for similarities and differences within and/ or between religions and beliefs.	Explain reasons for a personal view on different aspects of religion and belief. Begin to justify the personal view.
5	Explain reasons for beliefs and practices with an understanding of how sources of authority impact upon them.	Explain reasons why religion and beliefs have an influence on individuals, communities and societies.	Explain reasons for comparisons within and/ or between religions and beliefs.	Explain reasons for a personal view on aspects of religion and belief.
4	Describe links between what people believe and how they live their lives. Suggest reasons for these links.	Describe the influence religion and beliefs have on individuals, communities and societies.	Describe comparisons within and/ or between religions and beliefs.	Describe a personal view on aspects of religion and belief.
3	Some ability to describe links between what people believe and how they live their lives.	Some ability to describe the influence religion and beliefs have on individuals, communities and societies.	Some ability to describe comparisons between religions and beliefs.	Some ability to describe a personal view on aspects of religion and belief.
2	Recognise the link between what people believe and how they live their lives.	Recognise the impact religion has on individuals, communities and societies.	Recognise what is the same and what is different between religions and their beliefs.	Recognise and identify a personal view on aspects of religion and belief.
1	Recognise key words associated with beliefs, practices and sources of authority within religion.	Recognise key words associated with how individuals and societies can be influenced by religion.	Recognise key words associated with similarities and differences between religions.	Recognise key words associated with a personal view on aspects of religion and belief.

## Science

Grade	<b>AO1 Knowledge and understanding</b>	<b>AO2 Apply knowledge and understanding</b>		<b>AO3 Analyse information and ideas</b>	
9	Appreciate and be able to use different approaches to answer different kinds of scientific questions.	Make balanced judgements about scientific/technological developments by evaluating their economic, ethical & cultural implications.	Communicate findings and arguments showing their awareness of uncertainty and alternative views.	Create a hypothesis, deciding on the level on precision. Adjust practice as required by information collated.	Suggest & justify improvements to procedures, suggesting coherent strategies to take investigations further.
8	Create abstract models in order to explain processes.	Critically evaluate the unintended consequences that may arise from scientific and technological developments.	Present robust and well-structured explanations or arguments in a variety of formats.	Create plans for investigating a question given a variety of information Analyse data critically. Explain anomalies. Justify choices of strategy, using scientific knowledge.	Propose scientific explanations for unexpected observations, making allowances for anomalies.
7	Analyse processes making explicit connections between abstract ideas and/or models. Analyse systematically the relative importance of various factors when explaining processes.	Analyse how creative thinking in science and technology generates ideas for future research and development. Explain how scientific discoveries can change world views.	Explain how information or evidence may be manipulated in order to influence interpretation. Effectively represent abstract ideas using appropriate symbols, flow diagrams and graphs.	Explain why some key variables cannot be readily controlled and plan an appropriate approach to take account of this. Explain how to take account of sources of error.	Analyse ways of modifying working methods to improve reliability.
6	Explain some scientific evidence that supports or refutes particular ideas or arguments. Begin to explain processes using abstract ideas or models or multiple factors.	Explain how particular scientific or technological developments have provided evidence. Begin to explain how societies are affected by particular scientific applications. Describe how aspects of science are applied in particular jobs or roles.	Identify lack of balance in information or evidence. Choose forms to communicate qualitative or quantitative data.	Explain choices of data collection method. Collect data choosing appropriate ranges/numbers/values for measurements and observations. Explain a range of familiar risks and take action to control them.	Explain conclusions using scientific knowledge. Select and manipulate data. Make valid comments on the quality of data.
5	Describe processes using abstract models/ideas or more than one step. Recognise the use of evidence by scientists.	Suggest reasons how scientific developments may affect different groups of people in different ways.	Distinguish between opinion and scientific evidence, and use evidence rather than opinion. Suggest how collaborative	Suggest reasons why particular pieces of equipment are appropriate. Recognise significant variables in investigations. Repeat sets of observations where appropriate.	Draw valid conclusions that utilise more than one piece of supporting data. Suggest reasons for the effectiveness of working methods, making

			<p>approaches may improve the evidence collected.</p> <p>Decide on the most appropriate formats to present sets of scientific data.</p>	<p>Recognise a range of familiar risks and take action to control them.</p>	<p>practical suggestions for improving them.</p>
4	<p>Recognise scientific evidence.</p> <p>Begin to describe scientific ideas using simple models.</p>	<p>Recognise applications of specific scientific developments.</p> <p>State aspects of science used within particular jobs or roles.</p>	<p>Recognise appropriate ways of presenting scientific data and use them.</p>	<p>Recognise appropriate equipment for an investigation.</p> <p>Make sets of accurate observations/measurements.</p> <p>Recognise obvious risks.</p>	<p>Recognise patterns in data presented in various formats.</p> <p>Suggest improvements to working methods, giving reasons.</p>
3	<p>State similarities and differences or changes related to simple scientific ideas.</p>	<p>State aspects of our work, or lives, which are based on scientific ideas.</p>	<p>State simple advantages of working together on experiments.</p> <p>Use scientific forms of language.</p>	<p>Select equipment for an investigation.</p> <p>State one or more control variable.</p> <p>State accurate observations/measurements.</p> <p>State obvious risks.</p>	<p>State straightforward patterns in observations.</p> <p>State improvements to working methods.</p>
1 / 2	<p>Represent things in the real world using simple physical models.</p>			<p>State observations</p> <p>State obvious risk</p>	