Curriculum Knowledge and Skills

Subject Reference Guide

Year 9

2025-2026

Year 9 English

Knowledge	Skills
Students will develop their knowledge of: **Reading:** **• a range of texts to help students articulate their ideas in a sophisticated way** **• the way in which language, structure, form and context are used to enable a writer to express their ideas** **• an understanding that although historical context may have an impact on how a reader might interpret a text, universal themes transcend time** **Writing:** **• the methods used to write with engagement and control, including sentence structure, punctuation, vocabulary, whole-text structuring and spelling** **• an understanding of different formats and tones to suit a specific purpose** **Speaking and Listening:** **• the various ways in which discussion can be used to articulate meaning**	**Students will develop their skills in:** **Reading:** **• articulating informed interpretations of meanings supported by textual reference** **• analysing methods used to convey ideas, including language, structure and form** **• using subject terminology accurately to support their analysis of language, structure and form** **• comparing ideas, attitudes, methods and contexts in order to evaluate effectiveness** **• relating different texts to their relevant social, historical and literary context** **• evaluating a text and the effect it has on a range of audiences** **• explaining the author's intentions, using their name and embedding references throughout to support interpretations.** **Writing:** **• selecting appropriate words and phrases from a rich and wide vocabulary** **• demonstrating control of spelling, punctuation and grammar** **• utilising a variety of sentence structures with control** **• organising cohesive whole texts, effectively sequencing and structuring details within texts** **• producing texts that match the audience, purpose and register of different genres** **• writing with control and engagement for a variety of different audiences and purposes.** **Speaking and Listening:** **• talking in purposeful and imaginative ways to explore ideas and feelings** **• listening and responding to others, including in pairs and groups** **• creating and sustaining different roles and scenarios** **• understanding the range and uses of spoken language.**

Year 9 Maths

Knowledge	Skills
Students will develop their knowledge of: **• using ratio tables to solve problems with fluency. Selecting appropriate strategies considering efficiency when using a calculator and not. Using multiplication and division by decimals and fractions with relative ease.** **• using the number line efficiently to order numbers written in different formats including index form, standard form and surd form** **• using combination tables when solving linear simultaneous equations** **• developing effective strategies to solve equations with unknown on both sides including those involving subtraction and fractional values of x** **• using the area model effectively to factorise and expand single and double brackets** **• using a combination of strategies to calculate area and surface area of complex shapes and compound shapes** **• co-ordinate geometry through big picture ideas linking algebra and graphs including, quadratics, cubics and simultaneous equations** **• statistical reasoning through probability** **• the unit circle as an introduction to Trigonometry**	**Students will develop their skills in:** **• appreciating that being stuck is a necessary step to learning mathematics and are developing strategies to make progress in these situations.** **• simplifying multi-step problems and appreciate the importance of identifying what they can work out in order to make some progress with a given task.** **• developing noticing and justification skills to actively make links in areas of mathematics and where appropriate outside the subject.** **• having an inquisitive approach to mathematics and are not satisfied with reaching a solution.** **• regularly asking themselves questions like 'how can the problem be made easier/harder', 'what changes if we change …', what happens if …', 'is this always/sometimes/never true'.** **• appreciating links in graphical representation and are able to reverse problems (start with any aspect to complete others) – in particular looking at the graph of quadratics.** **• using mathematical language appropriately.** **• distinguishing between examples and mathematical proof.** **• using construction equipment with relative ease.**

Year 9 Science - Biology

Knowledge	Skills
Students will develop their knowledge of: **• how enzymes act as biological catalysts and are responsible for processes such as photosynthesis, respiration and digestion** **• how thermoregulation keeps our body at a constant temperature and the importance of this process** **• key structures in the nervous system and how these are involved in both voluntary and reflex reactions** **• a simple model of chromosomes, genes and DNA in heredity, including the part played by Watson, Crick, Wilkins and Franklin** **• heredity as a process that transmits genetic information from one generation to the next** **• variation, and identifying that some organisms compete more successfully, driving natural selection.** **• the role of the endocrine system and how hormones work, including those involved in the menstrual cycle** **• how to sample both plant and animal populations within an ecosystem**	**Students will develop their skills in:** **• commenting on accuracy and reliability of experiments and suggesting improvements** **• calculating averages e.g. the mean result** **• describing and explaining trends in data e.g. describing and explaining how temperature affects enzyme activity** **• representing continuous and discontinuous data through considering variation between individuals** **• developing their sampling techniques and the ability to record observations through the 'Ecology and Environment' topic** **• drawing line and bar graphs**

Year 9 Science - Chemistry

Knowledge	Skills
Students will develop their knowledge of: **• the chemistry fundamentals learnt in earlier years. Students will quickly move on to learn about the atom and the particles within it.** **• the structure of atoms and discovering how this links in with the arrangement of elements in the periodic table. Students will look at group 1 and group 7 in more detail.** **• subatomic particles with electrons and how they form ions, which. in turn form ionic compounds. Looking at the properties of ionic compounds and how they differ from others.** **• chemical reactions and looking at the energetics involved in these reactions.** **• basic organic chemistry by looking for the first time at hydrocarbons, before linking to separation techniques in year 8 by looking at fractional distillation.**	**Students will develop their skills in:** **• using prior knowledge to identify different unknown chemicals and unknown gases.** **• using calculations to work out energy changes in reactions, the charges on ions, relative formula mass and the formula of ionic compounds**

Year 9 Science - Physics

Knowledge	Skills
Students will develop their knowledge of: **• further development of forces and motion using the contexts of Newton's laws of motion** **• further study of the flow of electric charge (electrons) to generate both AC and DC and the process of generating electricity.** **• simple machines: this covers the topics of pressure, moments, and Hooke's Law. These are all essential basics for how this works and present lots of mathematical skills that are the basis of much of Physics at KS4.** **• nuclear physics covering the basics of alpha, beta, and gamma radiation as well as the processes involved in nuclear power generation.** **• waves to describe how different frequencies of light form the EM spectrum.** **• the different uses of EM waves and explain how the properties of the wave makes it useful for its purpose.** **• how to combine knowledge of cosmological principles such as the life cycle of stars and the Big Bang theory with how we know anything about space, the light emitted by stars**	**Students will develop their skills in:** **• the practical skills of previous years looking at forces and electric circuits, and practical skills involving beams of light, springs and pivots. The expectations of how the data is presented (e.g. table of results and graphs) is to KS4 standard** **• calculation - students' skills are also developed through the practice of various formulae**

Year 9 Art/Photography

Knowledge	Skills
Students will develop their knowledge of: **• Art history. How has the past influenced the present?** **• how and why has portraiture has changed throughout time** **• the creative process** **• how to develop ideas taking purposeful inspiration from art movements / artists' work** **• how to improve their work using success criteria** **• using art vocabulary and terminology appropriately** **• measured observational drawing using a grid** **• composition** **• health and safety when working with clay** **• Photoshop processing** **• Formal camera skills**	**Students will develop their skills in:** **• how to develop ideas through purposeful investigations and experimentation** **• exploring media including pencil, paint, clay, print making, and collage** **• annotating and evaluating using relevant language and keywords** **• carrying out observational measured drawing as well drawing to express and communicate ideas.** **• developing independency when working on a project** **• developing creativity through their knowledge of artists work/ art movements** **• Use of photoshop to develop work** **• Using DSLR cameras**

Year 9 Beliefs and Values

Knowledge	Skills
Students will develop their knowledge of: • **PSHE: Prejudice and discrimination: Equality act and protected characteristics, Racism and the effects of racism on an individual and on communities, discrimination linked to gender and sexuality. The risks involved with exploitation, gangs and how to protect themselves from being exploited.** • **RSE: What a healthy relationship looks like and how to make choices that are safe and limit risk. The law surrounding consent and Harmful sexual behaviours.** • **Philosophy: arguments for the existence of God and why some people may reject the concept of God - Atheism and Humanism.** • **Religious responses to suffering: What suffering is, why it exists and different religious views on how suffering can be overcome or better understood.** • **Careers and future choices: pathways to explore different careers and financial awareness.**	**Students will develop their skills in:** • **Posing and suggesting answers to questions of belonging, identity, meaning, purpose, truth and commitment relating these to their own lives and others' lives** • **Explaining what inspires and influences them, expressing their own and other's views of the challenges of belonging to religion** • **Connecting religious ideas and practices** • **Articulating their own personal responses to ultimate questions** • **Taking a proactive part in decision making activities with your peers** • **Respecting the views of others** • **Explaining the importance of key religious beliefs and philosophical/ ethical beliefs.** • **Evaluating different opinions and drawing out different arguments.**

Year 9 PE

Knowledge	Skills
Students will develop their knowledge of: **• advanced strategies, tactics and skills used in sports and physical activities** **• rules and regulations for a range of sports** **• short term effects of exercise on the body to muscular, cardiovascular and respiratory systems** **• antagonist muscle movement in sport specific skills** **• components of fitness that benefit different sports/activities** **• choreographed dances with advanced ideas** **• safety factors during physical activity and for more advanced activities** **• the benefits of leading a healthy active lifestyle – through exercise and physical activity outside of school.**	**Students will develop their skills in:** **• racquet, striking and fielding, invasion games, athletics, dance and health related exercise** **• team-work** **• using advanced techniques, strategies and tactics in a range of sports in competitive game situations** **• making the correct decisions in competitive situations to allow you to beat an opponent regularly** **• analysing performance of yourself and others during performance to alter the outcome of a game.**