



DIDSBURY
HIGH SCHOOL

Curriculum Knowledge and Skills

Subject Reference Guide

Year 9



Y9 Art and Design

Knowledge	Skills
<p>Students will develop their knowledge of:</p> <ul style="list-style-type: none">• 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	<p>Students will develop their skills in:</p> <ul style="list-style-type: none">• developing ideas through purposeful investigations and experimentation. (The main media explored this year will be pencil, collage, ink, fine liner painting, acrylic paint and clay.)• annotating and evaluating using relevant language and keywords• 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 and art movements



Y9 Beliefs and Values

Knowledge	Skills
<p>Students will develop their knowledge of:</p> <ul style="list-style-type: none">• 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.	<p>Students will develop their skills in:</p> <ul style="list-style-type: none">• 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.



Y9 CAD/CAM

Knowledge	Skills
<p>Students will develop their knowledge of:</p> <ul style="list-style-type: none">• design thinking and communication through;<ul style="list-style-type: none">- sketching- annotating- physical modelling- CAD modelling- prototypes• the design Process and design iteration to avoid design fixation• annotating and evaluating effectively• relevant language and keywords to display a firm understanding• user centred design considering ergonomics and anthropometrics• the importance of design requirements and how these link to user needs and wants.• how to develop ideas through purposeful investigations• advantages and disadvantages of CAD/CAM• materials, their origins, strengths and weaknesses – focusing on metals• how to apply and follow designing and making techniques and processes	<p>Students will develop their skills in:</p> <ul style="list-style-type: none">• being able to effectively communicate design ideas• problem solving to improve independency when working on a project• developing a personal response through creativity within their work (developing relevant ideas)• developing ideas through purposeful investigations (researching appropriately)• design iteration by critically evaluating ideas and reflecting on this to improve ideas• being able to plan and follow a design project from start to finish• manipulation of relevant materials and techniques to produce functional prototypes for testing• using CAD software with accuracy, to consider the final outcome



Y9 Computing

Knowledge	Skills
<p>Students will develop their knowledge of:</p> <ul style="list-style-type: none">• the different ways to keep themselves and their data safe• digital computers using binary to represent all data• character sets in computing and how binary represents letters and characters• logic gates and Boolean expressions• more complex algorithms in particular the use of flowcharts to represent problems and solutions• the understanding that different solutions exist for the same problem• what 'if statements' and 'loops' are and how to use them effectively• different types of variables and where best to use each when programming• a deeper understanding of Computer Networks, the hardware involved and security methods• how a network and the internet work• the Metaverse, VR, Health and addiction and the digital divide• encryption methods	<p>Students will develop their skills in:</p> <ul style="list-style-type: none">• staying safe online• converting between binary and denary• using different operations and applying Boolean logic• using logical reasoning to predict outcomes• breaking down a problem and create a suitable solution• analysing relevant data in order to make predictions• making appropriate improvements to solutions based on feedback received, and comment on the success of the solution• declaring and assigning variables both locally and globally• creating functions• efficiently using arithmetic operators, 'if statements' and 'loops' appropriate to the solution• creating arrays, sub programs, and using validation• finding and correcting errors in programs (debugging)• calculating file sizes for file transfers



Y9 Drama

Knowledge	Skills
<p>Students will develop their knowledge of:</p> <ul style="list-style-type: none">• the theatre practitioner Konstantin Stanislavski and his 'Method'• the social, cultural and historical context of the play <i>An Inspector Calls</i> by J.B. Priestley• the theatre practitioner Antonin Artaud and his immersive 'Theatre of Cruelty'• the impact of symbolic props and how these can be used effectively• the influence of 'Theatre of Cruelty' on future theatre practitioners• adapting a play from the page to the stage in order to fulfil the playwright's intentions• the social, cultural and historical context of the play <i>Teachers</i> by John Godber• technical elements of theatre and how they can generate atmosphere and tension in performance• a variety of rehearsal strategies and how these can develop a performance and character• critically reflect on their own practice and understand how to apply their feedback to future work• form extended, well-structured analytical and evaluative responses to professional theatre	<p>Students will develop their skills in:</p> <ul style="list-style-type: none">• method acting (emotion memory, magic "if", given circumstances, objectives & super objectives, subtext)• using symbolic movement to present a character• developing stylised/abstract movement in performance• the technique of multi-role/split-role• performing in a range of audience configurations (the round, traverse, arena, thrust, proscenium)• using technical elements in order to deepen meaning (lighting & sound)• further developing physical skills (facial expression, gesture, gait, posture, proxemics) with clarity• further developing vocal skills (emphasis, accent, articulation, tone, pitch, pace, pause, projection) with clarity• annotation to understand a script• applying social, cultural and political context of play texts in performance• group work• leadership/directing• active listening• verbal evaluation• using drama terminology when creating or evaluating work• audience awareness• presenting



Knowledge	Skills
<p>Students will develop their knowledge of:</p> <p>Reading:</p> <ul style="list-style-type: none"> • 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 <p>Writing:</p> <ul style="list-style-type: none"> • 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 <p>Speaking and Listening:</p> <ul style="list-style-type: none"> • the various ways in which discussion can be used to articulate meaning 	<p>Students will develop their skills in:</p> <p>Reading:</p> <ul style="list-style-type: none"> • 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. <p>Writing:</p> <ul style="list-style-type: none"> • 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. <p>Speaking and Listening:</p> <ul style="list-style-type: none"> • 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.



Y9 Food and Nutrition

Knowledge	Skills
<p>Students will develop their knowledge of:</p> <ul style="list-style-type: none">• nutrition – all micronutrients and macronutrients and their functions within the body; how to identify nutrients in dishes and change the nutritional value of dishes to cater for specialist diet; how to use nutritional information to inform food choices and design dishes based on nutritional requirements.• evaluation – how the senses function and how sensory evaluation is important and its role in product development.• food science – how heat is transferred and how this varies depending on cooking methods; how different ingredients have specialised functions within cooking and how to use this information when cooking.• food hygiene and safety – how to prevent food poisoning; how to reduce the risks of hazards within a kitchen area and the importance of allergen warnings and the risk associated with the 14 common allergens.• food provenance - how foods vary between different countries and foods importance in different cultures; how to critically evaluate and give an informed opinion on key ethical and environmental factors of the food industry.	<p>Students will develop their skills in:</p> <ul style="list-style-type: none">• the procedures needed to get prepared to cook in a kitchen, demonstrating a practical understanding of food hygiene and safety.• being competent a range of basic equipment – including, the cooker and knives.• being comfortable in preparing and using a range of ingredients using different methods to create a range of savoury and sweet dishes.• demonstrate an increasing range of food preparation skills, including use of hand- held electrical equipment.• selecting and using specialised equipment and techniques to achieve more advanced skills.



Y9 Geography

Knowledge	Skills
<p>Students will be demonstrating greater fluency with world knowledge by drawing on increasing breadth and depth of content and contexts. Students will also be showing a greater understanding of the world by organising and connecting information and ideas about people, places, processes and environments.</p> <p>For example, students will develop their knowledge of:</p> <ul style="list-style-type: none">• development• tectonics• glaciation• 21st century challenges• coasts	<p>Students will be improving their competence in geographical enquiry, and their application of skills in observing, collecting, analysing, evaluating and communicating.</p> <p>For example, students will develop their skills in:</p> <ul style="list-style-type: none">• cartography• graphicacy• numeracy• enquiry• communication



Y9 History

Knowledge	Skills
<p>Students will further their understanding of substantive concepts.</p> <p>These include: authority, liberty, military, ideologies, democracy, dictatorship, imperialism, propaganda, suffrage, resistance, propaganda, law, foreign policy, fascism, society, multiculturalism, immigration, civil Rights and modernisation.</p> <p>They will do this by studying a variety of historical examples from British and World History, including:</p> <ul style="list-style-type: none">• The causes of World War 1• Experiences of World War 1• Suffragettes: women and the vote• 20th Century dictatorships• World War 2 and decolonisation• The partition of India• Post-war immigration and Windrush• WWII memorials• The Holocaust• Social change and protest movements in post-war Britain <p>This will help them to develop their responses to:</p> <ul style="list-style-type: none">• How has the nature of power changed over time?• How have people's beliefs and ideas changed over time?• How have conflicts and conquests shaped the world?• How have revolutions shaped the world?• Is History a story of progress?	<p>Disciplinary Knowledge</p> <p>We aim to induct students into the academic history community by developing their skills in analysing:</p> <ul style="list-style-type: none">• causation• change and continuity• historical evidence• interpretation <p>Procedural Knowledge:</p> <p>Historical Writing</p> <p>Students are also tasked with developing their procedural knowledge of how to write high quality history, with feedback focused on the development of analytical paragraphs as building blocks for future extended essay writing.</p> <p>Disciplinary Reading</p> <p>Reading lies at the heart of the history curriculum. Students progress from reading for comprehension, to reading extended historical narratives, and finally reading historical works in search of argument and to explore the evidence basis for historical claims.</p> <p>Historical Evidence and Interpretation</p> <p>The other focus of practice is in developing students understanding of source utility. This is integrated into the curriculum and culminates in the Second World War enquiry of Year 9, which engages with the evidence base of the historian Yasmin Khan.</p>



Y9 Languages

Knowledge	Skills
<p>Students will develop their knowledge of:</p> <ul style="list-style-type: none">• how to build on and improve on grammar and vocabulary from Year 8 as appropriate to ensure progress• a wide range of regular and irregular verb forms, including less common irregular verbs in different tenses• using verb forms in past, present, future and conditional tenses without prompting• using time markers to express different time frames• how to use adjective agreement consistently and accurately in different contexts• a very broad range of vocabulary, including vocabulary from the GCSE specification, to express ideas in creative ways• non-literal translation and how this affects translation into English and the target language• how to manipulate grammar to express more complex ideas.	<p>Students will develop their skills in:</p> <ul style="list-style-type: none">• reviewing and redrafting work and correcting errors regularly (study skills)• initiating, developing and sustaining a conversation on a range of topics, with increasing spontaneity in answering questions• using pronunciation and intonation which are accurate and would be understood by a native speaker• giving and developing opinions on a range of topics, using a range of structures• producing sentences of fluent, accurate writing to narrate, inform and express points of view• using language creatively to express ideas about different issues• deducing meaning and demonstrating understanding of overall message and detail in longer passages of target language text• listening to and understanding speech of varying speed and length to understand both gist and detail• translating texts containing more complex structures and less common vocabulary into both the target language and English to convey meaning accurately• independently using a dictionary and / or vocab book as reference for support and to deepen vocabulary• understanding and appreciating a range of literary texts such as poems, stories and songs, which stimulate ideas and opinions



Y9 Maths

Knowledge	Skills
<p>Students will develop their knowledge of:</p> <ul style="list-style-type: none">• 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	<p>Students will develop their skills in:</p> <ul style="list-style-type: none">• 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.



Y9 Music

Knowledge	Skills
<p>Students will develop their knowledge of:</p> <ul style="list-style-type: none">• various musical terms, symbols and genres• a range of musical elements - pitch, dynamics etc.• basic musical symbols – treble clef, stave etc.• basic rhythmic musical symbols – crotchets, minims etc.• various genres of music and know some of the musical features of that genre	<p>Students will develop their skills in:</p> <p>Performing Music:</p> <ul style="list-style-type: none">• singing in tune with fluency and accuracy• performing on the keyboard, ukulele, tuned percussion and other band instruments• keeping in time with others• performing by ear and simple notations <p>Composing Music:</p> <ul style="list-style-type: none">• improvising repeated patterns• improvising simple melodic/rhythmic phrases• sharing a range of ideas in group tasks• creating compositions which have a sense of structure• composing using a variety of notations• composing music for a specific scene using Logic Pro• creating compositions which explore different sounds and the musical elements <p>Understanding Music:</p> <ul style="list-style-type: none">• recognising a variety of different instrument sounds, knowing the instrument families• knowing the musical elements and recognise them in listening tasks• analysing their own work in order to make improvements• identifying different genres of music and their features in a listening task• using appropriate musical vocabulary when creating or evaluating work



Y9 PE

Knowledge	Skills
<p>Students will develop their knowledge of:</p> <ul style="list-style-type: none">• 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.	<p>Students will develop their skills in:</p> <ul style="list-style-type: none">• 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.



Y9 Science - Biology

Knowledge	Skills
<p>Students will develop their knowledge of:</p> <ul style="list-style-type: none">• 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	<p>Students will develop their skills in:</p> <ul style="list-style-type: none">• 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



Y9 Science - Chemistry

Knowledge	Skills
<p>Students will develop their knowledge of:</p> <ul style="list-style-type: none">• 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.	<p>Students will develop their skills in:</p> <ul style="list-style-type: none">• 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



Y9 Science - Physics

Knowledge	Skills
<p>Students will develop their knowledge of:</p> <ul style="list-style-type: none">• 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	<p>Students will develop their skills in:</p> <ul style="list-style-type: none">• 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