



## Year 10 Curriculum Content Overview

Subjects	Autumn term 2023
<b>Art, Craft and Design</b>	Students study the theme of Environment. Students practice skills and techniques on observational drawings in a range of mixed media. Students enjoy a trip to Kew Gardens before taking a personal direction on a chosen theme within Environment ready to produce a final piece in a 10-hour mock exam.
<b>Biology - Combined Science</b>	Students study Topic 3 -Genetics: Meiosis, DNA and its extraction, Alleles, Inheritance, Gene mutation and Variation Topic 4 - natural selection and genetic modification: Evidence for human evolution, Darwin's theory, Classification, Breeds and varieties and Genes in agriculture and medicine
<b>Biology - Triple</b>	Students study Genetics Topic 3: Sexual and asexual reproduction, Meiosis, DNA and its extraction Protein synthesis, Alleles, Mendel, Inheritance, Multiple and missing alleles, Gene mutation and Variation Topic 4 - natural selection and genetic modification: Evidence for human evolution, Darwin's theory and its development, Classification, Breeds and varieties, Tissue culture, Genes in agriculture and medicine, GM and agriculture, Fertilisers and biological control
<b>Chemistry - Combined Science</b>	Students study Topic 2 Structure and bonding. Ionic bonds and ionic compounds, properties of ionic compounds, covalent bonds and covalent compounds, properties of simple molecules, allotropes of carbon (diamond and graphite), metals and metallic bonding, properties of metals, bonding models Topic 7 Groups, rates and energy. Groups in the periodic table. Group 1, Group 7 and Group 0, reactions of group 1 metals and the halogens, rates of reaction and measuring rates of reaction
<b>Chemistry - Triple</b>	Students study Topic 2 Structure and bonding. Ionic bonds and ionic compounds, properties of ionic compounds, covalent bonds and covalent compounds, properties of simple molecules, allotropes of carbon (diamond and graphite), metals and metallic bonding, properties of metals, bonding models Topic 7 Groups, rates and energy. Groups in the periodic table. Group 1, Group 7 and Group 0, reactions of group 1 metals and the halogens, rates of reaction and measuring rates of reaction
<b>Child Development</b>	Students will look at how a child develops (CA1) and what factors might affect development (CA2). They will begin looking at care routines and play (CA3)



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<b>Chinese</b>	Global issues (environment) and Social issues (volunteering and homelessness)
<b>Computer Science</b>	Students will study programming in depth in term 1. In term 2 they will focus on data representation and computer systems. In term 3 they will complete their first mock examination, before finishing with the units fundamentals of computer networks and cyber security.
<b>Creative Media Production</b>	Students will study media language techniques, including camera angles, lighting etc, and focus on how these are used to create meaning for the audience. They will then complete their coursework for Component 1, where they must explore how media products are crafted to showcase the genre, audience and purpose.
<b>Design and Technology</b>	This term students will be learning about specialist units. The main unit to be covered is metals. The processing and sustainability of extracting metals from rocks/ore as well as looking at stock forms including their advantages and disadvantages. A range of fixing techniques is covered, including riveting and brazing. School and commercial pressing, turning and casting methods are also covered with specific reference to cooking utensils and hand tools. Quality control is introduced finishing with various surface treatments and finishes
<b>Digital Information Technology</b>	Students will study Component 1, which includes an understanding of user interfaces and project planning techniques. They will also study Component 2, which includes collecting, interpreting and representing data as well as learning the skills to create a dashboard. Students will also complete their component 1 internal assessment.
<b>Drama</b>	Students will be exploring the work of key Drama Practitioners before embarking on their first attempt of Component 2: Devising Drama. Where they create, perform, analyse and evaluate an original piece of performance.
<b>English Language</b>	Students were exploring writing skills linked to English Language Paper: 2 at the end of last year.
<b>English Literature</b>	Students are studying 'Macbeth' for their English Literature paper: 1 examination.
<b>Engineering</b>	This term students have been learning about forces and the different properties that materials have. Students have learnt about a range of materials such as metals, woods and plastic and their properties and applications. Students have learnt a range of machining processes both in the workshop and through theory. They have also learnt 3D Cad modeling with a cloud-based industry standard software program.
<b>Food Preparation and Nutrition</b>	Students will be covering topic 3: Food, Nutrition and Health. Macronutrients, micronutrients (and water), nutritional needs and health
<b>French</b>	Technology on everyday life (Social media / Mobile technology) Free time activities (music, cinema and TV / Food and Eating out / Sport)



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<b>Geography</b>	Development Dynamics, Hazardous Earth, Challenges of an Urbanising World, The UK's Physical Landscape, Rivers Fieldwork, The UK's Human Landscape
<b>German</b>	Me, my family & friends, Free time activities (music, cinema and TV / Food and Eating out / Sport)
<b>Graphic Design</b>	Students cover the theory elements of content area 1 (The 6 components of Graphic design) In addition to this they develop knowledge and understanding of graphics software and technical skills through project work.
<b>Hair and Beauty</b>	Structure and function of the Hair, Skin and nails Skin Types, Hair Types, Ph levels of hair and skin. Ph levels of cosmetic products. Property's, ingredients and function of hair and beauty cosmetics. Practical skills in hair, makeup and nails.
<b>Health and Fitness</b>	Anatomy and Physiology (musculo-skeletal system, cardio-respiratory system, energy systems, effects of exercise on the body). Effect methods of training in a gym and fitness environment.
<b>Hospitality and Catering</b>	Students are covering unit 1, focusing on chapter 7 and 8; health and safety: responsibilities of employers and employees for personal safety and risks and control measures for personal safety within the industry.
<b>History</b>	the Cold War and the development of tension between the USA and the USSR 1945-1972
<b>Japanese</b>	Local area, holidays, travel, future aspirations, study and work
<b>Maths (H)</b>	Structural calculations Fractions, decimals and percentages Surds Algebraic manipulation Solving questions Indices
<b>Maths (F)</b>	Structure and calculation Fractions/decimals/percentage Algebra - manipulation Solve equations Indices
<b>Maths (Support)</b>	Number - Structure and calculation, Decimals and integers, Indices
<b>Music</b>	Unit 1: Composition 1 and Solo Performance, Listening and Appraising Music; The Concerto Through Time, Rhythms of the World and Film Music
<b>Physical Education (Core)</b>	Student choice of practical activity. Apply Fit 4 Life principles to their practical lessons.
<b>Physical Education (GCSE)</b>	Anatomy and Physiology (musculo-skeletal system, cardio-respiratory system, energy systems, effects of exercise on the body) Physical Training (health, fitness, components of fitness, principles of training, optimising training)



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<b>Photography</b>	<p>Students study;</p> <p><b>Understanding the camera</b> How to use the canon DSLR in full manual mode What ISO is and how it modifies the image How shutter speed works and how it can be used to capture movement How Aperture can show shallow and large depth of field</p> <p><b>Studio studies</b> Studio equipment and how to set up a still life How to photograph portraits in both black and white and colour Light refraction using a lens ball How to use a light diffuser to 'scatter light'</p> <p><b>Distortion</b> A range of mixed media artists and their backgrounds How to manipulate images in less conventional ways e.g. bleaching a glossy print photograph A range of techniques such as the 'liquify' tool on photoshop</p> <p><b>Career choice</b> how to work on a specific brief Understanding different routes the subject can take you in and how to work in a professional manner to specific tasks.</p> <p><b>Structures</b> Photographing a series of structures using natural and artificial lighting Manipulating the images using both manual and digital techniques Producing a final outcome</p>
<b>Physics - Combined Science</b>	<p>CP3 - Conservation of energy - students learn:</p> <ul style="list-style-type: none"><li>- How energy is stored and transferred</li><li>- How to represent energy transfers using diagrams</li><li>- How to calculate efficiency and how to reduce transfers of wasted energy</li><li>- How to calculate the amount of GPE or KE stored in objects</li><li>- About the different renewable and non-renewable resources we use to make electricity, for heating and cooking, and for transport.</li></ul> <p>CP4 - Waves - students learn:</p> <ul style="list-style-type: none"><li>- That waves transfer energy and information</li><li>- How to describe the characteristics of waves</li><li>- How the speed of a wave is related to its frequency and wavelength</li><li>- How the speed of a wave is related to the time it takes to travel a certain distance</li><li>- How waves are refracted at boundaries between different materials.</li></ul>



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<b>Physics - Triple</b>	<p>SP3 - Conservation of energy - students learn:</p> <ul style="list-style-type: none"><li>- How energy is stored and transferred</li><li>- How to represent energy transfers using diagrams</li><li>- How to calculate efficiency and how to reduce transfers of wasted energy</li><li>- How to calculate the amount of GPE or KE stored in objects</li><li>- About the different renewable and non-renewable resources we use to make electricity, for heating and cooking, and for transport.</li></ul> <p>SP4 - Waves - students learn:</p> <ul style="list-style-type: none"><li>- That waves transfer energy and information</li><li>- How to describe the characteristics of waves</li><li>- How the speed of a wave is related to its frequency and wavelength</li><li>- How the speed of a wave is related to the time it takes to travel a certain distance</li><li>- How waves are refracted at boundaries between different materials.</li><li>- What happens when waves are reflected, refracted, transmitted or absorbed by different materials.</li><li>- More about how our ears work</li><li>- About uses of ultrasound and infrasound</li></ul> <p>SP5 - Light and the EM spectrum - students learn:</p> <ul style="list-style-type: none"><li>- How to use diagrams to explain reflection, refraction and total internal reflection</li><li>- How to make coloured light and why some objects appear coloured</li><li>- How lenses work and some things they can be used for</li><li>- That light is part of a family of waves called the electromagnetic spectrum</li><li>- About some uses of waves in different parts of the EM spectrum</li><li>- About some of the harmful effects of waves in different parts of the EM spectrum</li><li>- About some of the factors that affect the temperature on Earth</li></ul>
<b>PSHE</b>	Healthy relationships, Preparation for work experience, Exploring influence, Extremism and radicalisation (RS unit), Financial decision making.
<b>Psychology</b>	Memory, Perception
<b>Religious Studies</b>	Christian Beliefs, Christian Practices, Islam Beliefs, Islamic Practices, Families and Relationships, Religion and Life
<b>Sociology</b>	Research Methods, Families, Education,
<b>Spanish</b>	Technology in everyday life, free-time activities, customs and festivals, home, town, neighborhood and region, social



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