



UNIVERSITY OF
BIRMINGHAM
SCHOOL

University of Birmingham School Curriculum Outline

Year 8



Academic Year 2017/2018

Year 8 Curriculum Outline 2017-18

Term 1a	Term 1b	Term 2a	Term 2b	Term 3a	Term 3b
English					
<p>Grammar for writing: Lessons are based upon Debra Myhill's research resources; we look at openings in action writing and the choices made when developing a narrative voice.</p> <p>Drama: Use of voice: delivering story to peers; exploring 'point of view'.</p>	<p>Through poetry and non-fiction prose and personal accounts, we explore the themes of war and conflict, developing knowledge of poetic devices and analysing their impact.</p> <p>Drama: Dramatising class readings 'Light Brigade' ; developing ensemble responses that focus on rhythm and rhyme, through voice, proximity and gesture.</p>	<p>Class reader: Animal Farm Looking at Orwell's political satire, we develop our analytical skills and particularly our / persuasive writing through speaking and listening to each other's persuasive speeches.</p> <p>Drama: Use of voice and the 5Ps. What makes an effective speaker?.</p>	<p>Animal Farm (cont.) we complete the tale and write a dramatic adaptation of it.</p> <p>Macbeth. RSC scheme is available electronically To focus upon drama skills and all pupils learn one of Macbeth's soliloquies.</p> <p>Drama: (AF) Use of text extracts to perform key scenes of novel (options of trial, radio play) (M) Recitation of soliloquy. RSC drama lessons</p>	<p>Macbeth (cont.) Developing analytical skills into essay writing and exploring the contextual significance of Shakespeare's classic play</p> <p>Drama: RSC drama lessons to enrich discussions regarding motivation and character development. Watching different interpretations of play</p>	<p>We explore the genre of the gothic and silent movies, and their link to modern horror using short stories and extracts. We make silent films using classic gothic elements.</p> <p>Drama: Finding ways to express emotion and tension without words. Using camera shots and timing to engage an audience.</p>
Mathematics					
<p>Number 1: Ratio and proportion, simplifying ratios and links to fractions</p> <p>Shape 1: similar shapes, congruent triangles and scale factor</p> <p>Shape 2: Intro to trigonometry</p>	<p>Algebra 1: simplifying expressions, multiplying brackets and factorising expressions</p> <p>Data 1: analysing bivariate data and plotting scatter graphs</p> <p>Shape 2: Pythagoras' theorem</p> <p>Egyptian Fractions project</p>	<p>Algebra 2: rearranging formulae</p> <p>Using and applying 1: compound measures</p> <p>Number 2: rounding with trial and improvement</p> <p>Shape 2: arc lengths and sector areas</p>	<p>Data 2: probability and Venn diagrams</p> <p>Shape 3: angles, bearings and maps</p> <p>Design a probability maze project</p> <p>Algebra 3: plotting graphs (linear and non-linear) Interpreting gradients as rates of change</p>	<p>Number 3: direct and indirect proportion</p> <p>Algebra 4: straight line graphs ($y = mx + c$)</p> <p>Number 4: fractions decimals and percentages (recurring decimals?)</p>	<p>Number 5: Percentages (percentage change, simple interest and financial applications)</p> <p>Algebra 4: inequalities</p> <p>Number 6: powers and indices</p>

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Art					
We will focus on very current art work, exploring the ideas and motivations behind Banksy's work.	Students will go on to create their own artwork, inspired by the identity of their City: Birmingham. We will explore poetry about the City alongside the creation of mixed media responses.	Students will make zentangle drawings inspired by 'what matters to them'. They will look at the energy and dynamism of pen design.	In the lead up to Easter, students will begin a project on Architecture. They will have an introduction to this as a career option and create a clay response.	Architecture will continue to be a focus as students now create 2D, biro and watercolour outcomes based around perspective.	Student's end of year assessment will be a challenge which encompasses many of the areas developed throughout the year.
Biology					
<p>Moving useful substances: Plant organs and tissues</p> <p>Find out about how plants can make their own food by a process called photosynthesis.</p> <p>Develop your numeracy skills by calculating surface area / factors / mass change & percentage mass change whilst carrying out an experiment investigating water loss from plants (transpiration).</p> <p>View plant sections down a microscope and use your creative skills to make scientific drawings.</p>	<p>Energy production and use: Photosynthesis and respiration</p> <p>Investigate the effect of light intensity on the rate of photosynthesis using pond weed. Then make algal balls and use them to investigate photosynthesis and respiration.</p> <p>Develop your data analysis skills by Identify and describing trends on graphs plotted of your experimental results.</p>	<p>Minerals and growth: use and abuse</p> <p>Develop your scientific writing skills by explaining the process of eutrophication.</p> <p>Investigate the effect of gravity on the direction of growth of radish seed shoots and roots. Take measurements, consider variables and draw conclusions.</p>	<p>Transferring energy:</p> <p>Understanding food webs and energy transfer</p> <p>Learn about Ecological terms including populations, ecosystems, niche, interdependence, trophic levels and then continue to develop your scientific writing skills by describing how populations of predators and prey change over time.</p>	<p>Environmental issues and interactions:</p> <p>Understanding how humans can influence biodiversity.</p> <p>Learn about how different pollutants can effect biodiversity.</p> <p>Then carry out your own experiment to find out how copper sulfate effects germination of cress seeds.</p>	<p>Cycles in nature:</p> <p>Understand how elements such as carbon are recycled in nature.</p> <p>Bring together everything you have learnt this year to create a poster explaining the carbon cycle.</p> <p>Then determine your own carbon footprint and discover how you could improve it and at the same time develop your oracy and scientific writing skills.</p>

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Chemistry					
<p>Continue with Acids</p> <p>Properties of acids and alkalis, pH scale, different types of indicators, neutralisation reactions and equations</p>	<p>Metals</p> <p>Properties, reactivity series & displacement reactions, reactions with water and acids, alkali metal reactivity, extraction of metals</p>	<p>Metals and more reactions</p> <p>Endothermic and exothermic reactions; conservation of mass. Introducing formulae and balancing equations</p>	<p>Equations and formulae</p> <p>Balancing equations, formulae of ionic compounds, formulae of simple covalent compounds</p>	<p>The Earth and The Earth's atmosphere</p> <p>Link to GCSE content – evolution of the atmosphere, greenhouse effect, air pollution & acid rain, potable water</p>	<p>The Earth and The Earth's atmosphere</p> <p>Link to GCSE content – evolution of the atmosphere, greenhouse effect, air pollution & acid rain, potable water</p>
Computer Science					
<p>Problem solving.</p> <p>This unit gives students the opportunity to develop their computational thinking skills by looking at a number of classic CS/mathematic problems. These include towers of Hanoi and 8 queens.</p> <p>Sequencing and variables in python.</p> <p>In year 7 students will have had their first taste of text based coding. This unit will help students learn the key concepts as well as learning a new programming language. Python is what students will learn all the way through school.</p>	<p>Websites and website development.</p> <p>Students are used to using websites, but not so used to creating them. This unit will explore some of the ideas behind websites as well as learning some HTML.</p>	<p>Selection in python</p> <p>Students have already been introduced to the idea of selection and in this unit they will explore how selection can be used to solve problems. This unit students will start to learn how to code without lots of help and guidance in preparation for the style of coding used at GCSE.</p>	<p>Hacking and networking.</p> <p>Students will have already explored some networking ideas when studying HTML. In this unit they will look at how computer networks are set up, the different types and how hackers try and bypass security measures.</p>	<p>ASCII and recapping binary.</p> <p>ASCII is how the computer stores letters using binary. Students will get an understanding that everything on a computer is stored using a clever sequence of 1 or 0.</p>	<p>Revision and end of year assessment.</p> <p>The end of year assessment will be split over two sessions. The first will explore theory whilst the second will be a practical programming task.</p> <p>Project – Making a simple computer game.</p> <p>Students will make a game, showcasing the skills they have developed so far. This unit can be done in either scratch, game maker or python.</p>

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DT					
Rotation between: 1. Design skills: Isometric drawings and textures, 3D CAD - using 2d design software, Sketch up 3D modelling. and 2. Desk organiser project: Generation design ideas, woods and design and make project.					
Geography					
Tectonic Hazards		Population		Antarctica	
Case studies enable students to study tectonic hazards such as earthquakes, volcanoes and tsunamis. The aim is to understand the distribution of world events, understand the social, economic, and environmental impacts and how to predict, prepare and protect against these events.		Students study the distribution of people around the world and understand the causes and effects of migration. As the global population continues to rise students will understand the complex management of these issues through case studies.		Antarctica provides a basis to explore synoptic links between physical, human and environmental Geography. Students will learn about the fragile environment and the impact we are having on the ecosystem.	
History					
How far did women get greater freedom during the Tudor Period?	Why did people think the Civil War was 'the world turned upside down'?	Why did Britain transport Africans as slaves to America?	Was the Industrial Revolution really revolutionary?	Should Britain be proud of its Empire?	Was the Victorian era really an age of progress?
There were two female monarchs during the Tudor period, but did life get better for them. Historians cannot agree and in this unit pupils will explore the lives of women to see if they did get better.	The Civil War was a bloody battle between royalists and parliamentarians. Yet this period of time was thought of one where the normal order of things was tipped over. Pupils will explore some of the many changes to assess which they believe would have been more uncomfortable to people.	The Slave Trade saw the large scale movement of Africans in awful conditions. Students will explore how it began and how it ended to see which side of the debate they are on for why it was Africans who were transported to America and why Britain took part.	Pupils will explore many aspects of life to see if the Industrial Revolution deserves its title. Historians debate the extent to which work, living conditions and knowledge changed.	The British Empire was the largest Empire in History and it transformed the world. The Empire spread technology around the world but it also spread misery and intolerance. Pupils will explore British rule in India to see if Britain should be proud or not.	Victorians thought they were more advanced in ideas and tolerance, pupils will explore if this is true. They will look at the treatment of women, their ideas about the origins of the species and their ideas about politics to reach their own conclusion.

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Modern Languages					
Mon quartier Local area Describe a town Say what you can do at different places Ask for and give directions Arrange to go out and where to meet	Ça, c'est mon truc Lifestyle Talk about clothes and give opinions on styles (<i>Fashion show in French</i>) Weather and what you wear for different occasions Say when/how often you do activities Discuss weekend activities Music preferences and national events	Destination vacances Holidays Talk about usual holidays and preferred holidays Describe your ideal holiday Describe a past holiday, where you went and what you did	Bouger, c'est important! Sport and leisure Talk about sports, leisure activities and active holidays Name parts of the body and talk about sports injuries Describe sports personalities and sports events	Le monde francophone Studying French-speaking countries around the world with a focus on Québec Revision and preparation for end of year exams End of Year Exams and Reflection	Film project Short films from the British Film Institute Cini-minis pour les jeunes Aurélie Charbonnier, <i>Le bon numéro</i> Didier Barcelo, <i>Les Crayons</i> Stéphan le Lay, <i>Le baiser</i> Les Choristes Extended film work
Music					
Exploring the evolution of African-American music.				Exploring harmony: Understanding different approaches	
Understanding the musical journey: Spirituals to Blues and Jazz		Exploring Reggae <i>or</i> Rock and Roll	Understanding Funk <i>or</i> Hip-hop	Understanding North Indian Classical Music	Exploring Music for Film
PE					
Contact Rugby	Conditioning	Sports Hall Athletics Award Aesthetics	Aesthetics Badminton	Athletics Cricket/Rounders	Cricket/Rounders Olympic and Paralympic Project

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Physics					
<p>Wave properties & sound</p> <p>Learn how sound and other waves travel, how they are detected and how we can measure them. Discover what makes different sounds sound different from each other.</p>	<p>Light & the electromagnetic (EM) spectrum</p> <p>Investigate shadows, reflection and refractions, and draw ray diagrams. Discover types of light that are invisible to humans, such as UV and microwaves.</p>	<p>Atoms and static electricity</p> <p>Learn about the arrangement of electrons, protons and neutrons inside atoms. Make objects move and levitate without touching, and explain the physics behind these tricks.</p> <p>Experience mild electric shocks from a Van de Graaf generator, if you dare!</p>	<p>Magnetism & electromagnetism</p> <p>Build your own compass, and learn about the Earth's magnetic field. Investigate the magnetic effects of electricity, and how this is used in everyday devices such as bells, motors and electronic locks.</p>	<p>Forces</p> <p>Identify the types of force (such as friction and tension) acting in a range of situations. Draw force diagrams. Calculate the resultant (overall) force acting on an object.</p>	<p>Elasticity and pressure</p> <p>In this highly practical topic, you will perform several experiments investigating the behaviour of rubber bands and springs, and understanding why wearing different shoes affects how easily you sink in mud!</p> <p><i>(NB, in 2018, year 8 will study Space this half term)</i></p>
Religious Studies					
<p>Sects and factions</p> <p>Big question: how can we be the same but different?</p> <p>Island story: 500 year on the community divides...</p> <p>Religion links: Protestants and Catholics in Christianity, Sunni and Shi'a in Islam</p>	<p>What is a religion?</p> <p>Big question: do all people in a religion have to share the same beliefs?</p> <p>Religion link: Hinduism – history, beliefs, deities, worship, society and the caste system</p>	<p>What is a religion?</p> <p>Big question: does religion need a god?</p> <p>Religion link: Buddhism – history, beliefs, ethics, violence, Dalai Lama</p>	<p>Survival</p> <p>Big question: what impact does a survival history have on a religion?</p> <p>Religion link: Judaism – Moses, Passover, Jewish identity (religious and cultural)</p>	<p>Service</p> <p>Big question: should service lie at the heart of religion?</p> <p>Religion link: Sikhism – history, beliefs, gurdwara, seva, equality</p>	<p>Being human</p> <p>Big question: is there a problem with being human?</p> <p>Religion link: Christian, Hindu and atheist ideas about human nature</p> <p>Key skill: constructing persuasive arguments</p>