

YEAR 7												
	Term	Aut 1	Unit	1	Term	Aut 2	Unit	2	Term	Spr 1	Unit	
	Curriculum/Syllabus Coverage				Curriculum/Syllabus Coverage				Curriculum/Syllabus Coverage			
Unit Title	Cells, Particles and Circuits				Reproduction, Speed and Gravity				Separating Mixtures, Interdependence, and Acids & Alkalis			
Sequencing: knowledge & skills	Cells are introduced as foundational biology content with a focus on recall (e.g., cell structures and functions). Students will experience their first practical with microscopes, to learn lab routines. Then, the particle model introduces foundational physics, which require more abstract ideas, (e.g. what is ALL stuff made of - including cells). This knowledge prepares students for the sound topic , later in the year. Lastly, students develop their physics knowledge with electric circuits - a way in which particles transfer energy. Students will experience their second practical with electric circuits, to sediment lab routines.				Students focus on one group of specialised cells to study Human and Plant Reproduction . This will broaden the idea that within cell groups (animal cells vs plant cells) there are smaller groups of cells that carry out different functions. Then, students continue their learning of physics by looking at how Speed and Gravity affects the movement of objects. This topic includes opportunities to develop data collection in practical experiments and graphing skills .				Students have their first introduction to chemistry by learning how to Separate students to learn chemistry through a practical-heavy topic that mainly focus conclusion writing . Then, students continue biology through Interdependence - a theoretical bio the importance of reproduction for survival of species. Practical or simulation prepare students for the KS4 RP. The second chemistry topic is Acids and Alkalis where students can apply the safety (demos) and of conclusion writing . Students are also introduced to ch way to describe chemical reactions.			
LINKS TO GCSE	B1 Cells, P3 Particle model of matter, P2 - Electricity				B6 - Inheritance, variation and evolution; P5 Forces				C8 - Chemical analysis; B7 - Ecology, C4 - Chemical changes			
Literacy & reading	Students are introduced to key scientific terms and vocabulary, and are driven to practice saying these words (coral repetition and coral response) and to apply them (turn-and-talk, independent tasks).				Students are introduced to key scientific terms and vocabulary, and are driven to practice saying these words (coral repetition and coral response) and to apply them (turn-and-talk, independent tasks).				Students are introduced to key scientific terms and vocabulary, and are driven to practice saying these words (coral repetition and coral response) and to apply them (turn-and-talk, independent tasks).			
Differentiation for MA & LA	Calculation 1: Students learn to use calculators to find unknown quantities using GUESS (Given Units Equation Substitute Solve). Safety 1: Students are taught all the safety measures to work in a lab. Data Collection 1: Students are provided with comprehensive tables, where their only focus is to collect small amounts of data with the support of the teacher.				Calculation 2: Students sediment the use of calculators to find unknown quantities using GUESS (Given Units Equation Substitute Solve). Safety 2: Students use their knowledge of safety to discuss one practical step, with teacher guidance through questioning. Data Collection 2: Students collect larger data sets. Graph 1: Students use data to plot a highly scaffolded graph.				Observe and conclude 1: Students are guided through questioning from teacher to interpret results. Safety 3: Students discuss safety precautions in a lab demo, with some scaffolding. Observe and conclude 2: Students take conclusions based on observations, with link knowledge with observation.			
Enrichment & cultural refs												
British Vals & SMSC												
Personal Devt	Lots of these key terms are GCSE level so students need to be used to using them				Lots of these key terms are GCSE level so students need to be used to using them				Lots of these key terms are GCSE level so students need to be used to using them			
Careers	Job links: biologist, physicist, electrician, medical doctor, radiologist.				Job links: medical doctor, traffic analyst, astronomer, engineer.				Job links: chemist, analyst, marine biologist.			
YEAR 8												
	Term	Aut 1	Unit	1	Term	Aut 2	Unit	2	Term	Spr 1	Unit	
	Curriculum/Syllabus Coverage				Curriculum/Syllabus Coverage				Curriculum/Syllabus Coverage			
Unit Title	Climate Scientist and Formula 1				Astronaut and Marine Biologist				Nutritionist			
Sequencing: knowledge & skills	Climate Scientist - Evolution of the atmosphere, carbon cycle, real world context for science. Investigative skills through extensive practical opportunities Formula 1 - fuels production, speed - calculations skill development, forces				Astronaut - forces, convection, conduction and radiation. Marine biologist - pressure, bioaccumulation in food chains, chemical composition of water				Knowledge acquisition about diet and the digestive system, roles of enzymes and core molecules. Practical work			
LINKS TO GCSE	C4.7 - Organic Chemistry, C4.9 - Chemistry of the atmosphere, P4.1 - Energy, P4.5 - Forces				P4.5 - Forces, B4.6 - Ecosystems				B4.2 - Organisation			
Literacy & reading	Keywords and definitions, extended writing questions, use of the oracy plenaries, opportunities to read aloud, all students will be answer a question in the lesson				Keywords and definitions, extended writing questions, use of the oracy plenaries, opportunities to read aloud, all students will be answer a question in the lesson				Keywords and definitions, extended writing questions, use of the oracy plenaries, opportunities to read aloud, all students will be answer a question in the lesson			
Differentiation for MA & LA	Students learn to use calculators for calculating unknown quantities using IFSSU				Students learn to use calculators for calculating unknown quantities using IFSSU							
Enrichment & cultural refs												
British Vals & SMSC	Methodically presented answers, links to maths, Understanding human impact on the environment				Methodically presented answers, links to maths				Health			
Personal Devt	Developing recall, application and analysis				Developing recall, application and analysis				Developing recall, application and analysis			
Careers	Climate science, chemist, mechanical engineering				Medicine, engineering, physics				Nutritionist, medicine			

YEAR 7											
	3	Term	Spr 2	Unit	4	Term	Sum 1	Unit	5	Term	Sum 2
	Curriculum/Syllabus Coverage					Curriculum/Syllabus Coverage					Curriculum/Syllabus Coverage
Unit Title	Light, Sound, and Beyond the Books					Energy and Metals & Non-Metals					Movement, Universe, Earth Structure, and Science
Sequencing: knowledge & skills	te Mixtures. This allows es on observation and ology field that links to is of random sampling air knowledge of lab emical equations as a	Students continue the physics topic by applying the particle model into two specific examples: Light and Sound . These lessons aim at supporting the link between the invisible (particles) and the visible (light) or audible (sound) - i.e. the particle model explains what we hear and see. There is opportunity to use light ray boxes to explain the behaviour of light waves. Beyond the Books is an opportunity to link the acquired knowledge to the real world, using the British Science Week as an opportunity to challenge students to go above and beyond.				The physics study continues through Energy Costs and Transfers which adds the most abstract concept in science, and brings it to real life applications: how things work and why do we pay for energy. Then, chemistry follows with the study of Metals and Non-Metals , which uses demos to revisit safety, observation, conclusion and chemical equation skills .					Students finish the physics topic by looking at Mov student knowledge of particle behaviour in a settin This is easily followed by the chemistry topic on Ear what our planet is made of and why it behaves in th models that are bigger than particles, and how exp Lastly, Science in Focus is used to furhter develop s together skills learned throughout the year.
LINKS TO GCSE	P6 - waves					P1 - energy, C1 - Atomic structure and the periodic table					P8 - Space physics
Literacy & reading	h to practice saying d-talk, independent	Students are introduced to key scientific terms and vocabulary, and are driven to practice saying these words (coral repetition and coral response) and to apply them (turn-and-talk, independent tasks).				Students are introduced to key scientific terms and vocabulary, and are driven to practice saying these words (coral repetition and coral response) and to apply them (turn-and-talk, independent tasks).					Students are introduced to key scientific terms and these words (coral repetition and coral response) a tasks).
Differentiation for MA & LA	hers to observe and lding. with some scaffolding to	Calculation 3: Students independently use calculators to find unknown quantities using GUESS (Given Units Equation Substitute Solve) - with some support from teachers. Observe and conclude 3: Take measurements to interpret a scientific experiment, with corrections from the teacher.				Calculation 4: Students independently use calculators to find unknown quantities using GUESS (Given Units Equation Substitute Solve) - with minimal corrections from teachers. Observe and conclude 4: Observe and interpret a scientific experiment, with corrections from the teacher.					Observe and conclude 5: Use all the observations c
Enrichment & cultural refs											
British Vals & SMSC											
Personal Devt	hem	Lots of these key terms are GCSE level so students need to be used to using them				Lots of these key terms are GCSE level so students need to be used to using them					
Careers	Job links: electricist, sound tech, photographer, movie director, painter, game producer.					Job links: electricist, engineer, architect					Job links: astronauts, geologist, climate scientists, a
YEAR 8											
	3	Term	Spr 2	Unit	4	Term	Sum 1	Unit	5	Term	Sum 2
	Curriculum/Syllabus Coverage					Curriculum/Syllabus Coverage					Curriculum/Syllabus Coverage
Unit Title	Farmer					Geologist and microbiologist					Revision of key concepts from Y8
Sequencing: knowledge & skills	nd testing foods for	Knowledge acquisition about photosynthesis - links to practical work and conditions for maximum plant growth				Geologist - Knowledge acquisition about structure of the Earth and extraction of metals using electrolysis. Microbiologist - begins to teach students about immune systems and vaccinations as well as bacteria and how they play a part in our world.					
LINKS TO GCSE	B4.4 - Bioenergetics					B4.3 - Immunity and disease, C4.4 - Electrolysis					
Literacy & reading	ries, opportunities to	Keywords and definitions, extended writing questions, use of the oracy plenaries, opportunities to read aloud, all students will be answer a question in the lesson				Keywords and definitions, extended writing questions, use of the oracy plenaries, opportunities to read aloud, all students will be answer a question in the lesson					
Differentiation for MA & LA											
Enrichment & cultural refs											
British Vals & SMSC	Data sorting and analysing					Understanding human impact on the environment					Memory skills and revision techniques
Personal Devt	Developing recall, application and analysis					Developing recall, application and analysis					Developing recall, application and analysis
Careers						Cell biology, medicine, biotechnology, genetics, geology					

YEAR 7		
Unit	6	
abus Coverage		Assesement
Unit Title	in Focus	<p>Regular interleaved recall tests, extended writing homeworks</p> <p>Tests written using GCSE questions in accordance with the breakdown of GCSE paper assessment objectives (GCSE papers used where appropriate).</p> <p>There is regular formative assessment through all lessons through knowledge testing, extended writing taskt and homeworks</p>
Sequencing: knowledge & skills	<p>ement and Universe. The topics aims to stretch g different from that experience on Earth.</p> <p>th Structure, which provides an in-depth look at his way. This topic will allow the discussion of eriments lead to them.</p> <p>tudent's critical evaluation of scientific texts, tying</p>	
LINKS TO GCSE		
Literacy & reading	vocabulary, and are driven to practice saying nd to apply them (turn-and-talk, independent	
Differentiation for MA & LA	of scientists to build or justify a scientific model.	
Enrichment & cultural refs		
British Vals & SMSC		
Personal Devt		
Careers	stronomer.	
YEAR 8		
Unit	6	
abus Coverage		Assesement
Unit Title		<p>Regular interleaved recall tests, extended writing homeworks</p> <p>Tests written using GCSE questions in accordance with the breakdown of GCSE paper assessment objectives (GCSE papers used where appropriate).</p> <p>There is regular formative assessment through all lessons through knowledge testing, extended writing taskt and homeworks</p>
Sequencing: knowledge & skills		
LINKS TO GCSE		
Literacy & reading		
Differentiation for MA & LA		
Enrichment & cultural refs		
British Vals & SMSC		
Personal Devt		
Careers		

GCSE	Y9		Y10			Y11					
BIOLOGY	Cells - B4.1	Bioenergetics - B4.4	Organisation - B4.2	Infection & Response - B4.3	Homeostasis - B4.5	Ecology B4.7	Inheritance B4.6				
Sequencing: knowledge & skills	L1 - Eu & Pro Cells L2 - Cells Required Practical L3 - Specialisation L4 - Culturing microorganisms L5 - Diffusion Practical L6 - Osmosis L7 - Osmosis Required Practical L8 - Active Transport L9 - Mitosis & Cell Cycle L10 - Stem Cells	L1 - Photosynthesis L2 - Photosynthesis RP L3 - Aerobic & Anaerobic Respiration L4 - Exercise & Metabolism	L1 - Organisation & Digestive System L2 - Food Tests L3 - Digestive Enzymes L4 - Enzyme Action L5 - Effect of pH practical L6 - The blood and blood vessels L7 - The heart and heart practical L8 - Breathing systems	L1 - Non-communicable disease and cancer L2 - Communicable disease L3 - Human defence systems & Vaccination L4 - Antibiotics, painkillers and drug development L5 - Microbiology RP L6 - Producing monoclonal antibodies (BIO only) L7 - Plant diseases (BIO only)	L1 - Human Nervous System L2 - Reflexes & RP7 L3 - The Brain (BIO only) L4 The Eye (BIO only) L5 Control of Body Temperature (BIO only) L6 - Human Endocrine System & Control of Blood glucose L7 - Roles and Adrenaline & Thyroxine (CH and BIO only) L8 - Maintaining Water & Nitrogen Balance in the Body (BIO only) L9 - Hormones in Human Reproduction & Contraception L10 - Plant hormones (BIO only)	L1 - Adaptations, Interdependance, competition L2 - Biotic & Abiotic Factors L3 - Food Chains, Trophic Levels and Pyramids of Biomass (BIO only) L4 - Levels of Organisation RP L5 - How Materials Are Cycled L6 - Decomposition and Impact of Enviromental Change (BIO only) L7 - Biodiversity and Waste Management L8 - Land Use, Deforestation, Global Warming and Maintaining Biodiversity L9 - Factors affecting food secuitry, farming techniques and sustainable fisheries	L1 - Asexual vs Sexual Reproduction L2 - DNA L3 - Genetic Inheritance L4 - Variation, Selective Breeding and GM L5 - Genetic Engineering and Cloning (BIO only) L6 - Theory of Evolution & Speciation (BIO only) L7 - Evidence for Evolution L8 - Classification				
LINK TO A-LEVEL	B3.1, B3.2, B3.3	B3.5	B3.3	B3.1, B3.6	B3.6	B3.7	B3.7 and B3.8				
Literacy & reading	Keywords and definitions, extended writing questions, use of the oracy plenaries, opportunities to read aloud, all students will be answer a question in the lesson	Keywords and definitions, extended writing questions, use of the oracy plenaries, opportunities to read aloud, all students will be answer a question in the lesson	Keywords and definitions, extended writing questions, use of the oracy plenaries, opportunities to read aloud, all students will be answer a question in the lesson	Keywords and definitions, extended writing questions, use of the oracy plenaries, opportunities to read aloud, all students will be answer a question in the lesson	Keywords and definitions, extended writing questions, use of the oracy plenaries, opportunities to read aloud, all students will be answer a question in the lesson	Keywords and definitions, extended writing questions, use of the oracy plenaries, opportunities to read aloud, all students will be answer a question in the lesson	Keywords and definitions, extended writing questions, use of the oracy plenaries, opportunities to read aloud, all students will be answer a question in the lesson				
Differentiation for MA & LA	MA - Calculate cross-sectional areas of colonies or clear areas around colonies using πr^2 . Measure the rate of transpiration by the uptake of water. LA - define key terms by matching keywords to definitions, gap fill exercises	MA - Explaining key concepts and linking ideas together into the effect on rates of reaction LA - Describing how different factors effect the rate of reaction	MA - Explain how enzyme action can affect rate of reaction LA - identify parts of the digestive system and list the key enzymes	MA - Explain how vaccines are made and their importance in immunity LA - identify different types of diseases	MA - Explain and function of different hormones and their action in teh body LA - Describe how nerves transmit signals	MA - Compare how different cycles are maintained and what must happen to maintain a balance LA - Identify ways to securely manage the land	MA - Explain how speciation occurs through natural selection LA - identify how genes are passed on				
Enrichment & cultural refs	Links to specific health issues and new ways to treat them										
British Vals & SMSC	Gaining respect for all organisms and how those organisms fit into the worlds ecosystems	Health of organisms	Health of organisms	Health of organisms	Health of organisms	Identify how human activity affects the environment	Describe how theories are accepted				
Personal Devt	Developing recall, application and analysis	Developing recall, application and analysis	Developing recall, application and analysis	Developing recall, application and analysis	Developing recall, application and analysis	Developing recall, application and analysis	Developing recall, application and analysis				
Careers	Cell biology, medicine, biotechnology, sports science	Plan biologist	Medicine	Medicine	Medic, Neuroscientist, Neuropsychologist, Physio	Ecologist, Convservationist, Town Planner, Enviromental Sustainability	Geneticist, Archaeology				
GCSE	Y9		Y10			Y11					

GCSE			
BIOLOGY			
Sequencing: knowledge & skills			
LINK TO A-LEVEL			
Literacy & reading			
Differentiation for MA & LA			
Enrichment & cultural refs			
British Vals & SMSC			
Personal Devt			
Careers			
GCSE			

CHEMISTRY			
Sequencing: knowledge & skills			
LINK TO A-LEVEL			
Literacy & reading			
Differentiation for MA & LA			
Enrichment & cultural refs			
British Vals & SMSC			
Personal Devt			
Careers			
GCSE			
PHYSICS			
Sequencing: knowledge & skills			
LINK TO A-LEVEL			

Literacy & reading	Opportunities for reading aloud, all students expected to answer a verbal question at some point in the lesson	Opportunities for reading aloud, all students expected to answer a verbal question at some point in the lesson	Opportunities for reading aloud, all students expected to answer a verbal question at some point in the lesson	Opportunities for reading aloud, all students expected to answer a verbal question at some point in the lesson	Opportunities for reading aloud, all students expected to answer a verbal question at some point in the lesson	Opportunities for reading aloud, all students expected to answer a verbal question at some point in the lesson	Opportunities for reading aloud, all students expected to answer a verbal question at some point in the lesson	Opportunities for reading aloud, all students expected to answer a verbal question at some point in the lesson			
Differentiation for MA & LA	MA - to rearrange formulas and be able to recall them LA - must be able to use formulas	MA - to rearrange formulas and be able to recall them LA - must be able to use formulas	MA - to rearrange formulas and be able to recall them LA - must be able to use formulas	MA - to rearrange formulas and be able to recall them LA - must be able to use formulas	MA - to rearrange formulas and be able to recall them LA - must be able to use formulas	MA - to rearrange formulas and be able to recall them LA - must be able to use formulas	MA - to rearrange formulas and be able to recall them LA - must be able to use formulas	MA - to rearrange formulas and be able to recall them LA - must be able to use formulas			
Enrichment & cultural refs											
British Vals & SMSC	Developing ideas of the consequences of using specific machines	Understanding the importance of generating electricity				Methodically presented answers, links to maths					
Personal Devt	Developing recall, application and analysis	Developing recall, application and analysis	Developing recall, application and analysis	Developing recall, application and analysis	Developing recall, application and analysis	Developing recall, application and analysis	Developing recall, application and analysis	Developing recall, application and analysis			
Careers	Medicine, engineering, physics	Electrician, engineer	Particle physicist	Nuclear scientist	Engineer	Engineer	Particle physicist, communications	Astronomer			

Literacy & reading			
Differentiation for MA & LA			
Enrichment & cultural refs			
British Vals & SMSC			
Personal Devt			
Careers			