

## **Year 10 Academic Year Science Curriculum**

The study of Science fires pupils' curiosity about phenomena in the world around them and offers opportunities to find explanations. It engages pupils at many levels, linking direct practical experience with scientific ideas. Experimentation and modelling are used to develop and evaluate explanations, encouraging critical and creative thought. Pupils learn how knowledge and understanding in Science are rooted in evidence. They discover how scientific ideas contribute to technological change (for example in business and medicine) and lead to improving the quality of life. They trace the development of Science worldwide and recognise its cultural significance. They learn to question and discuss issues that may affect their own life and the future of the World. Pupils follow the Key Stage 4 Science Programme of Study in Year 10. The principal focus of science teaching in Key Stage 4 is to develop a deeper understanding of a range of scientific ideas in Biology, Chemistry and Physics. Pupils will begin to see the connections between these subject areas and become aware of some of the key ideas underpinning scientific knowledge and understanding.

Our combined Sciences curriculum gives learners the opportunity to study Biology, Chemistry and Physics, each covered in separate lessons. Learners gain an understanding of the basic principles of each subject through a mix of theoretical and practical studies, while also developing an understanding of the scientific skills essential for further study.

They learn how science is studied and practised and become aware that the results of scientific research can have both good and bad effects on individuals, communities and the environment. As well as focusing on the individual sciences, the course helps learners to understand the technological world in which they live and take an informed interest in science and scientific developments.

Our course has been designed to cover topics which will be in both Cambridge and Pearson iGCSE Examinations.

Our lessons are taught by teachers specialised to teach science to iGCSE level.

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Term 1	Topic	Details   Cacil
1	Biology – B1 Cells.	Cells, characteristics of
1	Biology - Bi Cells.	living things, cells and
		cells and organisms.
2	B2 Movement in and out	Diffusion, Osmosis.
2	of cells.	Dillusion, Osmosis.
3	Chemistry – C1 Planet	The atmosphere, Water
3	Earth	Treatment, The Earth's
		Crust
4	Chemistry - C2 The	The states of matter,
1	nature of matter	separating and purifying
	nataro or mattor	substances, Atoms and
		molecules
5	Chemistry - C2 The	The structure of the atom,
-	nature of matter	Electron arrangements in
	nataro or matter	atoms
6	Physics – P1 Making	How measuring improves,
	measurements	measuring length,
		density, measuring time
7	Physics – P2 Describing	Understanding speed,
	motion	distance-time graphs,
		understanding
		acceleration, calculating
		speed and acceleration
8	Mid Term Test and	
	Review	
9	Biology B4 Plant	Types of nutrition,
	Nutrition, B6 Transport	photosynthesis, leaves,
	in Plants	use of glucose, testing
		leaves for starch. Plant
		transport systems, Water
		uptake, Transpiration,
		Transport of
		manufactured food.
10	B7 Transport in	The Circulatory system,
	Mammals	the heart, blood vessels,
4.4	00.51	blood
11	C3 Elements and	The periodic table, Trends
	Compounds	in groups, trends across a
40	02 51	period,
12	C3 Elements and	Chemical bonding in
	Compounds	elements and
		compounds, chemical
		formulae of elements and
		compounds, metals,
12	C4 Chaminal regations	alloys and crystals
13	C4 Chemical reactions	Chemical reactions,
		equations for chemical

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	1	
		reactions, types of
		chemical reactions, redox
		reactions, electrolysis
14	P3 Forces and motion	Roller-coaster forces, We
		have lift off, mass, weight
		and gravity, force, mass
		and acceleration
15	P4 Turning effects of	Keeping upright, The
	forces. P5 Forces and	moment of force,
	matter	Calculating moments,
		stability and centre of
		mass, forces acting on
		solids, stretching springs,
		Hooke's law, Pressure
16	End of Term Test and	
	Review	
Term 2	Topic	Details
1	C5 Acids, bases and	What is an acid? Acid and
	salts	alkali solutions, metal
		oxides and non-metal
		oxides, acid reactions in
		everyday life, alkalis and
		bases, characteristics
		reactions of acids, acids
		and alkalis in chemical
		analysis, salts, preparing
		soluble salts, choosing a
		method for salt
		_
		preparation.
2	C7 How far, How fast	Energy changes in
		chemical reactions, rates
		of reactions, catalysts,
		reversible reactions
3	C8 Patterns and	The alkali metals,
		Aluminium, the transition
	Properties in metals	*
		elements, reactivity of
		metals
4	P6 Energy	Energy for life, forms of
	transformation and	energy, energy
	energy transfers. P7	conversions, conservation
	Energy resources	of energy, energy
		calculations. The energy
		9,
		we use, Energy from the
		Sun
5	P8 Work and Power. P9	Doing work, calculating
	The Kinetic model of	work done, Power,
	1 44	
	matter	Laiculating Dower. States
	matter	Calculating power. States of matter, The kinetic

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model of matter, Forces and the kinetic theory, Gases and the kinetic theory  P10 Thermal properties of matter P11 Thermal (heat) energy transfers  P14 Properties of Waves  Mid Term Test and Review  Mid Term Test and Review  P16 Magnetism  P17 P16 Magnetism  P18 Electric Circuits  P19 Electric Circuits  P19 Electric Quantities  P19 Electrical quantities  P10 P18 Electrical quantities  P10 P18 Electrical quantities  P11 P19 Electric circuits  P11 P19 Electric quantities  P11 P19 Electrical quantities  P12 P18 Electrical quantities  P15 Electrical quantities  P16 Magnetism  P17 Electrical quantities  P18 Electrical quantities  P19 Elect			
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influences on ecosystems			influences on ecosystems
15 Revision Lesson	15	Revision Lesson	
16 End of Term Test and Test week	16	End of Term Test and	Test week
Review		Daviou	