

# EXPLORING SCIENCE

WORKING SCIENTIFICALLY

## 2 Year Key Stage 3

Biology

Chemistry

Physics

Year 7

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Year 8

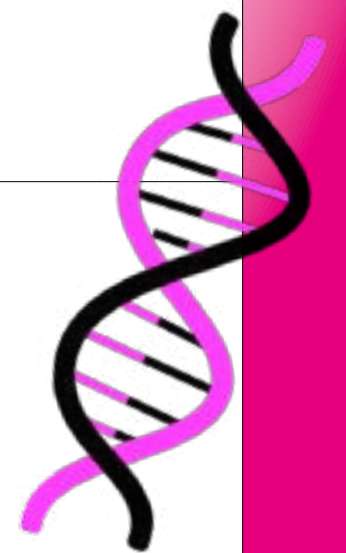
# Biology Year 7

Unit	Topics covered	Working Scientifically focus	Literacy and communication focus
<b>7A</b> Cells, tissues, organs and systems	<b>7Aa</b> Life Processes <b>7Ab</b> Organs <b>7Ac</b> Tissues <b>7Ad</b> Cells <b>7Ae</b> Organ systems	Microscopes	Using conventions in writing
<b>7B</b> Sexual reproduction in animals	<b>7Ba</b> Animal sexual reproduction <b>7Bb</b> Reproductive organs <b>7Bc</b> Becoming pregnant <b>7Bd</b> Gestation and birth <b>7Be</b> Growing up	The Scientific Method	Making notes
<b>7C</b> Muscles and bones	<b>7Ca</b> Muscles and breathing <b>7Cb</b> Muscles and blood <b>7Cc</b> The Skeleton <b>7Cd</b> Muscles and moving <b>7Ce</b> Drugs	Scientific questions	Sentences
<b>7D</b> Ecosystems	<b>7Da</b> Variation <b>7Db</b> Adaptations <b>7Dc</b> Effects of the environment <b>7Dd</b> Effects on the environment <b>7De</b> Transfers of energy and poisons	Frequency diagrams and scatter graphs	Paragraphs

# Biology Year 8

Unit	Topics covered	Working Scientifically focus	Literacy and communication focus
<b>8A</b> Food and digestion	<b>8Ab</b> Use of nutrients <b>8Ac</b> Balanced diets <b>8Ad</b> Digestion <b>8Ae</b> Absorption	Calculating areas	Persuasive writing
<b>8B</b> Plants	<b>8Bb</b> Types of reproduction <b>8Bc</b> Pollination <b>8Bd</b> Fertilisation and seed dispersal <b>8Be</b> Germination and growth	Sampling and estimation	Using punctuation
<b>8C</b> Breathing and respiration	<b>8Cb</b> The breathing system <b>8Cc</b> Getting enough oxygen <b>8Cd</b> Respiration in different organisms <b>8Ce</b> Anaerobic respiration	Calculating means	Planning a report/article
<b>8D</b> Unicellular organisms	<b>8Da</b> Cells <b>8Db</b> Algae <b>8Dc</b> Yeast and fungi <b>8Dd</b> Helpful bacteria <b>8De</b> Harmful bacteria	Biohazards and risk	Making detailed scientific descriptions

Unit	Topics covered	Working Scientifically focus	Literacy and communication focus
<b>9A</b> Genetics and Evolution	<b>9Ab</b> Chromosomes <b>9Ac</b> DNA <b>9Ad</b> Effects of the environment <b>9Ae</b> Evolution	Probability	Developing a counter argument
<b>9B</b> Growing our food	<b>9Bb</b> Plant adaptations <b>9Bc</b> Crop farming <b>9Bd</b> Farming problems <b>9Be</b> The carbon cycle	Evaluating secondary evidence	Writing a news article



# Chemistry Year 7

Unit	Topics covered	Working Scientifically focus	Literacy and communication focus
<b>7E</b> Mixtures and Separation	<b>7Ea</b> Mixtures <b>7Eb</b> Solutions <b>7Ec</b> Evaporation <b>7Ed</b> Chromatography <b>7Ee</b> Distillation	Writing a method	Safety when heating
<b>7F</b> Acids and bases	<b>7Fa</b> Hazards <b>7Fb</b> Indicators <b>7Fc</b> The pH scale <b>7Fd</b> Neutralisation <b>7Fe</b> Neutralisation in everyday life	Controlling risk	Writing a title
<b>7G</b> The particle model	<b>7Ga</b> Solids, liquids and gases <b>7Gb</b> Particles <b>7Gc</b> Brownian motion <b>7Gd</b> Diffusion <b>7Ge</b> Air pressure	Hypotheses and theories	Making Comparisons
<b>7H</b> Atoms, elements and compounds	<b>7Ha</b> The air we breathe <b>7Hb</b> Earth's elements <b>7Hc</b> Metals and non-metals <b>7Hd</b> Making compounds <b>7He</b> Chemical reactions	Sorting our resources	Facts and opinions

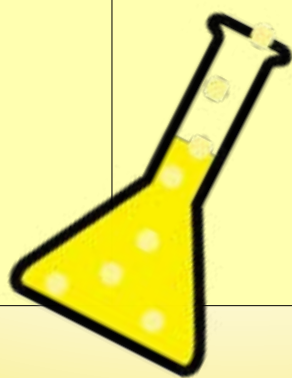


# Chemistry Year 8

Unit	Topics covered	Working Scientifically focus	Literacy and communication focus
<b>8E</b> Combustion	<b>8Eb</b> Oxidation <b>8Ec</b> Fire safety <b>8Ed</b> Air pollution <b>8Ee</b> Global warming	Fair testing	Information and explanation text
<b>8F</b> The Periodic Table	<b>8Fb</b> Chemical properties of elements <b>8Fc</b> Mendeleev's table <b>8Fd</b> Trends in physical properties <b>8Fe</b> Trends in chemical properties	Anomalous results	Communicating ideas using sentences
<b>8G</b> Metals and their uses	<b>8Gb</b> Corrosion <b>8Gc</b> Metals and water <b>8Gd</b> Metals and acids <b>8Ge</b> Pure metals and alloys	Quality evidence	Facts about iron
<b>8H</b> Rocks	<b>8Hb</b> Sedimentary rocks <b>8Hc</b> Igneous rocks <b>8Hd</b> Metamorphic rocks <b>8he</b> The changing Earth	Theories about the Earth / Pie charts / estimates	



Unit	Topics covered	Working Scientifically focus	Literacy and communication focus
<b>9E</b> Making Materials	<b>9Eb/c</b> Ceramics and Polymers <b>9Ed</b> Problems of synthetics <b>9Ee</b> Recycling	Making decisions	Bias
<b>9F</b> Reactivity	<b>9Fb/c</b> Reactivity and Competition <b>9Fd</b> Energetic reactions <b>9Fe</b> Extracting metals	Accuracy	Using appropriate voices



# Physics Year 7

Unit	Topics covered	Working Scientifically focus	Literacy and communication focus
<b>7I</b> Energy	<b>7Ia</b> Energy from food <b>7Ib</b> Energy transfers and stores <b>7Ic</b> Fuels <b>7Id</b> Other energy resources <b>7Ie</b> Using resources	Ratios and percentages	Summarising
<b>7J</b> Electricity	<b>7Ja</b> Switches and current <b>7Jb</b> Models for circuits <b>7Jc</b> Series and parallel circuits <b>7Jd</b> Changing the current <b>7Je</b> Using electricity	Models in science	Using tables
<b>7K</b> Forces	<b>7Ka</b> Different forces <b>7Kb</b> Springs <b>7Kc</b> Friction <b>7Kd</b> Pressure <b>7Ke</b> Balanced and unbalanced forces	SI units	Making and taking notes
<b>7L</b> Sound	<b>7La</b> Making sounds <b>7Lb</b> Moving sounds <b>7Lc</b> Detecting sounds <b>7Ld</b> Using sound <b>7Le</b> Comparing waves	Line graphs and scatter graphs	Remembering



# Physics Year 8

Unit	Topics covered	Working Scientifically focus	Literacy and communication focus
<b>8I</b> Fluids	<b>8Ib</b> Changing state <b>8Ic</b> Pressure in fluids <b>8Id</b> Floating and sinking <b>8Ie</b> Drag	Calculating densities	Presenting scientific information
<b>8J</b> Light	<b>8Jb</b> Reflection <b>8Jc</b> Refraction <b>8Jd</b> Cameras and eyes <b>8Je</b> Colour	Drawings and conventions	Giving a presentation
<b>8K</b> Energy transfers	<b>8Kb</b> Transferring energy <b>8Kc</b> Controlling energy transfers <b>8Kd</b> Power and efficiency <b>8Ke</b> Paying for energy	Accuracy and precision	Different audiences
<b>8L</b> The Earth and Space	<b>8Lb</b> Seasons <b>8Lc</b> Finding your way <b>8Ld</b> Stars <b>8Le</b> Gravity	Isaac Newton	Planning an argument



Unit	Topics covered	Working Scientifically focus	Literacy and communication focus
<b>9I</b> Forces & motion	<b>9Ib</b> Distance/Time graphs <b>9Ic</b> Moments <b>9Id</b> Work done <b>9Ie</b> Machines	Graphs	
<b>9J</b> Electricity and magnetism	<b>9Jb</b> Static electricity <b>9Jc</b> Magnetic fields <b>9Jd</b> Using magnetic fields <b>9Je</b> Control		
		