

### KS3 Science at Cullompton Community College

In Science, from 2014, all students follow a two year programme of study designed to consolidate their science learning from Primary school and to prepare them for the skills needed to study science at GCSE. The programme of study follows the National Curriculum as revised in 2013.

In Year 7 students study

<b>Unit title</b>	<b>Example topics covered</b>	<b>Example key learning objectives</b>
Skills	Choosing the correct key equipment Planning and carrying out investigations safely	Recognise and explain safety symbols used in the laboratory Identify, select and use correctly a range of basic science equipment
Cells	Comparing plant and animal cells Reproduction in plants and animals	Describe the structural and functional differences between plant and animal cells Understand plant pollination, fertilisation and seed dispersal mechanisms
Eating drinking and breathing	The foods our bodies need The human digestive and ventilation systems	Describe the tissues and organs of the digestive system Describe the structure and functions of the human gas exchange system
Mixing dissolving and separating	Separating mixtures Understanding distillation	Recognise the differences between substances and use these to separate them How to use distillation to separate substances
Elements compounds, reactions	What happens when elements burn Understanding oxidation	Identify the products of combustion Describe oxidation and recognise its effects
Forces	Exploring friction, air and water resistance Forces, speed, direction and moments	Identify the forces needed to stop or start movement State and use the law of moments; describe how turning forces can be increased
Energy and Sound	Exploring energy transfers Understanding how sounds travels	Recognise what energy is and describe energy transfers Recognise how the speed of sound changes in solids, liquids and gases.
Energy for your Body	Skeleton and muscles How our bodies get energy	Identify bones and muscles of the human body Describe aerobic and anaerobic respiration
Plants and ecosystems	How plants make food Interactions between organisms in food webs	Describe the process of photosynthesis Describe the effects of human activity on the environment
Physical changes	Solids, liquids, gases Density, pressure and mass	Explain concentration and pressure using the particle model Use the particle model to explain the Law of Conservation of Mass

In Year 8 students study

<b>Unit title</b>	<b>Example topics covered</b>	<b>Example key learning objectives</b>
Chemical changes	Acids, alkalis and indicators Reactions of acids with metals and metal carbonates	Describe and use the pH scale Recall the equation for a neutralisation reaction, explaining how water is made
Contact and non-contact forces	Magnets Gravity on earth and in space	Explain magnetic attraction and repulsion Explain the effects of gravity
Magnetism and	Resistance in electrical circuits	Investigate the factors affecting electromagnets

electricity	Electromagnetism	Voltage and current in circuits
Variation for survival	Variation, selective breeding and survival	Explain the role of DNA in inheritance Identify what causes extinction
Our health and drugs	The impacts of smoking and other drugs on our bodies	Describe the links between smoking and cancer Explain the effects of drugs on the body
Obtaining useful materials	Exploring composites, polymers and other man-made materials	Explain how material properties are linked to use
Using our earth sustainably	The structure of the Earth The effects of human activity	Describe how our atmosphere has changed over time Explain how different rock types are formed
Motion on Earth and in Space	Motion and equilibrium in space Measuring distances in space	Analyse the factors affecting objects in relation to each other Explain light years and how they are used to measure distance
Waves and energy transfer	Light as waves Light transmission reflection, refraction	How to produce light spectra Describe the behaviour of light