

**Overview of the year:**

This year students will continue to study the topics relating to the three Big Ideas in each Science.

Biology Big Ideas	Chemistry Big Ideas	Physics Big Ideas
<b>B1</b> Cells and cellular processes	<b>C1</b> Particles and Substances	<b>P1</b> Forces, Fields and Space
<b>B2</b> Biological systems for life	<b>C2</b> Chemical Changes	<b>P2</b> Energy and Waves
<b>B3</b> Organisms, interactions with the environment	<b>C3</b> Earth and its atmosphere	<b>P3</b> Matter and Materials

Students will develop their practical skills by carrying out more complex experiment.

**Ways to consolidate and extend your learning in Science:**

Keep up to date with the latest discoveries and improve your scientific literacy by regularly reading articles from [www.sciencenewsforstudents.org](http://www.sciencenewsforstudents.org). There are also Science books to borrow from the school reading rooms.

Watch scientific documentaries – there are loads on BBC iPlayer as well as on TV channels such as BBC 1 and Channel 4.

Visit museums and scientific centres. Particularly useful places to visit (all with **free entry**) are; The Science Museum, National History Museum, Wellcome Collection, Faraday Museum, Anaesthesia Heritage Centre, Kirkaldy Testing Museum, and Horniman Museum.

Half Term	Unit title	Knowledge	Skills	Assessment
1	Health and Disease ( <b>B2/B3</b> ) How We See ( <b>P2</b> )	Good and ill health Food, diet and exercise Behaviour of light	Cause and effect Testing for substances	Test at end of half term (October)
2	Waves and Images ( <b>P2</b> ) Atoms, elements and compounds ( <b>C1</b> )	Water waves and interference Forming images with light Using the periodic table	Measuring angles Predicting patterns Rearranging equations	Test at end of half term (December)
3	Biochemistry ( <b>B1/B2</b> ) Breathing and Respiration ( <b>B1/B2</b> ) Light ( <b>P2</b> )	Plants and photosynthesis Respiring and breathing The electromagnetic spectrum	Using chemical symbols Using word equations	Test at end of half term (February)
4	Radiation ( <b>P2/P3</b> ) Types of Chemical Reactions and the Environment ( <b>C2/C3</b> )	Alpha, beta and gamma radiation Dangers of radiation Representing chemical reactions Factors effecting the Earth's atmosphere	Using case studies Linking Science to current events (climate change) Balancing equations	Test at end of half term (March)
5	Uni/multicellular ( <b>B1</b> ) Pathogens ( <b>B1</b> ) Magnetism ( <b>P1</b> )	Comparing unit-cellular and multi-cellular Pathogens and infectious diseases Magnetic materials and magnetic fields	Identifying variables Improving accuracy and reliability	Test at end of half term (May)
6	Static Electricity ( <b>P2/3</b> ) Metals ( <b>C1/C2</b> )	Building up static charges Metals and their properties Metal reactivity	Using chemical symbols to represents compounds	End of year exam on all topics (June/July)