



Science

	Year 7	Year 8
Term 1	<p>Enquiry processes : teaching students the skills needed to carry out scientific investigations, including planning investigations, collecting and presenting data, and analysing results to draw conclusions. These skills will be embedded in each term.</p> <p>Matter I: describing the particle model and using it to explain changes of state and movement of particles.</p> <p>Forces I: introducing forces and their effect on the movement of objects.</p>	<p>Enquiry processes II: developing further skills needed to carry out scientific investigations, including preparing thorough risk assessments, evaluating data, criticizing methodology and communicating findings. These skills will be embedded in each term.</p> <p>Forces II: describing different types of forces such as friction, moments, spring extension and pressure.</p>
Term 2	<p>Matter II: using separation techniques to isolate substances in mixtures and in solution.</p> <p>Electromagnets I: making simple circuits and discovering the effects of changing potential difference and resistance on current.</p>	<p>Electromagnets II: discovering the effects of magnets and magnetic fields and how electromagnets can be made and used.</p> <p>Organisms II: developing a further understanding of how the respiratory system and the digestive system work.</p>
Term 3	<p>Reactions I: identifying acids and alkalis and carrying out neutralisation reactions.</p> <p>Organisms I: learning about the functioning of the respiratory and digestive system to develop an understanding of the importance of a healthy lifestyle.</p>	<p>Organisms II: investigating the importance of sensible lifestyle choices on health and well-being.</p> <p>Matter II: describing the structure of an atom and the differences between elements, compounds and mixtures, in addition to understanding how the structure of an atom determines its position in the periodic table and its properties.</p>
Term 4	<p>Reactions II: identifying patterns of reactivity of metals with other chemicals.</p> <p>Energy I: learning about energy resources and how their energy can be released and utilised.</p>	<p>Ecosystems II: developing an understanding of respiration in living organisms, including microorganisms, and photosynthesis in plants.</p> <p>Genes II: understanding the importance of genetic variation and how this leads to the evolution of new species and how the activities have humans have led to extinction and the need for conservation programmes.</p>
Term 5	<p>Earth I: learning about the structure of the Earth and discovering the wonders of space.</p> <p>Waves I: learning about sound and light and discovering how our ears and eyes detect sound and light respectively.</p>	<p>Waves II: developing an understanding of the properties of waves and how pieces of equipment such as microphones and loudspeakers work.</p> <p>Genes II: learning about the structure of DNA and the collaboration of scientists in the elucidation of its structure.</p>
Term 6	<p>Ecosystems I: understanding the complex relationships that exist between living organisms and their environment.</p> <p>Genes I: developing an understanding of inheritance and natural selection to explain the evolution of living organisms.</p>	<p>Reactions II: using particle diagrams to explain what happens in chemical reactions, including combustion and thermal decomposition and developing some understanding of energy changes.</p> <p>Earth II: looking at the use of the earth's resources and how they need to be managed for sustainability and avoidance of climate change.</p>

Students have four lessons of Science each week and are taught in higher, middle and foundation sets. Year 7s are set after the first assessment point which is usually towards the end of September. The setting uses the results of this assessment and their CATS scores. Students continue to be assessed regularly at the calendared tracking points. Year 8s are set at the beginning of the autumn term following an assessment. On average homework is set weekly, however students with two science teachers may occasionally be set two activities in one week. At the beginning of each academic year the students are given the opportunity to buy the 'CGP KS3 Science Revision Guide' through the department.