



Year 9 Science



What have students at St. Crispin's been taught to understand and be able to do?

Core Knowledge

Students start their GCSE course in Year 9.

Biology - Ecosystems and sampling

Students build on their knowledge of interdependence and study both biotic and abiotic factors that effect the distribution of species. They develop their ability to investigate a range of different habitats across the school that we have grown to provide further practical opportunity.

Biology - Cell structure

Students revisit cells from Year 7 and 8, this time deepening their knowledge to include transport in and out of cells and the difference between Prokaryotes and Eukaryotes.

Biology - Photosynthesis

Students revisit previous topics on plants from Year 7 and 8 and study how plants use the sun's energy to produce food, how plants transport sucrose and water and how diseases effect the growth of plants.

Chemistry - Atomic structure

Students revisit the idea of particles, deepening this knowledge with atomic structure. They learn about how different mixtures and solutions can be separated.

Chemistry - Periodic table

Students revisit the structure of the periodic table, learning about the organisation of the major groups and their reactions.

Chemistry - The Earth's atmosphere

Students are taught about how the Earth's atmosphere has evolved and about climate change, with an opportunity for cross over with the Physics energy topic. Students also learn about the Earth's resources, such as how we obtain potable water and extract metals.

Core Skills

Students continue to develop their practical skills, gaining in confidence. Disciplinary knowledge is reinforced through a series of written tasks that build on activities in class.

Students develop their ability to record data in tables and graphs and use these to write conclusions.

They then move to using predictions or hypotheses to write a method, both procedures and investigations or to write a method based on a set of data. At the end of the year they will write their own methods based on scientific observations they make..

Students also complete a number of practicals in lessons, in addition to the exam board required practicals.



Year 9 Science continued



What have students at St. Crispin's been taught to understand and be able to do?

Core Knowledge	Core Skills
<p>Physics - Energy Students are introduced to energy resources and how they are used to generate electricity. The impact of these on the environment is taught.</p> <p>Physics - Waves Students build on the topic of waves from Year 8. They are taught about the nature and properties of waves. All students are taught about light and sound waves and the electromagnetic spectrum.</p> <p>Physics - Forces Students are taught about the interaction between forces and motion and about graphs of motion.</p> <p>Physics - Heating and cooling Students revisit from Year 8 the ways energy can be transferred by heating.</p>	

How has learning been assessed?

Each half term, students will take a multiple choice assessment in class. This assessment will provide rapid feedback to students helping them to identify their areas of weakness. In class, students will also complete a written task based on key practical skills. For example, they may be shown equipment and asked to write a method to separate sand and water. This will develop their written skills and develop their disciplinary knowledge.

What is coming up in the following year?

Students will continue their GCSE studies into Year 10.