

This course results in a GCSE in biology, a GCSE in chemistry and a GCSE in physics.

Science is taught as a series of rotating topics that are built upon each year. For example, all students in year 9 will cover the all of the content described below in the year 9 course, but different classes may be learning different topics at any one time. The topics will align twice a year (February and July) to facilitate set changes.

Year group		Biology	Chemistry	Physics
Year 9	Content	Cell biology Organisation of the human body -the digestive system Infection and the body's response Respiration and metabolism An introduction to ecology	Atomic structure and the periodic table Chemical analysis – testing molecules, mixtures and compounds Reactions of the periodic table and neutralisation Chemistry of the atmosphere	Transferring energy and energy resources An introduction to electricity and magnetism The particle model of matter An introduction to forces
	Required practicals	Light microscopes Osmosis Food tests The effect of pH and temperature on enzymes Field investigations	Energy changes in reactions Chromatography The preparation of solid salt crystals	Resistance of a piece of wire and combining resistors Density of regular and irregular solids Specific heat capacity
	Assessments	Topic tests End of year exam	Topic tests End of year exam	Topic tests End of year exam
Year 10	Content	Organisation– respiratory system and circulatory system Non-communicable diseases Photosynthesis and plant systems Homeostasis and response	Chemistry of the atmosphere Rate and extent of chemical reactions Atomic structure and bonding Using resources	Waves Forces and their effects Energy equations Using electrical circuits
	Required practicals	Factors effecting the rate of photosynthesis Reaction time	Rates of reaction Water purification	Measuring properties of waves Infrared absorption and radiation Newton's Second Law of motion (acceleration) Stretching springs I-V characteristics of circuit components
	Assessment	Topic tests End of year exam	Topic tests End of year exam	Topic tests End of year exam
Year 11*	Content	Ecology in depth Inheritance and evolution Revision	Quantitative chemistry Chemical changes – electrolysis, energy profiles and equilibrium Revision	Electromagnetism Atomic structure and radioactivity Revision
	Required practicals	Revision of the required practicals	Electrolysis Revision of the required practicals	Revision of the required practicals
	Assessment	Topic tests Paper 1 mock exam at Christmas Paper 2 mock exam at Easter	Topic tests Paper 1 mock exam at Christmas Paper 2 mock exam at Easter	Topic tests Paper 1 mock exam at Christmas Paper 2 mock exam at Easter

Practical science: The 21 practicals listed are the required practicals set by the exam board but students will complete practical work more regularly than described to enhance their scientific understanding and skills. The majority of science lessons will involve a class practical or demonstration.

Numeracy: Throughout the course students will regularly be required to interpret, analyse and evaluate data, both graphically and by using calculations. They will also be taught how to manipulate equations and apply them to new and abstract situations.

Literacy: The science literacy policy focuses on developing students' verbal skills through debates and discussions. Their written skills will be developed by focusing on a long answer written question for each topic and how to communicate their methodology and findings concisely for each required practical. The department also emphasises the importance of using scientific terminology throughout the course.

*This course structure applies to students who started at Frome College from Sept 2017 onwards. Students who started earlier than this will follow the same content, practicals and assessment structure, but may have covered these in different years.