Science

Year 10

Science is a study of the physical world – both living and non-living. A curiosity about how the physical world works is an innate characteristic of the human race. An education in science helps people to satisfy that curiosity and take their place in a society of informed individuals who are better able to take part in debate on issues such as energy supply and use, sustainability, health and the environment. All Year 10 students will undertake Science for the entire year (two semesters)

Skills

• students learn laboratory skills in each of the subject areas of biology, chemistry and physics
• students analyse how the models and theories they use have developed over time and discuss the factors that prompted their review
• students develop questions and hypotheses and independently design and improve appropriate methods of investigation, including field work and laboratory experimentation
• they explain how they have considered reliability, safety, fairness and ethical actions in their methods and identify where digital technologies can be used to enhance the quality of data

Content

Physics:

• students explore and investigate the relationships of motion, forces and energy both quantitatively and qualitatively of everyday phenomena
• students also explore the formation and life of stars and how this has influenced the formation of the universe

Biology:

• students investigate the impact and influence of humans on the physical, living and chemical systems of our biosphere
• relationships between aspects of the living, physical and chemical world are applied to systems on a local and global scale and this enables students to predict how changes will affect equilibrium or balance within these systems
• students investigate the mechanisms of evolution and the manipulation of genetic material to enhance human life

Chemistry:

• students investigate atomic theory and chemical relationships within the periodic table
• students will use the rules governing how atoms join together to make molecules to write chemical formulae
• students investigate different types of chemical reactions and write balanced chemical equations for these factors that influence the rate of chemical reactions