

# Science

## Aims

- To provide an imaginative and creative science education.
- To promote an awareness of current developments and applications in science.
- To promote interest, curiosity and understanding in all our students about themselves and the world about them.
- To develop through detailed observation and analysis the ability to draw conclusions and to evaluate results.



## Who studies what and when?

In the lower school, Years 7 to 9, we aim to develop an enthusiasm for science, founded upon a sound body of knowledge and skills. Pupils are encouraged to engage in a variety of activities. Wherever possible an investigative approach is adopted, with practical work forming an integral part of the course. Extension materials and reinforcement activities cater for the needs of individual pupils. The department tracks each pupil's progress through testing in the end-of-topic modules and assessing homework assignments.

In Year 7 a single teacher teaches pupils Biology, Chemistry and Physics. From Year 8 onwards the three Sciences are timetabled separately and pupils are setted according to ability.

In Biology, lower-school pupils study living organisms at a relatively elementary level. They build upon this study during their GCSE course to gain a much deeper understanding of the complexity of cells and organisms and of the interaction of organisms with each other and with the environment.

In Chemistry, lower-school pupils make detailed observations of chemical reactions. In the upper school they build upon their knowledge and are able to give more detailed explanations of why chemical reactions take place, with reference to atomic structure and bonding.

In Physics, lower-school pupils begin to study the nature of forces, energy, electricity and waves so that as they move into the GCSE course they can appreciate the effects of these phenomena and their uses.

The majority of pupils in Years 10 and 11 take IGCSE Double Award Science (Edexcel), while a smaller number of exceptional scientists take IGCSE triple science. These courses provide a firm foundation for the study of Science at AS and A Level. Many pupils achieve excellent grades and proceed to study science-related subjects, including Medicine, Biochemistry and Engineering, at prestigious universities.

## Facilities

Science lessons are taught in five well-resourced laboratories.

## Staff

Immanuel College is fortunate in having enthusiastic and well-qualified subject specialists who take a personal interest in their pupils and who are always willing to give extra help if the need should arise. Two technicians also assist the department.