YEAR 10 SUBJECTS

Biology

Biology is the study of life. Living organisms are maintained by the activity of cells and their activity is directed by the DNA blueprint. In this subject, students will investigate the structure and function of cells and of the DNA molecule. They also consider the transmission of heritable characteristics from one generation to the next by DNA in genes. They also investigate the diversity of living organisms and scientific evidence that supports the theory of evolution by natural selection. Practical exercises, modelling and computer simulations are used as part of the investigations and students are able to use a range of technologies to complete assignments and develop notes. Assessments are structured to develop higher order thinking skills and suitable scientific writing styles.

Generic skills that are considered across all the subjects in the Science faculty include:

- Application and analysis of theory to practical situations
- Evaluation of ethical implications of scientific research and theory
- Use equipment, materials and instruments responsibly and safely
- Present experimental results appropriately; correct use of the selected report writing format
- Apply techniques to locate more precise information from websites, including searching general and specialised directories; use of selected software and hardware to enhance and support the application of content

Subject specific skills are:

- You will use scientific writing to explain biological process and aspects of genetics and evolutionary theory by using specific terminology accurately and appropriately
- You will develop an understanding of the role of DNA and genes in forming the characteristics of living organisms and how those characteristics can be passed from generation to generation
- You will develop an understanding of patterns of inheritance
- You will analyse pedigrees and assess the likelihood of various conditions being inherited by individuals
- You will understand and analyse evidence that supports evolutionary theory
- You will design and undertake practical exercises to test hypotheses that then require analysis of results and suitable presentation of data

"Year 10 Biology focusses on the intriguing nature and composition of our living world, and follows the inspiring quest of the human endeavour and curiosity that has led to the remarkable discoveries that shape our knowledge of the world. It is amazing to investigate, and in some cases, witness the cellular processes that occur within the trillions of our cells. It is hard to comprehend how such complex functions are carried out within our own bodies. It is truly astonishing."

Nicholas McNaughton