

# Year 10 Science

## Semester 1 Course Outline

In semester 1 students will be studying two units in Science. During the Mutation unit, students will examine how DNA, the “blueprint of life”, influences the physiological makeup of organisms. They will describe how changes on a molecular level can have impacts on the individual, and species as a whole, through processes of evolution. They will also reinforce their understanding of scientific text analysis, and evaluate scientific assertions from performed experiments. In Crash Course, students will examine the relationships between physical forces including velocity and friction. They will predict the outcomes of actions based on Newton’s physical laws, and design experimental procedures to test their hypotheses.

### Learning Outcomes

Students will be assessed on the following Learning Outcomes:

- 10.427 - Evaluates the evidence for scientific theories that explain the origin of the universe and the diversity of life on Earth
- 10.428 - Explains the processes that underpin heredity and evolution
- 10.424 - Explains the concept of energy conservation and represents energy transfer and transformation within systems
- 10.425 - Applies relationships between force, mass and acceleration to predict changes in the motion of objects
- 10.430 - Develops questions and hypotheses and independently designs and improves appropriate methods of investigation, including field work and laboratory experimentation
- 10.431 - Explains how reliability, safety, fairness and ethical actions were considered in methods and identifies where digital technologies can be used to enhance the quality of data
- 10.432 - Identifies alternative explanations for findings when analysing data, selecting evidence and developing and justifying conclusions, and explains any sources of uncertainty
- 10.433 - Evaluates the validity and reliability of claims made in secondary sources with reference to currently held scientific views, the quality of the methodology and the evidence cited
- 10.434 - Constructs evidence-based arguments and selects appropriate representations and text types to communicate science ideas for specific purposes

### Assessment Tasks

Students will be assessed on their participation and completion of classwork and assessment tasks.

Task	Week Due*
Mutation Article Task	Term 1, Week 6
DNA Topic Test	Term 1, Week 7
Natural Selection Laboratory Report	Term 1, Week 9
Motion Assignment	Term 2, Week 4
Motion Topic Test	Term 2, Week 6

\*Due dates are an estimate only

**Teachers:** Alan Giles, Deb Lovatt, Stephen McKellar and Pinky Munshi

**Executive Teacher:** Darren King