

Year 8 Science

Semester 1 Course Outline

This semester students will focus on biology and chemistry. In Term 1, students investigate the relationships between the structure and function of cells, tissues to organs and organism and describe the functions of organs in relation to overall human body systems. In Term 2, students will be introduced to the particle theory. They will be modelling the arrangement of particles in solids, liquids and gases. They will use the particle theory to understand the states of matter and water chemistry.

Throughout the semester, students will plan and conduct a range of investigations ensuring safety and ethical guidelines. They will learn to communicate the findings using scientific language and representations. Students will examine the science knowledge used in different occupations. They explain how evidence has led to an improved understanding of a scientific idea, how scientific discoveries have changed people's understanding of the world and how science and technology contributed to finding solutions to a range of contemporary problems.

Learning Outcomes

Students will be assessed on the following Learning Outcomes:

- 8.149 - Understands cells are the basic units of living things and have specialised structures and functions
- 8.150 - Understands multicellular organisms contain systems of organs that carry out specialised functions that enable them to survive and reproduce
- 8.151 - Understands the properties of the different states of matter can be explained in terms of the motion and arrangement of particles
- 8.152 - Understands differences between elements, compounds and mixtures can be described at a particle level
- 8.153 - Understands chemical change involves substances reacting to form new substances
- Can identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge
- 8.140 - Can collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed
- 8.141 - Can, in fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task
- 8.144 - Constructs and use a range of representations, including graphs, keys and models to represent and analyse patterns or relationships, including using digital technologies as appropriate
- 8.145 - Summarise data, from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions
- 8.146 - Can reflect on the method used to investigate a question or solve a problem, including evaluating the quality of the data collected, and identify improvements to the method
- 8.148 - Can communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate
- 8.234 - Uses scientific knowledge and findings from investigations to evaluate claims
- 8.134 - Understands scientific knowledge changes as new evidence becomes available, and some scientific discoveries have significantly changed people's understanding of the world
- 8.135 - Understands science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations
- 8.136 - Understands science understanding influences the development of practices in areas of human activity such as industry, agriculture and marine and terrestrial resource management
- 8.226 - Understands science knowledge can develop through collaboration and connecting ideas across the disciplines of science
- 8.227 - Understands people use understanding and skills from across the disciplines of science in their occupations

Assessment Tasks

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

Task	Week Due*
Formative Assessment	Ongoing
Biology Task	Term 1, Week 9
Assignment	Term 1, Week 7
Chemistry Task	Term 2, Week 8
Practical Report	Term 2, Week 6

* Due dates are an estimate only

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