Year 8 Science

Achievement

By the end of Year 8, students compare physical and chemical changes and use the particle model to explain and predict the properties and behaviours of substances. They identify different forms of energy and describe how energy transfers and transformations timescales involved. They analyse the relationship between structure and function at cell, organ and body system levels. Students examine the different science knowledge used in occupations. They explain how evidence has led to an improved understanding of a scientific idea and describe situations in which scientists collaborated to generate solutions to contemporary problems. They reflect on implications of these solutions for different groups in society.

Students identify and construct questions and problems that they can investigate scientifically. They consider safety and ethics when planning investigations, including designing field or experimental methods. They identify variables to be changed, measured and controlled. Students construct representations of their data to reveal and analyse patterns and trends, and use these when justifying their conclusions. They explain how modifications to methods could improve the quality of their data and apply their own scientific knowledge and investigation findings to evaluate claims made by others. They use appropriate language and representations to communicate science ideas, methods and findings in a range of text types.

Assessment Criteria

An overall level of achievement in this subject is determined by the teacher's on-balance judgment of the evidence presented in students' summative assessment across the following:

- **Science Understanding:** Biological Sciences, Chemical Sciences, Earth and Space Sciences, Physical Sciences.
- **Science as a Human Endeavour:** Nature and development of science, use and influence of science.
- **Science Inquiry Skills:** Questioning and predicting, Planning and conducting, Processing and analysing data and information, Evaluating, Communicating.

Delivery (mode, time requirements, lessons)

Students have access to a 45 minute scheduled lesson and a 45 minute tutorial each week. Lessons are delivered via Collaborate and teleconferencing. Students are also expected to undertake independent study to complete tasks and assessment in accordance with the Work Rate Calendar. Course materials can be accessed in Blackboard.

Student Requirements

Computer, access to internet, email, printer, scanner, telephone or headset with microphone, exercise book, stationery.

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		Units and Learning Experiences, Summative Assessment, Criteria Assessed, Approximate timing/due date of summative assessment
Semester 1	Term 1	**Chemistry unit: Particles Matter** Identify and describe changes of state; apply the Particle Matter of Matter to predict and explain change.
		Chemistry unit: The chemistry of common substances Explain the properties of materials using the particle model; undertake Scientific report writing.
		Summative assessment, criteria assessed, approximate timing/due date: Experimental investigation and scientific report (Chemical sciences, Planning and conducting, Processing and analysing data and information, Evaluating, Communicating) Week 9
	Term 2	**Earth and space unit: Rocks never die** Understand the rock cycle; understand that rocks have different properties; classify rocks and minerals.
		Earth and space: Rock my world Consider the disciplines of science and the science knowledge and occupations involved in locating, extracting and processing rocks; consider the rehabilitation of mining sites and the occupations involved.
		Summative assessment, criteria assessed, approximate timing/due date: • Unit 3 Rocks never die Exam (Earth, Processing and analysing data and information, Communicating) Week 7 • Unit 4 Rock my world, Research Assignment, (Science as a Human Endeavour) Week 10
Semester 2	Term 3	**Physics unit: Energy in my lifestyle** Classify energy forms; investigate potential, kinetic and efficient energy sources; conduct fair testing and safe experimental tasks.
		Physics unit: What's up? Identify different forms of energy; investigate how energy is transformed and transferred; undertake scientific report writing; examine renewable and non-renewable forms of energy.
		Summative assessment, criteria assessed, approximate timing/due date: • Extended experimental investigation – The Hurler (Physical sciences, Planning and Conducting, Evaluating, Communicating) Week 9
	Term 4	**Biology unit: The building blocks of life** Identify and examine the function and structure of cells and specialised cells; distinguish between multicellular and unicellular organisms; compare plant and animal cells; analyse the development of the Cell Theory.
		Summative assessment, criteria assessed, approximate timing/due date: The nature of cells – Exam (Biological sciences, Nature and Development of Science, Questioning and predicting, Communicating) Week 6

Disclaimer All of the above information is accurate at the time of development.