



SEMESTER ONE		SEMESTER TWO	
TERM 1	TERM 2	TERM 3	TERM 4
<p>Being a Scientist (8 weeks – 16 lessons)</p> <ul style="list-style-type: none"> • What is science and why? • Laboratory equipment • Safety • Laboratory techniques • Experimenting • Report writing • Research a scientist <p>(ACSHE119) – Science changes (ACSHE223) – Collaborate and connect (ACSHE224) – Occupation</p>	<p>Classification (5 weeks – 10 lessons)</p> <ul style="list-style-type: none"> • Why classify? • Grouping organisms • Change over time • Kingdom to species • Naming organisms • Using keys <p>(ACSHE119) – Science changes</p> <p>Living Together (5 weeks – 10 lessons)</p> <ul style="list-style-type: none"> • Food chains show feeding relationships • Construction and interpretation of webs • Classifying based on position in the food chain • Human impact • Introduced species <p>(ACSHE120) – Solutions in society (ACSHE121) - Industry</p>	<p>Earth's Resources (4 weeks – 8 lessons)</p> <ul style="list-style-type: none"> • What are renewable resources? • Timescales for regeneration • Comparing energy sources • The water cycle: <ul style="list-style-type: none"> - Changing states - Water management <p>(ACSHE223) – Collaborate and connect (ACSHE120) – Solutions in society (ACSHE121) – Industry (ACSHE224) – Occupation</p> <p>Separating Mixtures (6 weeks – 12 lessons)</p> <ul style="list-style-type: none"> • What is a mixture? • Solutions, solvents and solutes • Methods of separation: filtration, decanting, evaporation, chromatography and distillation • Separation methods at home <p>(ACSHE121) – Industry (ACSHE224) – Occupation</p>	<p>The Earth, Sun and Moon (4 Weeks –8 lessons)</p> <ul style="list-style-type: none"> • Natural phenomena: lunar and solar eclipses, seasons and phases of the moon • Rotation of the Earth and orbits • Modelling the movements of Earth, the Sun and the moon • Why different seasons? • Different hemispheres <p>(ACSHE119) – Science changes (ACSHE224) – Occupation</p> <p>Forces and Motion (4 weeks - 8 lessons)</p> <ul style="list-style-type: none"> • The effects of forces • Balanced and unbalanced forces • Simple machines • Earth's gravity affects us • Gravity and Earth's orbit <p>(ACSHE119) – Science changes (ACSHE120) – Solutions in society (ACSHE224) – Occupation</p>

Science Inquiry Skills (to be included throughout course – Being a scientist & Separating mixtures)

- (ACSIS124) – Questioning and predict
- (ACSIS125) – Planning and conducting
- (ACSIS126) – Fair tests
- (ACSIS129) – Processing and analysing data

- (ACSIS130) – Drawing conclusions
- (ACSIS131) – Reflect on method
- (ACSIS132) – Evaluate claims
- (ACSIS133) – Communicate ideas

Standards and progression point examples

Level 8 Achievement Standard

By the end of Level 8, students investigate different forms of energy and explain how energy transfers and transformations cause change in simple systems. They use the particle model to predict, compare and explain the physical and chemical properties and behaviours of substances. They describe and apply appropriate techniques to separate pure substances from mixtures. They provide evidence for observed chemical changes in terms of colour change, heat change, gas production and precipitate formation. They use equations to describe simple chemical reactions. They analyse the relationship between structure and function at cell, organ and body system levels. They use dichotomous keys to identify and classify living things. They explain how living organisms can be classified into major taxonomic groups based on observable similarities and differences. They predict the effect of environmental changes on feeding relationships. They distinguish between different types of simple machines and predict, represent and analyse the effects of unbalanced forces, including Earth's gravity, on motion. They compare processes of rock formation, including the time scales involved, and analyse how the sustainable use of resources depends on the way they are formed and cycle through Earth systems. They model how the relative positions of Earth, sun and moon affect phenomena on Earth.

Students explain how evidence has led to an improved understanding of a scientific idea. They discuss how science knowledge can be applied to generate solutions to contemporary problems and explain how these solutions may impact on society

By the end of Level 8, students identify and construct questions and problems that they can investigate scientifically. They plan experiments, identifying variables to be changed, measured and controlled. They consider accuracy and ethics when planning investigations, including designing field or experimental methods. Students summarise data from different sources and 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 scientific language and representations to communicate science ideas, methods and findings in a range of text types.