








Year 8 SCIENCE

Subject overview:

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 cause change in simple systems. They compare processes of rock formation, including the time scales 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.

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 Type	%	Term 1:	Potential Tasks/Texts are Designed for the following Competencies
Folio, Project, Assignments, Practicals Reports Skills & Application Tasks	25%	Introduction to VVSS Laboratories	<p>The properties of the different states of matter can be explained in terms of the motion and arrangement of particles (ACSSU151)</p>  <ul style="list-style-type: none"> explaining why a model for the structure of matter is needed modelling the arrangement of particles in solids, liquids and gases using the particle model to explain observed phenomena linking the energy of particles to temperature changes
		CHEMISTRY States of Matter	<p>Differences between elements, compounds and mixtures can be described at a particle level (ACSSU152)</p>  <ul style="list-style-type: none"> modelling the arrangement of particles in elements and compounds recognising that elements and simple compounds can be represented by symbols and formulas locating elements on the periodic table
		Elements and Compounds	
Assessment Type	%	Term 2	Potential Tasks/Texts are Designed for the following Competencies
Folio, Project, Assignments, Practicals Reports Skills & Application Tasks	25%	BIOLOGY Comparative Physiology	<p>Multi-cellular organisms contain systems of organs that carry out specialised functions that enable them to survive and reproduce (ACSSU150)</p>  <ul style="list-style-type: none"> identifying the organs and overall function of a system of a multicellular organism in supporting the life processes describing the structure of each organ in a system and relating its function to the overall function of the system examining the specialised cells and tissues involved in structure and function of particular organs comparing similar systems in different organisms such as digestive systems in herbivores and carnivores, respiratory systems in fish and mammals distinguishing between asexual and sexual reproduction comparing reproductive systems of organisms
Assessment Type	%	Term 3	Potential Tasks/Texts are Designed for the following Competencies
Folio, Project, Assignments, Practicals Reports Skills & Application Tasks	25%	PHYSICS Energy	<p>Energy appears in different forms including movement (kinetic energy), heat and potential energy, and causes change within systems (ACSSU155)</p>  <ul style="list-style-type: none"> recognising that kinetic energy is the energy possessed by moving bodies recognising that potential energy is stored energy, such as gravitational, chemical and elastic energy investigating different forms of energy in terms of the effects they cause, such as gravitational potential causing objects to fall and heat energy transferred between materials that have a different temperature recognising that heat energy is often produced as a by-product of energy transfer, such as brakes on a car and light globes using flow diagrams to illustrate changes between different forms of energy
Assessment Type	%	Term 4	Potential Tasks/Texts are Designed for the following Competencies
Folio, Project, Assignments, Practicals Reports Skills & Application Tasks	25%	GEOLOGY Earth and Space	<p>Sedimentary, igneous and metamorphic rocks contain minerals and are formed by processes that occur within Earth over a variety of timescales (ACSSU153)</p>  <ul style="list-style-type: none"> representing the stages in the formation of igneous, metamorphic and sedimentary rocks, including indications of timescales involved identifying a range of common rock types using a key based on observable physical and chemical properties recognising that rocks are a collection of different minerals considering the role of forces and energy in the formation of different types of rocks and minerals recognising that some rocks and minerals, such as ores, provide valuable resources