Atherton State High School
On Eagles' Wings

Year 8 Science
Learning and Assessment Overview

Head of Department: Torsten Pluschke - tplus1@eq.edu.au
Year 8 Team: Selena Kilpatrick, Roy McPherson, John Mattisson, Michael Nunn

Welcome to Year 8 Science at Atherton SHS. We are committed to the delivery of quality education to students and excellence in teaching and learning. Our Junior School program is shaped by the Australian Curriculum and the C2C units of Education Queensland and is adapted to suit the context of our learners in the Far North Queensland region. We welcome open communication with our teaching staff and look forward to working with you. This overview gives you a picture of the units we study, as well as the types and dates for assessment items.

SEMESTER ONE Unit Title	Time	Unit Focus	Assessment	Due Date
Rocks	Weeks 1-10 Term 1 (10 weeks)	**Earth Sciences** - exploring different types of rocks and the minerals of which they are composed, comparing the different processes and timescales involved in the formation and breakdown of igneous, sedimentary and metamorphic rocks as part of the rock cycle, investigating the properties of minerals and analysing data to identify patterns and relationships between mineral composition, location and the type of rock formed, identifying rock specimens and modelling processes of rock formation, drawing conclusions about rock types, rock cycle processes and the geological history of an area, the properties of soil, formed from the weathering of rocks, and the impact of soil degradation on the environment and agriculture, sourcing, extracting, processing and using mineral-based resources, including how Aboriginal peoples and Torres Strait Islander peoples quarry and use rocks and minerals, and the contribution of science and technology to the development and advancement of sustainable mining processes.	**Multimodal Research Report**	Week beginning Week 8 Term 1
Energy	Weeks 1-10 Term 2 (10 weeks)	**Physics** - classifying energy forms, the different forms of potential energy, using models and representations to examine kinetic energy and its relationship with potential energy and heat energy, how energy is transferred and transformed through systems, using diagrams to represent energy flow, usable and unusable forms of energy and the resulting effect on the efficiency of a system, the efficiency of the production of energy and possible influence the use of these resources by society, explaining and representing how energy transfers and transformations cause change in simple systems, examining Australia's use of renewable and non-renewable energy resources, evaluation of the impacts of transitioning to renewable resources compared with the continued use of fossil fuels, and examine how science and technology are contributing to making the transition socially, economically and environmentally sustainable.	**Experimental Data Analysis (Data test)**	Week beginning Week 5 Term 2
			Experimental Investigation Report	Week beginning Week 10 Term 2

SEMESTER TWO	Unit Title	Time	Unit Focus	Assessment	Due Date
Particles Matter & The Chemistry of Common Compounds		Weeks 1 - 10 Term 3 (10 weeks)	**Chemistry** – the particle model of matter and use it to explain properties, the physical and chemical properties of materials and identifying signs of chemical change, relating the properties of materials to their use in everyday applications and evaluating the effectiveness of the material for its identified purpose, examining traditional uses of natural material by Aboriginal peoples and Torres Strait Islander peoples, using the particle model to represent and explain differences between elements, compounds and mixtures, and differences between physical and chemical change, introduction to the periodic table of elements, including symbolic representation of elements.	**Investigative Report Presentation** **Exam**	Week beginning Week 5 Week 9 Term 3
Building Blocks of Life		Weeks 1-10 Term 4 (10 weeks)	**Biology** —identifying cells as the basic units of living things, using microscopes and images to distinguish between multi-cellular and unicellular organisms and identify specialised cellular structures, preparing wet mount slides and correctly constructing biological drawings from microscopic observations, comparing similarities and differences between plant and animal cell structure, examining the relationship between the structure and function of specialised plant and animal cells, including reproductive cells, and understanding the advantages of cell specialisation, analysing the development of cell theory as a result of historical scientific work and using the findings to validate the tenets of the theory, analysing the relationships between structure and function of organs in the major systems of the human body, including the reproductive system, comparing organs and systems in other animals and plants and how the structure supports the functions of the system within the body, different reproductive strategies and how these contribute to the survival of multi-cellular organisms, analysing data and trends in reproductive cycles and exploring the concepts of ethical guidelines to consider the impact of animal welfare frameworks when planning investigations in science	**Exam**	Week beginning Week 8 Term 4

We encourage all students to have a display folder to file their handouts and resources. This can be very helpful when it comes to reviewing the work done in class, preparing for tests and completing assignments. Weekly tutoring is also available.

Please do not hesitate to contact your child's classroom teacher if you have any questions. We welcome open communication with our parents and caregivers.