



Science Overviews Term 3 2020



Junior Primary

Earth's Precious Resources

This term we will be undertaking an inquiry based unit of work that explores the local environment to identify and describe natural, managed and constructed features. We will also ask the questions 'What are Earth's resources?', 'Where do they come from and how do we use them?' Earth's resources are used in a variety of ways. Students will use science inquiry skills to investigate and explore Earth's precious resources (e.g. water, food, rocks, minerals, etc.) and the different ways they are used and how humans impact both positively and negatively on them.

Students will be working scientifically by engaging in a variety of investigations and experiments to explore and identify Earth's different resources, how they are used around the school and what we use them for in general. Through hands-on experiments and design challenges, students will gain an understanding of the precious natural resources of water, food, and minerals and explore where we find/grow them and how they get to us. They will identify possible current and future issues surrounding humans continuing to use resources faster than they can be replenished. Students will develop potential solutions to these problems by exploring how we can use resources responsibly and sustainably by reducing, reusing and recycling our waste.

Students will be working scientifically through such actions as questioning, investigating, observing, predicting, discussions, and planning and conducting experiments.

Science based STEM Challenge – Following the steps and developing their understanding of the engineering design process, students will work in small collaborative groups to explore how to design and create a water filter using a recycled plastic bottle and earth's natural resources (sand, rocks, charcoal, etc). They will do this by critically problem solving the quickest and most effective way to filter the water through testing and exploring a range of available natural resources. Through this open-ended design project, they will reflect on how, why and where filtering water benefits different parts of society. Each collaborative group will present and demonstrate their filter to their peers, showing how to turn ground water into clean drinking water. It is anticipated that videos of student learning as demonstrated through their presentations will be shared with the school community via electronic platforms such as Seesaw.

Science as a Human Endeavour will explore and consider how Aboriginal and Torres Strait Islander Peoples live in regions with scarce resources or in sensitive environments and how they ensured there were enough resources for future generations.





Middle and Upper Primary Aldgate Primary School's 'Pop Up' Science Expo 2020



This term in Science, each class (Years 3 to Year 7) will be planning their own “Pop Up” Science Expo that will demonstrate a range of science concepts in an engaging manner that they then will share and teach to another class during week 9 of this term. This will be a student lead and teacher guided process. Students will choose, research, plan, test, evaluate and reflect on a science demonstration or scientific fair test experiment that they will present, either individually or in small groups, as part of their classes ‘pop up’ expo. Furthermore, the focus of their presentation will not only be audience engagement but clearly explaining the aim, process and science behind their experiment/demonstration to aid concept development of for the audience. In effect the students will become the teachers. This will also include further directions they could take their experiment/demonstration and possible practical applications outside of the classroom. They will also present this information via a written report, static and/or electronic medium. It is anticipated that videos of student learning as demonstrated through their presentations will be shared with the school community via electronic platforms such as Seesaw. Through hands on discovery, students will develop their understanding of the key differences between the demonstration of a scientific fact and a scientific fair test experiment.

Students will develop their Science Inquiry Skills throughout this process via such actions as questioning, investigating, researching, comparing, measuring, observing, predicting, testing ideas, collaborative group work and conducting experiments. Reflection and evaluation will also be a key part of their work.

National Science Week

‘Deep Blue: innovation for the future of our oceans’ is this year’s extremely relevant and important National Science Week theme. A range of activities have been planned that focus on our oceans that will enable students to explore and critically reflect upon marine science, our oceans and the issues they face.

Year R/1/2’s – Students will investigate density and buoyancy through a range of engaging activities. This will include exploring how salty water is denser than fresh water and also, designing and creating a vessel that floats and then experimenting with the buoyancy their boat using weights.

Year 3/4/5’s – Marine Biologist Elaine Anderson will visit our Middle Primary classes and share her interesting experiences working as a marine biologist on the Great Barrier Reef. Her interactive presentation will explore how all life on the reef relies on each for survival and the fragile balance that is needed to maintain its rich levels of biodiversity. This will also include the importance of the reef to our world’s fragile ecosystem, the many challenges the reef faces and positive things we can do to make a difference (3R’s) and 'turn back' the damage that is currently occurring.

Year 6/7’s - STEM Challenge - Following the steps of the engineering design process, students will work in collaborative learning teams and explore how engineers use various techniques to provide practical solutions to oil spills in our oceans. Through these principles, groups will analyse a practical hands on “oil spill” scenario in the classroom that is applicable to a real world situation. They will then critically and creatively design, build, and test a system to first contain, and then remove the oil from the water. This will also include how to remove oil from the feathers of birds who have come in contact with the ‘oil spill’.

Feedback and Student Voice - Students will consistently be provided with constructive feedback and will be given opportunities to provide feedback to each other and the teacher. This will be both verbally and in written form. Students will also participate in peer, teacher and self-assessment processes.

Student voice will be evident through such areas as curriculum design, science room values and expectations development, personal feedback, reflection and STEM challenges.

Science Room Health and Wellbeing - Personal development through exploration and practical application of our school values, the “Play is the Way” program and Growth Mindset principles will be imbedded into our science lessons.

Differentiation – Approaches to teaching and learning will be differentiated to meet the needs of individual learning styles.

