POLICY: SCIENCE

PURPOSE:

The Science curriculum provides students with essential scientific skills and knowledge in Biological, Chemical, Physical and Earth Sciences. Science provides students with a way of answering interesting and important questions about the world around them, including science's contribution to our culture and society, and its applications in our lives.

AIMS:

Science aims to ensure that students develop:

- an interest in science as a means of expanding their curiosity and willingness to explore, ask questions about and speculate on the changing world in which they live.
- an understanding of the vision that science provides of the nature of living things, of the Earth and its place in the cosmos, and of the physical and chemical processes that explain the behaviour of all material things.
- an understanding of the nature of scientific inquiry and the ability to use a range of scientific inquiry methods, including questioning; planning and conducting experiments and investigations based on ethical principles; collecting and analysing data; evaluating results; and drawing critical, evidence-based conclusions.
- an ability to communicate scientific understanding and findings to a range of audiences, to justify ideas on the basis of evidence, and to evaluate and debate scientific arguments and claims.
- an ability to solve problems and make informed, evidence-based decisions about current and future applications of science while taking into account ethical and social implications of decisions.
- an understanding of historical and cultural contributions to science, as well as contemporary scientific issues and activities and an understanding of the diversity of careers related to science.
- a solid foundation of knowledge of the biological, chemical, physical, Earth and space sciences.
- an ability to select and integrate the scientific knowledge and methods needed to explain and predict phenomena, to apply that understanding to new situations and events, and to appreciate the dynamic nature of scientific knowledge.

IMPLEMENTATION:

- Science will be taught using the *Primary Connections Program* that links the teaching of science with the teaching of literacy. It builds on the student's natural curiosity, to nurture their sense of wonder and develop their passion for exploring how the world works. The content strands are: Biological, Chemical, Physical and Earth & Space.

- Science is based on an inquiry oriented teaching and learning model. Students will use their prior knowledge and literacies to develop explanations for their hands on experiences of scientific phenomena. Students will have opportunities to represent and re-represent their developing understanding. They will be engaged actively in the learning process. Students will develop investigation skills and an understanding of the nature of science.

- Teaching and learning will progress through five phases: Engage, Explore, Explain, Elaborate and Evaluate. E5 quality teaching practices will be embedded throughout the program to develop the students' metacognitive capacity. The 5E phases:

1. Engage, involves students and elicits prior knowledge.
2. Explore, provides hands-on experience of the phenomenon.
3. Explain, develops scientific explanations to represent observations and to develop conceptual understanding while they consider current scientific explanations.
4. Elaborate, extends the students' knowledge through student planned investigation.
5. Evaluate, re-represents their understanding and reflects on their learning journey and teachers them to collect evidence about the achievement of outcomes.

- Assessment will be ongoing. Throughout the 5E phases assessment tasks will be used to establish prior understandings, to monitor developing understandings and to establish student achievements.

- Cooperative learning approaches will promote more effective student learning. Students will work in teams and pairs to share knowledge, ideas and experiences. They will also consider other points of view and solutions to problems.

- Authentic and purposeful learning will study real-world contexts and will require students to link to other learning areas to build upon their conceptual learning.

- Students will learn to use materials and equipment safely. They will be made aware of dangers, how to be cautious, clean up spills and discuss safe practices for science activities.

- Students will be taught to keep a Science Journal to express their scientific knowledge as they develop ideas through illustration with supportive text.

- Teachers will utilise a word wall to organise the collection of words and images displayed in the classroom. It will support the development of vocabulary to assist student to support their ability to express their understandings.

EVALUATION:
This policy will be reviewed as necessary.

SCHOOL COUNCIL APPROVED: 12/9/2017