

St Aloysius Catholic Primary School

Chisholm



Science & Technology Policy

Last Reviewed

2015

Next Review

2019

ST ALOYSIUS CATHOLIC PRIMARY SCHOOL VISION

At St Aloysius Catholic Primary School we are called to be the face of Christ through living, loving and learning together. We dare to empower all to wonder, hope, thrive and be proud witnesses of our faith.

RATIONALE:

Science and technology are of increasing importance and integral to our rapidly changing world. A student's sense of wonder and curiosity about the natural and man-made world is fostered through actively engaging in the processes of Working Scientifically and Working Technologically. Through questioning and seeking solutions to problems, students develop an understanding of the relationships between science and technology, and the significance of their contribution to and influence on society.

The study of Science and Technology at *St Aloysius* provides opportunities for students K-6 to think and act critically and creatively, to develop informed attitudes based on evidence and reason, and to participate responsibly in developing innovative working solutions and ideas in response to opportunities and questions relevant to personal, social and environmental issues in their lives.

The study of Science and Technology also enables students to develop a positive self-concept as learners as well as confidence in and gain enjoyment from their learning. They become self-motivated learners through participation in challenging and engaging experiences in order to develop innovative solutions.

(Adapted from NSW Syllabus for the Australian Curriculum Science and Technology K-6 P. 14)

Catholic Dimension:

Catholic Schools have a particular task of offering quality education in all areas of the curriculum and presenting that quality education as an expression of the Catholic worldview. Every curriculum area that is taught within a Catholic School has a religious dimension, a capacity to assist students to examine the world of human culture and the world of religion, providing knowledge and skills and fostering attitudes and values that are life-giving and that assist young people to search for meaning and truth.

The Catholic worldview is a comprehensive perception of the universe revealed in Jesus that provides insights into the meaning of life and how to live it.

The Catholic worldview is experiencing life through the eyes of our Catholic faith.

Catholic Schools transform the individual by informing the student about, and forming the student in, the Catholic vision and story. Catholic Schools offer opportunities for students to apply that worldview to all aspects of school life, and life outside school. The task for the teacher in the Catholic School is to ensure that all pedagogical and pastoral decisions in all key learning areas are founded in the Gospel of Jesus Christ and Catholic Social Teaching and offer students the experience and knowledge necessary to develop a distinctive Catholic way of being in and seeing the world.

In **Science**, students will learn about God's creation, the environment. Students will learn that they have a responsibility and duty to exercise responsible stewardship over creation, to care for it and cultivate it. Students will be explicitly taught to care for the earth and the cultivation of the goods of creation. Through using information technology, students will be encouraged to research historical Biblical events and access historical information. Students will be

provided with opportunities to create imovies, PowerPoints, and other digital media to present their learning.

AIMS:

At St Aloysius, Science and Technology in Years K – 6 is taught to:

- foster students' sense of wonder and expand their natural curiosity about the world around them in order to develop their understanding of, interest in, and enthusiasm for science and technology
- develop students' competence and creativity in applying the processes of Working Scientifically and Working Technologically to appreciate and understand the Natural Environment and Made Environment
- enhance students' confidence in making evidence-based decisions about the influences of science and technology in their lives
- enable students to confidently respond to needs and opportunities when designing solutions relevant to science and technology in their lives.

(NSW Syllabus for the Australian Curriculum Science and Technology K-6 P. 16)

OBJECTIVES:

Through the study of Science and Technology students K-6 will develop the following **values and attitudes-**

Students:

- develop interest and positive, informed values and attitudes towards science and technology
- recognise the importance and relevance of science and technology in their lives now and for the future.

Through the study of Science and Technology students K-6 will develop the following **skills, knowledge and understanding-**

Students:

- develop knowledge, understanding of and skills in applying the processes of Working Scientifically
- develop knowledge, understanding of and skills in applying the processes of Working Technologically
- develop knowledge of the Natural Environment through understanding about the Physical World, Earth and Space, and Living World
- develop knowledge and understanding of the Natural Environment and the Made Environment through the Material World
- develop knowledge and understanding of the Made Environment through Built Environments, Information and Products.

(NSW Syllabus for the Australian Curriculum Science and Technology K-6 P. 16)

IMPLEMENTATION

Personnel:

- Teachers are to use the Science and Technology K-6 Syllabus as the primary source of lesson content. Essential content from the appropriate stage is to be covered each year. Additional content may be used as needed for extension.
- Class teacher collaborates with Teacher Librarian on Science & Technology units

Time Allocation

It is expected that teachers allocate 6-10% of time (1-2 hours per week) to teaching this KLA.

Procedures

When planning units of work both the Working Scientifically and Working Technologically outcomes must be included. Teachers are encouraged to integrate other strands of Science and Technology when possible.

Safety

Teachers are to monitor safe practices and take precautions with practical activities. Dangerous chemicals are prohibited and sharp implements are to be used with care under supervision.

RESOURCES

- NSW Syllabus for the Australian Curriculum Science and Technology K-6
- Primary Connections- The Australian Academy of Science
- National Digital Learning Resources Network (www.scootle.edu.au)
- Resources accessed from the Internet e.g. YouTube clips, Behind the News clips and episodes, Skwirk.com
- Excursions: Oakvale Farm and Fauna World, The Reptile Park, Questacon
- Incursions: David Owens from Newcastle Museum
- Technology: Beebots, Break Out Boxes, Makey Makeys
- Circuits
- A variety of items specific to unit topics e.g. cups, rubber bands, water, light boxes, straws

ASSESSMENT

Assessment is based on the learning outcomes and content of the Science and Technology syllabus and specifies what students know, understand and are able to do. Opportunities for assessment for, as and of learning should be included throughout units of work providing opportunities for:

- self-assessment and peer assessment
- strategies for students to actively monitor and evaluate their own learning
- feedback, together with evidence, to help teachers and students decide whether students are ready for the next phase of learning or whether they need further learning experiences to consolidate their knowledge, understanding and skills

Assessment tasks in units of work in Science and Technology may include:

- Summative assessment of learning tasks e.g. labelling a diagram or model, written and spoken texts, data collection and graphing, research tasks, timelines and visual texts. Such assessment tasks will be analysed and assessed against success criteria
- Written or spoken responses to visiting presenters. Evidence may include teacher observation, questioning, peer evaluation and self-evaluation.
- Students' work samples at various stages of an activity, including anecdotal records and students' oral, written and multimedia work samples

Teachers will maintain a record of student achievement. These assessment data records are to be maintained for the calendar year.

REPORTING

Reporting takes place each Semester and students are awarded an A-E grade in Working Scientifically, Working Technologically, Natural Environment and Made Environment

BUDGET

Appropriate funds will be allocated annually from the school budget to allow for the successful implementation of this policy. Staff will prioritise the purchase of resources that are necessary to effectively implement the Science and Technology Syllabus.

EVALUATION

This policy will be reviewed every four years in keeping with the school policy review schedule or when Board of Studies or system requirements require a review.