



Mathematics Policy

Policy Code: Curr - MP
To be Reviewed: 2021
Ratified: April 2018

Identity Statement

To provide a school community that draws on the traditions of the Brigidine Order, that celebrates life, reaches out to others and actively cares for our world.

Vision Statements

St Patrick's Primary School strives to:

- Guide and support students on their faith journey through experiences of the Catholic tradition, building a strong sense of belonging, responsibility and wonder within our school, church and global communities.
- Develop an environment that builds on student resilience, self - respect, confidence and empathy – in partnership with families.
- Foster a learning environment that provides a holistic education that nurtures all learners in order for them to realise their full potential.
- Model and foster a safe and supportive environment for students and their families within the school community.
- Provide learning and teaching experiences that promote decision making.
- Conserve God's creation and recognise the traditional owners of the land.

Graduate Outcomes

We endeavour to create graduates who will:

- Have a dynamic faith
- Be committed to social justice
- Be environmentally aware
- Develop and sustain loving relationships
- Be life-long learners
- Realise their potential
- Be creative problem-solvers
- Be resilient, confident and independent
- Be respectful
- Have courage and integrity
- Be self-aware
- Enjoy their experiences

Basic Beliefs

We at St Patrick's believe that:

- Mathematics is a sequential and developmental process of skills and content learning. It is a tool to help children approach and solve problems in a systematic way.
- The development of place value is foundational for a sound mathematics program.
- Mathematics is the study of Number and Algebra, Measurement and Geometry, and Statistics and Probability (as outlined Victorian Curriculum).
- Mathematics should be a worthwhile, enjoyable and challenging experience, fostering self-confidence in children.
- Mathematics should be real, relevant and where possible relate to life experiences such as, shopping, cooking, travelling, board, dice and card games.
- Mathematics should be a hands-on experience that utilises a variety of materials and resources.



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- Open-ended learning tasks allow children to begin at various entry points and exit at different levels.
- Sound mathematical practice includes regular data collection and analysis, which can be used in Professional Learning Communities (PLCs) to guide our teaching.

Aims

At St Patrick's we will encourage and foster in our children, an understanding of skills and concepts as outlined in Victorian Curriculum through developing:

- A positive, confident and enthusiastic/ resilient attitude towards Mathematics.
- Perseverance and independence.
- Co-operation and participation in using a broad range of teaching and learning strategies.
- An awareness that mathematics is a vital part of the world in which we live.
- Purposeful tasks that enable a range of possibilities, strategies and outcomes to occur.
- An awareness that mathematics involves inquiry and discovery through open-ended tasks, which allow the individual needs of each student to be met.
- Each student's ability to question, predict, estimate and explain their mathematical thinking.
- A curriculum that supports students to achieve their full potential with the view to preparing them to successfully transition to secondary school.
- The Victorian Curriculum F–10 includes multiple opportunities for students to learn about world views and religions. This enables students to be more informed and engaged at both a local and global level, understanding the perspectives of diverse local communities and being informed about the beliefs and practices of diverse traditions.

As outlined in The Australian Curriculum: Mathematics (Victorian Curriculum), the essential learning in school mathematics is for students to:

Understanding refers to students building a robust knowledge of adaptable and transferable mathematical concepts and structures. Students make connections between related concepts and progressively apply the familiar to develop new ideas. They develop an understanding of the relationship between the 'why' and the 'how' of mathematics. Students build understanding when they:

- connect related ideas
- represent concepts in different ways
- identify commonalities and differences between aspects of content
- describe their thinking mathematically
- interpret mathematical information.

Fluency describes students developing skills in choosing appropriate procedures, carrying out procedures flexibly, accurately, efficiently and appropriately, and recalling factual knowledge and concepts readily. Students are fluent when they:

- make reasonable estimates
- calculate answers efficiently
- recognise robust ways of answering questions
- choose appropriate methods and approximations
- recall definitions and regularly use facts,
- can manipulate expressions and equations to find solutions.



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Problem-solving is the ability of students to make choices, interpret, formulate, model and investigate problem situations, select and use technological functions and communicate solutions effectively. Students pose and solve problems when they:

- use mathematics to represent unfamiliar or meaningful situations
- design investigations and plan their approaches
- apply their existing strategies to seek solutions
- verify that their answers are reasonable.

Reasoning refers to students developing an increasingly sophisticated capacity for logical, statistical and probabilistic thinking and actions, such as conjecturing, hypothesising, analysing, proving, evaluating, explaining, inferring, justifying, refuting, abstracting and generalising. Students are reasoning mathematically when they:

- explain their thinking
- deduce and justify strategies used and conclusions reached
- adapt the known to the unknown
- transfer learning from one context to another
- prove that something is true or false
- make inferences about data or the likelihood of events
- compare and contrast related ideas and explain their choices.

Agreed Major Teaching and Learning Strategies

- Communicating and recording ideas and understandings related to *Number and Algebra, Measurement and Geometry, and Statistics and Probability* through appropriate use of language, technology and symbols.
- Teaching from the concrete to the abstract.
- Use of a variety of teaching and learning strategies as outlined in:
 - St Patrick's Teaching and Learning Policy
 - Sandhurst Teaching and Learning Module
 - Victorian Curriculum – Mathematics Stages of Learning

Organisation

- Minimum one hour per day.
- Adherence to the Victorian document as foundational, in conjunction with core resources used by the school.

Planning

- Sequential program as outlined in Victorian Curriculum.
- Team approach to unit planning; linked to regular assessments.

Resources

Core (Curriculum) Planning Resources

- Victorian Curriculum
- Oxford Mathematics

Support (Curriculum) Planning Resources



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- Open Ended Maths Investigations (Lower, Middle & Upper Primary)
- Michael Ymer
- Victorian Signpost Maths
- Open Ended Mathematical Tasks -Peter Sullivan
- Maths Games- Using Instructional Games to teach Maths (George Booker, NZCER, 2000, Wellington)
- Internet sites (e.g. Studyladder)
- Booker profiles
- Support program –Adding to numeracy Thinking
- Extension program
- Michael Swan resources

Budgeting

- Program budgeting as determined at the beginning of each year, based on need and priority; this may change during the year.
- Supported by Literacy/Numeracy funding (Catholic Education Office).
- Professional Development component to be included as part of the whole school Professional Development Plan.

Evaluation: Expectations and Procedures

Assessment:

- Mathematical Assessment Interview: Foundation Detour of MAI in the first couple of weeks of school year – Years 1-6 in May and November
- Pat M (as per assessment schedule)
- Booker pre and post tests Year 3-6
- ACU – Mathematical Assessment for Learning: Rich Tasks and Work Samples
- NAPLAN
- George Booker Profiles (Remediation)
- Pat Maths - ACER

Record Keeping

- All teachers to keep a range of assessment tools (both formative and summative) on each individual student (that is, work samples, observational testing, tests and anecdotal notes).
- Whole school assessment is to be kept on school google drive.

Reporting

- To parents upon request (email, telephone calls, scheduled meetings etc.)
- Mid-year and End-of-year Report
- Parent-Teacher Interviews in Term 1 and Term 2.
- NAPLAN testing in Year 3 and Year 5.

Development



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- The Leadership Team and staff set the agenda for Professional Development in consultation with the Catholic Education Office.
- Adding to Numeracy and Thinking
- Progressive Achievement Test (PAT) Maths
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Monitoring Program Implementation and Policy Development

- This policy will be reviewed on a 3-year cycle in accordance with Charter of Sandhurst School Improvement (COSSI).

Principal's Signature: _____