



Melrose Primary School

RESPECT ~ HONESTY ~ RESPONSIBILITY ~ EXCELLENCE

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Whole School Numeracy Agreement

Vision

Melrose Primary School empowers students to excel in learning and in life. We nurture relationships that challenge and support students to contribute to a more just and compassionate world.

Purpose

The Melrose Primary School Whole School Numeracy Agreement outlines the agreed approaches and expectations to the teaching of Mathematics and Numeracy across the school for all students. The agreement outlines specific approaches, interventions and standards that will be used as benchmarks to determine achievement and growth for cohorts and individual students. The Whole School Numeracy Agreement ensures a consistent approach and language is used across the school and that all teachers are confident and competent in teaching Mathematics with consistent Reception to Year 7 pedagogies.

Rationale

Research shows that highly developed numeracy and literacy capabilities strongly contribute to the social, economic and physical wellbeing of individuals. Children who are able to apply mathematical understanding and communicate effectively in a range of contexts especially economic, technical, scientific and social are best placed to succeed in education and in life.

At Melrose Primary School we believe that all students can learn and will be successful in learning Mathematics. Every student has the right to at least 1 year of growth in Mathematics, for every year of learning.

Creating Powerful Learners

The Planning and Programming of Mathematics at Melrose Primary School is designed to give students opportunities to be successful and powerful learners. Students and teachers therefore need appropriate tools to:

- Choose and use Mathematics as outlined by the Australian Curriculum
- Allow for the development of proficiencies of fluency, problem solving, understanding and reasoning, <https://www.australiancurriculum.edu.au/resources/mathematics-proficiencies/>
- Develop positive dispositions and transversal skills such as risk taking, persistence and resilience

Key design elements of programming at Melrose Primary School

- Australian Curriculum: Mathematics
- Learning Design
- Differentiation

- Explicit Teaching
- Guided Practice
- Problem solving opportunities
- Effective teaching practices

Australian Curriculum: Mathematics

The content of our Mathematics program is comprehensively outlined in the **Australian Curriculum (AC): Mathematics**. Content is split among three strands.

Australian Curriculum		
Number and Algebra	Measurement and Geometry	Statistics and Probability
Number and Place Value	Using Units of Measurement	Chance
Real Numbers	Shape	Data Representation and Interpretation
Money and Financial Mathematics	Geometric Reasoning	
Patterns and Algebra	Location and Transformation	
Linear and non-Linear Relationships		

There is also a focus on the Big Ideas in Number.

Level	Big Idea
1 (End of Reception)	Trusting the Count Developing flexible mental objects for the Reception numbers 0-20.
2 (End of Year 2)	Place value The importance of moving beyond counting by ones, the structure of the Base 10 numeration system.
3 (End of Year 4)	Multiplicative thinking The key to understanding rational number and developing efficient written and mental computation strategies in later years
4 (End of Year 6)	Partitioning The missing link in building common fractional and decimal knowledge and confidence.
5 (End of Year 8)	Proportional reasoning Extending what is known about multiplication and division beyond rule based procedures to solve problems involving fractions, decimals, percent, ratio, rate and proportion.

6 (End of Year 10)	Generalising Skills and strategies to support equivalence, recognition of number properties and patterns and the use of algebraic text, without which it is impossible to engage with broader curricula expectations at this level.
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Learning as One Team – Whole School Commitment

The discourse is teacher facilitated with a strong focus on collaborative practice to improve student learning outcomes. Teachers are actively:

- Moderating student work samples
- Conducting reflective conversations
- Sharing resources
- Using a common mathematical language across the school
- Adopting the Teaching for Effective Learning (TfEL) Framework as our pedagogical guide
- Examining student data sets to inform teaching and learning
- Using baseline data – SENA, PAT M, NAPLAN and 1 Minute Tests- to track students’ progress and direct future programming and teaching emphases
- Recognising connections between the areas of mathematics and other disciplines
- Appreciating mathematics as an accessible and enjoyable discipline of study.

Formative Assessment and Feedback

Teachers at Melrose Primary School use formative assessment to gauge and inform student achievement.

Summative Assessment

Teachers assess students’ achievement using a variety of assessment tools which include: NAPLAN – [Years 3,5 and 7], PAT M [Years 1-7] with all assessments conducted annually.

Other assessment tools include both formative and summative assessments which are complemented by teaching programs. Standardised Tests are conducted according to the outlined timeline in the Melrose Primary School Assessment Schedule.

	Rec	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
Whole School Assessment								
Summative Assessments								
Formative Assessments								
QuickSmart Assessment								
Standardised Tests								
One Minute Maths Tests								
Sena 1 & 2								
PAT - M								
NAPLAN								

Agreed standardised test targets		
NAPLAN	PAT-M	PAT- Early Years
DfE Satisfactory Achievement Proficiency Bands Year 3 – Band 3 or above Year 5 – Band 5 or above Year 7 – Band 6 or above	DfE satisfactory Achievement Scale Year 3 – 101 or above Year 4 – 110 or above Year 5 - 112 or above Year 6 – 120 or above Year 7 – 121 or above	Satisfactory Achievement Scale Score Year 1 – 100 Year 2 – 105

Agreed Elements

- Timetabling a minimum 300 minutes of Maths per week
- Conducting mental routine - developing fluency and automaticity through mental routines
- Teaching through explicit instruction and modelling
- Involving mathematical investigation - practice and sharing, developing a meta-language among students
- Providing students with targeted feedback aligned to learning goals and curriculum outcomes and in turn seek feedback from students about the teaching and learning program
- Integrating ICT resources to inspire and consolidate learning, in particular the Mathletics program.

Melrose Primary School highly values the inclusion of concrete materials and manipulatives in the Mathematics curriculum. We believe all students benefit from experimenting with concrete objects and learn by participating and being 'hands on'. Investigations to promote conceptual understanding and problem solving are also embedded in the Mathematics curriculum.

During Maths lessons there are opportunities to reinforce mental computation strategies. Students are encouraged to connect and engage with the content materials. This is often a numeracy demand or opportunity, with students making links to the content by using real life examples. Open ended questions ensure students are actively inquiring and constructing their mathematical ideas around the content. Group work and consolidation activities are also included. We value the practice of reviewing and reflecting on concepts covered and building upon ideas through discussion.

Common Language

Staff believe in and support a common language approach to the instruction of Mathematics. Staff use language from the programs below:

- iMaths Program
- Natural Maths resources
- Australian Curriculum Mathematics
- Think Mentals
- Pearson Mathematics

QuickSmart Intervention Program

QuickSmart is a basic skills intervention program that aims to develop automaticity of mental computational skills for students in Years 5 – 7. Each session is designed to develop conceptual understanding and fluency by teaching strategies emphasising the key concepts underpinning the academic skills being taught, with a focus on basic number facts.

The program runs across the year (3 x 30 minute sessions per week). Students are selected for the program based on NAPLAN and PAT-M results and the QuickSmart Assessment Tool.

Professional Development

Melrose Primary School provides opportunities for staff to partake in professional development linked to current learning around Mathematics. Through access to ongoing professional development, staff will build a sound, coherent knowledge of Mathematics appropriate to the students they teach.

Agreed Teaching and Learning Resources
Australian Curriculum www.australiancurriculum.edu.au
Scootle www.scootle.edu.au
AC Leaders Resource www.acleadersresource.sa.edu.au/
iMaths Program (Reception to Year 7) https://www.fireflyeducation.com.au/imaths
Tierney Kennedy – Assessment and Moderation in Primary Mathematics https://www.backtofrontmaths.com.au/event/supporting-mathematics-teaching-2018-webinar-series
Natural Maths https://naturalmaths.com.au/
Australian Professional Standards for Teachers https://www.aitsl.edu.au/docs/default-source/apst-resources/australian_professional_standard_for_teachers_final.pdf
Online Numeracy Programmes (PAT-M and QuickSmart)
TfEL Guide and Framework
Numeracy Guide Books (Department for Education)

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