



Mathematics Policy

(Ratified by School Council: November 2016)

1. PURPOSE:

This policy is written to guide the teaching and learning of Mathematics at Glen Waverley Primary School. Mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and patterns in both the world around them and their everyday lives. Through their growing knowledge and understanding, children learn to appreciate that Mathematics influences all aspects of our world.

The aims of teaching Mathematics at Glen Waverley Primary School are:

- To promote enjoyment and enthusiasm for learning through practical experiences, exploration and discussion.
- To develop logical thinking and reasoning skills through a natural curiosity and an investigative approach.
- To promote confidence and competence so that children are 'proud to shine' about their achievements.
- To develop a practical understanding of how to effectively gather and present information.
- To develop a thorough knowledge and understanding of Number and Algebra, Measurement and Geometry and Statistics and Probability.
- To develop an ability to solve problems through decision-making and reasoning in a range of contexts.
- To understand the importance of mathematical skills in everyday life.

2. GUIDELINES:

General

- A Mathematics Vertical Team (MVT) will be formed each year, consisting of a teaching representative from each Year Level and a designated Team Leader.
- Budget expenditure is to be coordinated by the designate MVT leader. They are responsible for allocation of funds and the purchase of resources to support whole school priorities.
- Planning will reflect the Gradual Release of Responsibility Model and highlight differentiation to support personalised student learning needs. Programs will inclusively cater for students where English is an Addition Language (EAL) as well as students that are part of the Program for Students with Disabilities (PSD).
- Assessment will be guided by the requirements set by the Assessment and Reporting Vertical Team (ARVT) and based on the Victorian Curriculum achievement standards.
- Pupil data will be collected from a range of assessments to ensure data is consistent, accurate and utilised for future goal setting and curriculum planning. These assessments include (but not limited to) NAPLAN, VCAA testing, and Essential Assessment.
- Whole school moderation will be conducted by teachers to ensure consistent assessment and reporting within the Mathematics strand.
- Digital technology will be used as a complimentary tool for the development of Mathematics.
- As outlined in the Curriculum Policy, one hour of classroom instruction per day is devoted to the development of student numeracy.

2.1- Mathematics and the Victorian Curriculum

Within the Victorian Curriculum, Mathematics is Learning Area broken into thirteen Sub-Strands which are organised into three interlinked Strands;

- Number and Algebra
- Measurement and Geometry
- Statistics and Probability

| Strands | Number and Algebra | Measurement and Geometry | Statistics and Probability |
|-------------|-------------------------------------|-----------------------------|--|
| Sub-strands | Number and place value | Using units of measurement | Chance |
| | Fractions and decimals | Shape | Data representation and interpretation |
| | Real numbers | Geometric reasoning | |
| | Money and financial mathematics | Location and transformation | |
| | Patterns and algebra | Pythagoras and trigonometry | |
| | Linear and non-linear relationships | | |

It is a Department of Department of Education and Training (DET) requirement that Mathematics be taught from Foundation to Year 10 as a minimum.

2.2- Planning, Assessment and Reporting

The planning of Mathematics at the School is supported by a Pacing Calendar (scope and sequence) which is based upon the Victorian Curriculum - Mathematics.

ref: <http://victoriancurriculum.vcaa.vic.edu.au/mathematics/introduction/rationale-and-aims>

The proficiency strands *Understanding, Fluency, Problem Solving and Reasoning* are an integral part of the Mathematics content across the three content strands.

The proficiencies reinforce the significance of working mathematically *within* the content and describe how the content is explored or developed. They provide the language with which to build developmental aspects of the learning of Mathematics.

Whole school planning at Glen Waverley Primary School is an integral part of the improvement process involving four key stages.

1. *Gathering and analysing data* – this includes students’ achievements and learning needs
2. *Planning for improvement* – this includes breadth and balance in Curriculum planning
3. *Teaching and learning* – this includes learning outcomes and content
4. *Assessment and reporting* – as outlined in the GWPS Assessment and Reporting Policy

3. IMPLEMENTATION:

3.1- Timetabling

The teaching of Mathematics is timetabled to occur in each class for a minimum of one hour per day, five days per week. This teaching may be inclusive of and make explicit linkages to other areas of the curriculum which are being studied, as this helps to promote important connections with Mathematics and other areas of the curriculum.

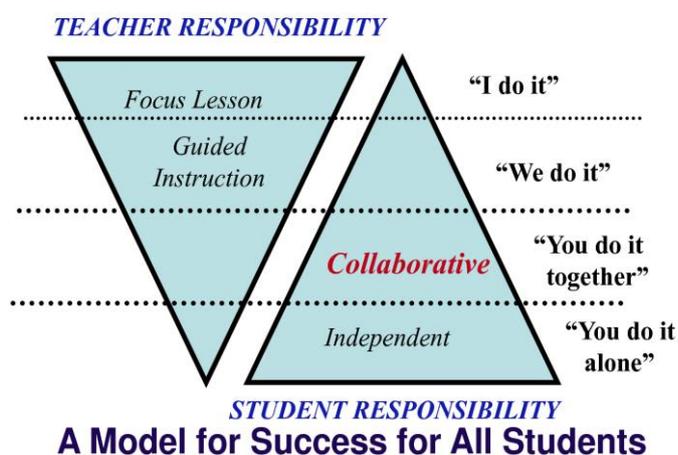
The school's instructional model "The Gradual Release of Responsibility" applies to the teaching of Mathematics from Foundation-Year 6.

During daily Mathematics sessions there will be a balance between whole-class work, group teaching and individual practice that is differentiated to meet the ability levels of students within the classroom.

3.2- Lesson Structure

The effective teaching of Mathematics incorporates a whole school approach with a common vocabulary. Each classroom will develop with students a rich classroom environment that facilitates the use of Number Talks and Maths Norms.

Each mathematics lesson is to be based upon the Gradual Release of Responsibility and may include:



The Warm-Up: (5 – 20 minutes)
Engage the students

The Mini Lesson: (5 – 10 minutes)
Identify and articulate the maths

The Learning Task:(25 – 35 minutes)
Do your teaching – explicit and targeted

Share/Reflection: (5 – 15 minutes)
Talking and writing about maths

Fisher, D., & Frey, N. (2008). *Better learning through structured teaching: A framework for the gradual release of responsibility*. Alexandria, VA: Association for Supervision and Curriculum Development.

The Gradual Release of Responsibility provides students with the opportunity to have their learning scaffolded and provides a structure of teaching differentiation. During a lesson, all students work towards the achievement of individualised mathematical learning goals, which reflect their point of need and are evidence-based. Students with additional educational needs may have their mathematical learning goals documented in an Individualised learning Plan (ILP) to further support their achievement and promote opportunities for learning success.

In accordance with the Information and Communication Technology (ICT) Policy, the teaching of Mathematics is to provide students with access to relevant technology to enhance their learning.

In accordance with the Home Learning Policy, the content of Mathematics is to be included as a Home Learning Task from Foundation to Year 6.

3.3- Assessment and Reporting

The assessment and reporting of Mathematics is to be conducted in line with the Assessment and Reporting Schedule which is reviewed and produced by the Assessment and Reporting Vertical Team each year.

At Glen Waverley Primary School, diagnostic assessment is gathered from students where they can demonstrate learning via concrete, pictorial and abstract representations.

Each semester as part of a student report, the school provides families with a documented report which assesses the student's progress against the three content strands. Complementary to the teacher's assessment is a 'Student Self-Reflection', in which they detail their progress against their individualised goals for each of the content strands.

As part of the Assessment and Reporting Timeline, at least two sessions of whole-school moderation will occur each year in the domains of Mathematics. Both formative and summative data is also gathered utilising the Essential Assessment program (Mathematics).

3.4- Mathematics Vertical Team

The Mathematics Committee will be formed each year, known as the "Mathematics Vertical Team (MVT)". It will consist of at least seven members of teaching staff, representing each year level from Foundation to Year 6 and an assigned Team Leader. The Team Leader may also be a member of the School Executive Team. The MVT will meet on a regular basis to discuss curriculum matters and monitor progress against goals outlined in the School Strategic Plan (SSP) and the Annual Implementation Plan (AIP).

3.5- Budget Expenditure

The Mathematics Sub-Program Budget is to be managed by the MVT Leader. The funds available to the Team may vary in accordance with whole school priorities and the distribution of funds as outlined in the annual Student Resource Package, Indicative Budget and Confirmed Budget.

4. RELATED LEGISLATION:

Australian Curriculum and Victorian Essential Learning Standards (AusVELS)
<http://ausvels.vcaa.vic.edu.au/>

Department of Education and Early Childhood Development (DEECD)
<http://www.education.vic.gov.au/Pages/sitemap.aspx>

Victorian Curriculum and assessment Authority (VCAA)
<http://www.vcaa.vic.edu.au/Pages/index.aspx>
<http://www.education.vic.gov.au/Pages/sitemap.aspx> (AusVELS)

Australian Curriculum and Assessment and Reporting Authority (ACARA)
<http://www.acara.edu.au/default.asp>

Council of International Schools (CIS)
<http://www.cois.org/>

5. RELATED POLICIES:

Curriculum Policy
Assessment and Reporting Policy
Home Learning Policy
Information and Communication Technology (ICT) Policy

6. POLICY EVALUATION:

Evaluation will be conducted every two years by the Mathematics Vertical Team.

7. DUE DATE FOR REVIEW:

Due for review in November 2018.