



Numeracy Statement

Definitions: *Mathematics* is the science of measurement including arithmetic, geometry and algebra.

Numeracy is competence in mathematics.

Numeracy practices at Farrer Primary School are underpinned by the following beliefs.

- All students can be successful learners.
- All students bring diverse resources, needs and experiences to school.
- All students are at different points on the learning continuum and students are entitled to a learning experience designed to meet their needs.
- Learning experiences are relevant to our students and our society.
- Intellectual quality is necessary in all learning experiences to support and engage all students.

Our Approach to Working Mathematically

In order to build conceptual mathematical understanding, habits and competence, teachers recognise that:

When mathematicians become interested in problem solving they:

- ✚ Play with the problem to collect and organise data about it.
- ✚ Discuss and record notes and diagrams.
- ✚ Seek patterns or connections in the organised data.
- ✚ Make and test hypotheses based on the patterns or connections.
- ✚ Look in their strategy toolbox for problem solving strategies that could help.
- ✚ Look in their skill toolbox for mathematical skills that could help.
- ✚ Discuss possibilities with others.
- ✚ Check their answer and think about what else they can learn from it.
- ✚ Publish their results

Mathematicians learn by asking questions like:

- ✚ Can I check this another way?
- ✚ What happens if...?
- ✚ How many solutions could there be?
- ✚ How will I know when I have found them all?

When mathematicians have a problem they:

- ✚ Read and understand the problem.
- ✚ Plan a strategy to start solving the problem.
- ✚ Carry out their plan.
- ✚ Check the result.

A mathematician's strategy tool box includes:

- ✚ Do I know a similar problem?
- ✚ Estimate, check and improve
- ✚ Try a simpler problem
- ✚ Write an equation
- ✚ Make a list or table
- ✚ Work backwards

- ✚ Act it out
- ✚ Draw a picture or graph
- ✚ Make a model
- ✚ Look for a pattern
- ✚ Try all possibilities
- ✚ Seek an exception
- ✚ Break the problem into smaller parts

(Adapted from Maths 300, Aust Curriculum Corp.)

Our structured approach to numeracy:

Teachers at Farrer recognise the importance of authentic numeracy experiences, and where possible embed them into integrated inquiries. All students have opportunities to experience, conceptualise, analyse and apply their numeracy learning. Students are engaged in the language of mathematics whilst moving from the use of concrete resources to support learning to more abstract conceptualisation.

All learning at Farrer is organised to provide challenges appropriate to each year level. Numeracy targets have been developed to guide teacher planning, assessment and reporting.

These Numeracy targets are organised in both year and stage level. They are described within the Farrer Numeracy Scope and Sequence document. This document draws from:

- NSW Dept of Education K-6 Mathematics Syllabus;
- **What, When and How** to teach Mathematics K-6;
- **Count me in Too** (CMIT) Learning Framework in Number; and
- CMIT **SENA 1 and 2** assessment tools;

Classroom teachers monitor individual student development of number concepts using SENA assessment and analysis. This analysis informs classroom planning and practices. At the commencement of each school year teachers develop *Numeracy Support Plans* in consultation with the LA support team. These plans are created for students who are working beyond or yet to achieve specific Numeracy targets. These plans are shared with parents during Term 1 of each year.

Teacher Professional Learning

Teachers who are new to Farrer Primary School have access to a suite of induction experiences. For numeracy this includes development in the areas of:

- CMIT training;
- Habits of Mind (Art Costa); and
- Use of class resources including SENA assessment tools and ICT to support numeracy learning

Teacher References

- Maths Tracks;
- Targeting Maths (Teacher and student versions for each Stage);
- NSW Dept of Education, Mathematics K-6 Sample Units of Work;
- **Count me in Too** (CMIT) Learning Framework in Number;
- CMIT **SENA1 and 2** assessment tools;
- Primary School games levels1-4 (Maths Software)

Transition information

Towards the end of each school year each class teacher collates a transition pack of information to inform the student's next teacher about progress and interventions that have been used during the year. From the commencement of 2007 the following numeracy related items will be included in each transition pack:

- SENA assessment; and
- Annotated support plan for students already identified for Learner Assistance (LA) support or an LA identification page for students who were not identified for LA support in the previous year.

Effective from December 2006