



# MANOORA PRIMARY SCHOOL

*Learning Caring Sharing for All*

## Maths Agreement

### Belief Statement

At Manoora Primary School we believe a whole school approach is necessary to support all students to develop competent skills in mathematics so that they have the dispositions and capacities to use their mathematical knowledge and skills purposefully, in a range of situations.

It is expected that teachers will use this mathematics agreement to inform their planning and teaching.

Effective mathematics teaching is systematic and explicit and requires a planned classroom numeracy program that is balanced and integrated, taking individual student's learning needs into account.

### Quality Curriculum

The Australian Curriculum in Mathematics aims to ensure that students:

- are confident, creative users and communicators of mathematics, able to investigate, represent and interpret situations in their personal and work lives and as active citizens
- develop an increasingly sophisticated and efficient understanding of mathematical concepts and fluency with processes, and are able to pose and solve problems and reason in **Number and Algebra, Measurement and Geometry and Statistics and Probability**
- recognise connections between the areas of mathematics and other disciplines and appreciate mathematics as an accessible and enjoyable discipline to study.



*To be considered numerate, students must have the capacity, confidence and disposition to use mathematics in daily life. Students gain new mathematical understanding through engaging in problem solving, so it is essential that the mathematical ideas with which students interact are meaningful in the context of their current lives, yet prepare them for the future. Spatial sense, structure and pattern, number, measurement, data augmentation, connections and exploring the world mathematically are the powerful ideas students need to become numerate.*

*As part of our whole school commitment, staff will incorporate the following proficiency strands (as outlined in the Australian Curriculum):*

- *Understanding (knowing why)*
- *Problem Solving (finding out how)*
- *Fluency (knowing how)*
- *Reasoning (finding out why).*

*This Maths Agreement is based on our learning achieved through the Site Learning Plan in the areas of effective pedagogy and Visible Learning, in particular:*

- *the provision of formative feedback to students*
- *the receipt of feedback from students and peers*
- *the use of learning intentions and success criteria*
- *assisting students to develop meaningful learning goals*
- *the development and maintenance of individual learner data profiles*
- *communication about student progress and achievement with parents and colleagues.*



# Quality Teaching

## Teachers will

- *plan, teach and assess mathematics tasks that cover the content strands in the Australian Curriculum while using Teaching for Effective Learning (TfEL) as a pedagogical guide*
- *use a balance of discovery and inquiry, explicit teaching and problem solving, with units of work being problem orientated and with a focus on real-life and relevant situations, allowing for multiple entry points and differentiation*
- *explicitly teach the Natural Maths 'Secret Code' strategies*
- *share practice and provide feedback through Professional Learning Communities (PLCs), peer observations and site based Performance Management processes*
- *provide students with targeted feedback aligned to learning goals and curriculum outcomes and in turn, seek feedback from the students about the teaching and learning program.*

## Students will be encouraged to

- *learn to reason mathematically and reflect on their learning through the use of goal setting*
- *listen to the ideas of others and to give and receive positive feedback from teachers and peers*
- *ask questions, make suggestions and compare and evaluate strategies presented by themselves and others*
- *take risks, struggle with their thinking and learning, make mistakes and to keep trying*
- *justify their viewpoints*
- *become a community of learners through collaboration and communication.*



## **Monitoring Teacher Performance**

As part of the school's normal Performance Management processes, teachers

- will be encouraged and supported to undertake training and development in areas of identified need
- will meet with the Principal to discuss current practice, moderation of work, successes and goals in relation to their maths teaching and meeting DECD targets
- will be observed and written feedback provided
- are expected to work as part of a learning team with other members of staff and educators across the Lower Mid North Partnership.

## **Monitoring Student Progress**

Student progress is monitored through the collection of a range of data sets, including, but not limited to:

- NAPLAN for Years 3, 5 and 7 students each year
- PAT-M (annually)
- summative data which is used to inform teaching and learning goals and site priorities
- maths audit (annually) to assist with planning appropriate pedagogy
- anecdotal data, observations, photos and checklists
- work samples that have been collected and moderated in PLCs
- reporting to parents, both verbally (eg interviews) and in writing (eg reports, class and school newsletters), throughout the year.

Data will be shared and discussed at a site level (eg at student transition points, staff meetings and in Performance Management meetings) as well as professionally within the Lower Mid North Partnership and Gawler Portfolio.



## Agreed Elements

- 300 minutes (as a minimum) of teacher instruction time is allocated to Mathematics each week in line with the requirements of the Australian Curriculum
- the progression of student learning from R - 7 is logical and sequential, using a consistent approach as outlined in this agreement
- mathematics must be planned for and included across curriculum areas
- basic number fact knowledge and the ability to apply this knowledge in new situations is a foundation skill
- problematised (or problem solving) situations are to be presented once a week as a minimum, within the following guidelines:
  - multiple entry points to challenge each student
  - problems are relevant and 'real', using a narrative approach
  - allow students to display knowledge and skills in new and unfamiliar situations
  - allow students to experience and trial before explicit instruction
  - observed application of skills and knowledge to be recorded by the teacher
- teachers at Manoora Primary School will use consistent and common language in the teaching of maths and numeracy, including mental routine labels (Ann Baker) and the provision of connections (eg doubling and halving, addition and subtraction) as well as modelling appropriate use of language linked to the Australian Curriculum.



## Resources

- **School Service Officers (SSOs)** are available to work directly with students in the classroom, which could look like 1:1 or with small groups as directed by the class teacher. The class teacher is responsible for the learning program in each instance.
- **Natural Maths**
  - Strategies books: Beginning, Levels 1 – 4
  - Problem Solving books: Levels 1 – 5
  - Linear Measurement books: 1 – 3
  - Natural Maths Strategies for Parents: Books 1 and 2
  - interactive software
  - poster sets for classroom use
  - 'Take Home' cards about each strategy for parent use
- **ICT**
  - iPads and various maths apps R – 7
  - cameras
  - Maths 300 [www.maths300.esa.edu.au](http://www.maths300.esa.edu.au)
  - J Drive/Common/Maths in Residence Program and J Drive/Common/Numeracy
- **Equipment**
  - manipulatives, teaching tools and resource books
  - individual student Maths Toolkits
- **Online Planning Resources**
  - Australian Curriculum [www.australiancurriculum.edu.au](http://www.australiancurriculum.edu.au)
  - Scootle [www.scootle.edu.au](http://www.scootle.edu.au)
  - Australian Professional Standards for Teachers [www.aitsl.edu.au/australian-professional-standards-for-teachers](http://www.aitsl.edu.au/australian-professional-standards-for-teachers)
  - DECD AC Leaders Resource (BiTL) [www.acleadersresource.sa.edu.au](http://www.acleadersresource.sa.edu.au)
  - Natural Maths <http://naturalmaths.com.au>
  - NRIC <http://nrich.maths.org>

Other teaching resources for Maths are available for teachers in the Staff Room.

