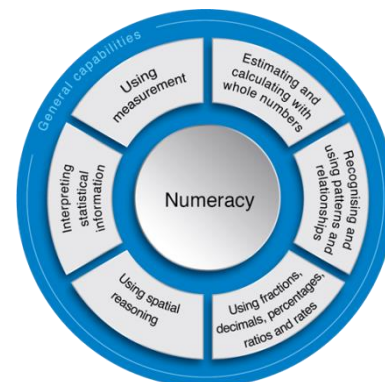


# Wallaroo Mines Primary School Numeracy Agreement

## Strategies that underpin all development in numeracy

- Targeted differentiated teaching
- Clear learning intentions
- Logical and intentional sequencing of learning
- Explicit teaching
- Ongoing feedback
- There will need to be evidence of this in programming and in observation lessons.
- To continue to improve student dispositions towards Numeracy
- Provide varying opportunities for students to demonstrate learning and for teachers and students to provide feedback on learning.



## Leadership requirements

- Focus 1 staff meeting on Numeracy per term
- Focus 1 staff meeting per term on reflecting and tracking students (talk about data, moving students on the data wall etc.) BliN Testing, NEPs, ILPs,
- Conduct classroom observations to observe teacher and student talk, explicit teaching and Big Ideas in Number sessions
- Classroom observations -focus on the types of questions being asked by staff and students

## A Balanced Numeracy Program

- Each classroom will provide a minimum of 300 minutes of Numeracy learning time each week (on top of BliN)
- Each classroom will run structured numeracy lessons a minimum of 4 times per week. This may include:
  - Mental Tasks/Quick Maths to automatise basic number facts and develop fluency
  - Whole class concept instruction to communicate success indicators, activate prior knowledge, explicitly model mathematical thinking, teach mathematical vocabulary
  - Guided/differentiated skills practice (catering for struggling students as well as stretching those who need extending)
  - Manipulatives (hands on tasks)
  - Use of ICT
  - Students articulate and share conceptual understandings and mathematical strategies. Teacher provides summary of key ideas.
- Programs to be handed in terms 1 & 3 with evidence of the Australian Curriculum (Achievement Standards, Capabilities in particular the Numeracy Continuum)
- Allow for the development of the proficiencies: understanding, fluency, problem solving, reasoning

## Numeracy Block

- Each classroom R – 7 will run structured numeracy lessons a minimum 4 times per week. These must include:
  - Mental Routines to switch children onto thinking mathematically
  - Relevant problems with multiple entry and exit points
  - Explicit teaching of concepts
  - Reflection
- Programs to be handed in term 1 and 3 with proof of the Australian Curriculum (Achievement Standards, Capabilities in particular the Numeracy Continuum)
- Warm Up: Motivate and Engage mathematically
- Introduction: Make clear the Learning Intention for the lesson
- Authentic Student Task: Differentiated and Challenging
- Reflection: Articulate, Consolidate and Elaborate the Language and strategies of mathematical concept; determine success according to learning intention

## Big Ideas in Number

- Whole school program where students are grouped according to what they are up to in the diagnostic BIIN assessment
- There are 2x45 minute lessons each week that run from week 6 term 1 until week 5 term 4
- Teachers and SSOs work with smaller groups
- Movement of students:
  - Group leader identifies students who may need to be moved up and adds them to the testing list.
  - Students get tested by SSO.
  - Conversation with group leader, tester and teacher to decide whether students is to move up

		Rec	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
BIIN	Trusting the count								
	Place value								
	Multiplicative thinking								
	Partitioning								

## Number

- 60% of the curriculum needs to be spent on Number concepts

## Problem Solving

- All staff actively teach and encourage inquiry and problem solving in Maths and engage students in play/inquiry based problem solving tasks across the curriculum
- Provide opportunities for students to reflect on their learning and share their experiences
- Use Maths 300
- Explicit teaching of problem solving strategies:
  - Draw a picture or diagram
  - Guess and Check
  - Make a list: organise the information
  - Make a table or graph: organise the information in different categories
  - Look for a pattern
  - Have a guess and check if you are right
  - Use logical reasoning to cancel out options that won't work
  - Work backwards through the problem
  - Act it out: walk through the problem showing the actions as they happen
  - Substitute the difficult numbers for easier ones
  - Write an equation, and use a box for the missing information
  - Identify the operations: is this addition, subtraction, multiplication or division?

## Reflection

- Strategies and solutions shared, compared and formalised.
- Students learn to value each other's ideas

## **Classroom Evidence**

- A range of Numeracy tools are organised and easily accessible
- Maths games
- Number charts (0-99 is preferable to 1-100)
- Numeracy Kit/Resources
- Classroom allows for whole class, small group and individual task learning
- Maths language displayed- explanations and examples of students' work displayed in the classroom
- Vocabulary wall
- Stories/ books about maths- fiction and non-fiction
- Maths dictionaries
- Problem solving strategies displayed
- Examples of Numeracy in day to day classroom practices- charts, graphs, timetables etc

## **Assessments**

- Teachers are to administer testing, however trained SSO's can support with testing.
- Use assessment data to cater for individual student's needs
- Range of assessment strategies employed including diagnostic tools, NAPLAN, PAT R, classroom observations and authentic assessments

Assessment Tool	Year Levels	Term 1	Term 2	Term 3	Term 4
One Minute Test	1-7	Week 3			Week 5
PAT M	1-7			Weeks 8-10	
NAPLAN	3,5,7		Weeks 3-5		
Number recognition check	Reception	Week 3			Week 5

## **PAT Maths (Standards of Education Achievement)**

	Rec	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
PAT Maths				101	110	112	120	121

## **NAPLAN (Standards of Education Achievement)**

Numeracy	Rec	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
NAPLAN				Band 3 and above		Band 5 and above		Band 6 and above

## **Intervention Programs**

- Quickmaths for year 3-5
- Nunicom for Rec-2

## **Classroom Support**

- SSO support during Numeracy Block were possible

## **Resources**

- Positive classroom norms  
<http://www.youcubed.org/wp-content/uploads/Positive-Classroom-Norms2.pdf>
- Illuminations  
<https://illuminations.nctm.org/Default.aspx>
- Youcubed  
<https://www.youcubed.org/>
- NRICH  
<https://nrich.maths.org/>
- Scootle  
<http://www.scootle.edu.au/ec/p/home>
- Anchor Charts  
<https://www.weareteachers.com/anchor-charts-101-why-and-how-to-use-them-plus-100s-of-ideas/>
- Question-Answer Relationships  
<https://haberlah.edublogs.org/2017/05/06/qar-question-answer-relationships/>