



# Allendale Primary School

## K-6 Maths Strategic Plan 2015-2017



### BELIEFS:

**VISION:** Allendale Primary School is a place where we work together to develop independent and collaborative learners preparing them as future citizens.

**MISSION:** To have quality numeracy teaching in every classroom in order to have children achieve highest numeracy potential.

**ETHOS:** All students can achieve high standards in numeracy when provided with the rich opportunities to learn at their level.

**VALUES:** We are committed to teaching and learning in a safe and supportive environment that promotes and demonstrates our four key values being Honesty, Respect, Courtesy and Responsibility.

### We believe that:

- Students come from diverse backgrounds and with differing abilities that need to be catered for
- Quality numeracy teaching is at the heart of effective learning
- Students learn best in a stimulating environment with a range of resources to facilitate learning
- Teachers require ongoing professional learning and opportunities to ensure best teaching practice
- Teachers need time to collaborate and share pedagogy to maximise learning in the classrooms
- Assessment is an integral part of the teaching and learning cycle
- By providing a welcoming, safe, communicative school environment students will learn
- Parents are a key part of students' numeracy learning and we promote their involvement



## Whole School Key Numeracy Strategies: Commitments

### Australian Curriculum

- The implementation of the Australian National Curriculum
- Planning Documents (checklist)–scope and sequence of learning and content
- Teacher Development – Professional Learning to support the ongoing implementation of the National Curriculum
- An uninterrupted 60 min numeracy block where students are actively engaged in purposeful and meaningful numeracy learning each day
- Weekly timetabling and the explicit teaching of maths concepts and development of key understandings-
  - \* Number and Algebra – 2 days
  - \* Measurement and Geometry -2 days
  - \* Statistics and Probability -1 day
- \* Stepping Stones-online maths program

### Focus Areas

- Problem solving approach, encouraging open ended learning and peer coaching
- Strong focus on use of calculators and digital technologies
- Developing Financial Literacy skills
- Calculate Strategies

### Non-Negotiables

Approach –to develop Numeracy through proficiencies of: Understanding, Fluency, Problem-Solving and Reasoning.

- Case Management Plans and Individual Education Programs
- The implementation of the Geraldton Numeracy Strategy through the use of the Geraldton Numeracy blog
- The daily teaching of mental computation based on mental calculation strategies.
- Mental Computation Trajectories–Paul Swan and GNS Scope and Sequence
- The ongoing implementation of First Steps resources to support learning and teaching
- DOE – Learning Sequences to provide planning and support of learning –link to First steps
- A print rich numeracy-literacy environment in **every** classroom-GNS Scope and Sequence
- NUMERO- Buddy class. Weekly session

### Key Strategies CONT/

- Using high quality numeracy resources – electronic, printed and concrete materials
- Continued explicit focus on basic number facts
- Collaborative sessions to support staff, using an action learning approach
- Specialist Numeracy teacher supporting staff and students
- Numeracy Team to drive Numeracy Plan
- Use of NAPLAN analysis to guide and support explicit teaching. ie number patterns
- The development of Focus Questions, specific to content of lessons to elicit key concepts- promoting best practice teaching
- Whole school activities:
  - 100 Days
  - National Literacy Numeracy week
  - Numero- School Competition
- Develop parent information sessions/workshops

### Lesson Structure Framework

#### Model of Delivery – ISTAR

#### Inform Show Try Apply Review

1. Mental Set – Drill and recall (5 mins)
2. Input and Modelling – Explicit Teaching (10 min)
3. Practice (20min)
4. Check for understanding-student modeling/over shoulder marking (7mins)
5. Closure/Reflection-diary, maths dictionary, written summary, peer tutoring/demonstration (3mins)

### The Problem Solving Process

Teachers use the Strategy Board –

- Step 1. Understand the problem
- Step 2. Decide on a strategy or plan
- Step 3. Solve the problem
- Step 4. Reflect



Number and Algebra  
Year K - 3  
Key Teaching Strategies

- Diagnostic Tasks – First Steps
- Use National Curriculum to direct teaching
- Language Experience –diary of maths experiences and focus on key understandings
- Literature based maths (Maths within context of literature) blue bags- supporting lesson plan resources
- Kagan-collaborative group work and instructional strategies
- Paul Swan – Card/dice games
- Explicit teaching of basic number facts: Basic addition and Subtraction facts - 10+10  
By end Year 3 -Tables - 1, 2, 3, 5 and 10 and related division facts
- Provide opportunity for drill of basic number facts – mastery files
- Use of environmental print-maths terminology
- Integrate number across learning areas.
- Case management plans for those children not reaching potential and indigenous students
- One Minute Mental Maths Test- 4 operations  
(Year 1 Sub-Add)  
(Year 2/3 Add Sub Multiply and Divide)

Number and Algebra  
Year 4 -6  
Key Teaching Strategies



- Standardised testing-
- One Minute Mental Maths Test (4 operations)- per term
- Diagnostic Tasks – First Steps
- Use Scope and Sequence of Australian Curriculum to direct teaching
- Development of Numero - peer group to help facilitate teaching and implementation throughout school

- Cards/Dice – games to develop instant recall of basic number facts and mental calculation strategies – Paul Swan
- Kagan-collaborative group work and instructional strategies applied
- Modelled problem solving approaches and techniques of multi-step problems to demonstrate flexibility and reasoning
- Number of the day
- Integrate maths with other learning areas
- Daily writing –maths learning experience of the day
- Maths dictionary – recorded entries by students to explain terminology and procedure
- Extension work (packages) to accelerate students and provide opportunity for TAGS students –within class
- Develop and use Basic Facts to go beyond-use known to derive unknown
- By end Year 4 – Recall of all Multiplication tables up to 10x10 and related division facts

Measurement and Geometry

Key Teaching Strategies  
Whole School

- Focus on Literacy terms and understanding-environmental print
- Integrated approach - relationship between measurement and geometry
- Apply and reinforce number/algebra content within measurement and geometry tasks
- Explicit focus on units of measure, shapes and geometric reasoning
- Use of concrete materials to support learning and engage students
- Use of NAPLAN data/analysis to guide and support explicit teaching. ie. Properties of 3D Shapes
- Incorporate real life situations-problem solving approach to investigate

### Whole School

- Focus on language/terms and understanding essential to process of probability- environmental print
- Integrated approach - relationship between statistics and probability integrated across all curriculum areas, i.e. science
- Apply and reinforce number/algebra content within statistics and probability tasks
- Make connections to everyday, real life experiences and also within context of school
- Incorporate real life situations-problem solving approach and data collection
- Use of concrete materials to support learning and engage students- Chance and Data kits-dice and games
- Use of NAPLAN data/analysis to guide and support explicit teaching. ie. frequency tables and graphs

### Key SAER Numeracy Strategies

- Identify SAER students through school SAER processes
- Individual Education Plans and Case Management Plans for identified students
- Modify numeracy strategies to differentiate the curriculum for SAER students
- Communication with parents regarding student progress each term, formally and informally
- Formal case conference for Schools Plus students
- Numeracy block to cater for the needs of individual students-differentiation  
Students to work in ability groupings on co-operative and individual tasks

### K-3 focus

Maths Tracker-to monitor and record student progress

Origo – Assessment 1 x semester

- Teachers to use First Steps Numeracy Map of Development to inform and guide teaching and planning
- Diagnostic Tasks
- *One Minute Mental Maths Test*  
4 operations (Year 1 Sub-Add)  
(Year 2/3 Add Sub Multiply and Divide)
- Teacher assessment according to content
- Pre-primary on-line Entry Testing (Terms 1 and 4)

### 4-6 Focus

- Diagnostic Tasks
- Standardised testing-  
*One Minute Mental Maths Test*  
4 operations
- Origo – Assessment 1 x semester
- Maths Tracker-to monitor and record student progress
- Use of NAPLAN data to inform teaching focus areas and focus groups
- Use of data sets to support teaching
- Teachers to use First Steps Numeracy Map of Development to inform and guide teaching and planning
- Teacher assessment according to content

