



# Brahma Lodge Primary School

## Numeracy Improvement Plan 2015/16



Our belief is that students respond better to efforts to improve their academic performance when they feel connected to school. Our goals are to connect students to their school and to improve their academic performance.

## Numeracy

Our Numeracy Improvement Plan is underpinned by the SA Teaching for Effective Learning Framework. It guides our designs for learning and decision making about our practice. In 2015/16 we will focus on:

### **2.2 Build a community of learners.** Key Actions –

- Remember that learning is social and that it should occur in a safe environment where risk taking and making mistakes are an accepted part of the culture (Growth Mindset)
- Embed collaborative activities that model and promote mutual support, respect and trust to facilitate learning.
- Provide discussion time for students to share thinking, and clarify ideas
- Pose challenges where individuals need to work independently and collaboratively to achieve success

### **2.4 Support and challenge students to achieve high standards** Key Actions –

- Share personal learning examples with students
- Create a learning environment where all students feel driven by challenge
- Set tasks with multiple entry and exit points to maximise each students learning time and progress
- Engineer learning conversations that extend student's thinking
- Scaffold each student's progress with modelling, demonstrations and targeted feedback
- Challenge students with tasks that demand transference of skills and thinking
- Teach students how to seek feedback and offer timely feedback to move their learning forward

### **3.2 Foster deep understanding and skilful action** Key Actions –

- Develop personal understanding of the concepts that we teach
- Design activities that lead students to grasp concepts and deepen their understanding
- Require the students to explain concepts to each other and justify the effectiveness of their strategies
- Pose a variety of questions – open, closed and multi-step
- Ask students to determine what level of practice they need to develop mastery and automaticity
- Guide students in searching for patterns and relationships to interpret information
- Incorporate reflection and targeted formative assessment to ensure rigorous learning
- Commit time to enable students to discuss, share knowledge, and explain their thinking

### **4.1 Build on learners' understanding** Key Actions –

- Value prior learning as fundamental to new learning, seek out what the students already know and understand and use this to inform planning
- Explore misconceptions and guide learning towards accuracy
- Ensure that problem solving strategies are taught
- Design learning challenges that are open and stimulate further questions
- Develop processes for students' active ongoing reflection, including enabling them to make their thinking visible and communicating an understanding of their thinking

## Numeracy

Some of our thinking on improvement in student mathematics achievement will be guided by the work of John Hattie and his book *Visible Thinking*. Our professional learning premise in relation to teacher practice is based on the notion that **good teachers question themselves, they worry about which students are not making progress, they seek evidence of success and of gaps in learning and they seek help when they need it in their teaching.**

The quality of teaching makes all the difference when it is based on the need to **understand and adapt to the learners and their prior learning**. Our goal is that teachers will know, on a regular basis the nature and magnitude of their impact on the mathematics learning of their students.

Below are two questions that we as educators ask ourselves in relation to learning:

**Q. How do I know the students are learning?**

**Q. What am I doing for those students who are not learning?**

A clear finding in educational research is that students will have increased levels of success in their learning:

- if they understand the learning intention
- If they know what the criteria for success is within the learning

We will be implementing these research findings into our teaching practices in 2015

**Questions posed and to be considered through our 2015 professional learning program.**

What is the place of formative assessment in an effective mathematics learning program?

How will we use the BLPS Instructional Rounds model to develop as practitioners?

What data should we collect?

How will we measure progression in mathematics?

What intervention programs should be linked to students who are not achieving the maths benchmarks at BLPS?

## Strategies:

All Teachers will:

1. At the beginning of every mathematics lesson (maybe within a series of lessons) the teacher will inform the students of the learning intention of the lesson.
2. At the beginning of every mathematics lesson or series of lessons the teacher will inform students of the success criteria.

work together to create an R-7 Mathematics Learning Agreement that includes the following elements

- Mental Computation Strategies Scope and Sequence
- Mental Computation Assessment Tool
- Time component related to mathematics
- Elements of Natural Maths
- TfEL links
- Proficiency links

show an understanding of the learning narrative as it relates to mathematics

increase the use of formative assessment strategies to inform teaching and learning

use authentic learning contexts requiring students to apply their skills and knowledge

observe and discuss each other's teaching practices within the BLPS Instructional Rounds model which will lead to changes in practice

be supported in their learning in Natural Maths by a trained colleague in their professional development related to lesson structure, resources to support learning and teaching practice.

implement Natural Maths pedagogy R-7 across the school – Mental Routines, Problems as the driver of learning, and meaningful sharing of student thinking

use Nelson maths resources to support student strategy learning

use anchor charts and word walls to support mathematics learning across the school and teach the students how to use them to support their learning

differentiate mathematics learning and use multiple strategies to meet student learning needs

seek and provide student feedback in multiple ways

research intervention programs that will support learners who are not meeting learning targets

participate in moderation exercises to improve our consistency in the use of the DECD Standard Against Achievement scale

All primary students will complete the PAT-M Assessment in 2015. BLPS will work with more experienced schools within the Salisbury Partnership to develop analysis tools that inform our teaching and enable us to explicitly create learning tasks that meet student needs.

## **Resourcing**

- Budget line for classroom resources - \$7000
- HAT to be released to oversee resource purchase
- All classroom teachers to be released to participate in BLPS version of Instructional Rounds
- Professional Learning focus for 2015/16 to be mathematics learning
- All classroom teachers to work with Mike Chartres over 3 Pupil Free Days
- Teachers to attend Ann Baker (Natural Maths) workshops (2 days)
- Online resources – TfEL, Natural Maths and Australian Curriculum
- AC Partnership facilitators to work with staff
- Assessment tools – PAT, NAPLAN, PASA

## **What students will do**

- Express an increasing enjoyment of mathematics learning, measured through engagement and participation
- Transfer their mathematical skills and knowledge across the curriculum and into real life contexts
- Problem solve with others
- Engage in open, closed and flip questions as part of mental routines
- Show their mathematics learning in multiple ways
- Provide teachers with feedback about the lessons / learning opportunities
- Peer assess and self-assess within mathematics learning

## Numeracy Learning Targets

### NAPLAN Targets

Year 3	Year 5	Year 7
50% of students achieve in NAPLAN Bands 4 and above	40% of students achieve in NAPLAN Bands 5 and above	30% of students achieve in NAPLAN Bands 7 and above
20% of students achieve in Band 5 or above	10% of students achieve in Band 7 or above	15% of students achieve in Band 8 or above
Year 3 mean target is 370	Year 5 mean target is 450	Year 7 mean target is 500

### PAT-M Targets

	Target Score
Year 3	40 or better
Year 4	45 or better
Year 5	50 or better
Year 6	54 or better
Year 7	55 or better