



NOARLUNGA DOWNS P-7 NUMERACY/ MATHS AGREEMENT 2016

AIM: That all students become confident, creative users and communicators of mathematics, able to investigate, represent and interpret situations in their personal and work lives and as active citizens.

“That all students develop increasingly sophisticated and refined mathematical understanding, fluency, logical reasoning, analytical thought and problem-solving skills. These capabilities enable students to respond to familiar and unfamiliar situations by employing mathematical strategies to make informed decisions and solve problems efficiently.” Australian Curriculum

- All students enjoy and come to “appreciate mathematics as an accessible and enjoyable discipline to study.”

RATIONALE

- Success in all curriculum areas requires the ability recognise connections and apply maths/ numeracy in different contexts.
- Numeracy relies on developing an increasingly sophisticated understanding of mathematical concepts and fluency with processes, and the ability to pose and solve problems and reasons in *Number and Algebra, Measurement and Geometry, and Statistics and Probability*
- Numeracy is a vertical discourse that holds pre-requisite knowledge that is gradual built upon each year.

SOURCE:

Teaching and learning occurs as outlined in the preschool and school:

- **Numeracy Indicators** and the **Early Years Learning Framework**, Preschool.
- **Maths Australian Curriculum, R-7**

PEDAGOGY:

- All teachers utilise **scaffolded pedagogy** in a **gradual release model**.
- **Explicit teaching** occurs in all areas: **number & algebra, measurement & geometry, statistics & probability** using and modifying numeracy for different purposes in a range of contexts.
- **Problem-solving** and group investigations are integral to the teaching and application of maths skills and knowledge.
- Moving from **concrete materials to pictorial representations to abstract** is expected as part of the **process for concept development at all year levels i.e. Singapore Bar Model**
- **Warm ups** preface each lesson to increase student **automaticity** to ensure **proficiency** in all areas of maths content, content language and in mathematical process vocabulary.
- **Classroom observations** and teacher feedback occur for reflection, informing and developing of practice.
- Wave 1, 2 and 3 **differentiated** learning tasks are provided to ensure every student gains success and is progressing within their zone of proximal development.
- **Explicit feedback and formative assessment** directs all students to the next step in their learning.
- **Learning rubrics** support students to self-assess and peer-assess learning.
- **Whole class data sets** inform practice and ensure ownership by staff and targets interventions and learning.
- **Daily 3** teaches students independence in the lesson and allows for small group and individual intervention.

PROCESSES:

- **4 X 80 minute numeracy block** Monday to Friday on 4 mornings per week occurs in all classes.
- **SSO support** targets Numeracy block sessions.
- All students have **regularly updated maths learning goals** through the Daily 3 process.

ASPECTS:

The Preschool focus:

- Early numeracy skills and vocabulary to build mathematical knowledge **through play based learning**.

- Focus on: **Patterning, reasoning, generalising, noticing, comparing, communicating, sorting, visualising, and wondering.**
- Including intentional teaching of: **pre and early measurement, number, data, property and location skills.**

R-7 the focus:

- **Number & algebra:**
 - number & place value
 - fractions& decimals
 - money& financial maths
- **Measurement & geometry:**
 - units of measurement
 - shape
 - location and transformation
- **Statistics & probability:**
 - Chance
 - Data representation and interpretation

OTHER PROGRAMS THAT SUPPORT NUMERACY:

- **Mathletics**
- **Make It Count** learning scaffolds
- **Bar Model Maths**

NUMERACY STANDARDS / TARGETS

- **NAPLAN:** 100% of students at benchmark, and 70% one level above benchmark.
- **Maths Reporting:** 80 % of students from Reception to Year 7 achieve an A, B, C in maths achievement.

MEASUREMENT:

- Teacher judgement through ongoing classroom assessment, observation, and moderation of the Australian Curriculum.
- PAT-M,
- NAPLAN testing and analysis

Year Level expectation by the end of the year.	NAPLAN ACARA	Numeracy indicators	PAT-M	PAT-M Level
Preschool		Level 1,2,3,4		Stanine 4 or above at each year level.
R				
1			1	
2			2	
3	At or above band 3		3	
4			4	
5	At or above band 5		5	
6			6	
7	At or above band 6		7	

INTERVENTION PROGRAMS for students at risk (STAR):

- **80 minutes of numeracy block** supported by all available teaching staff including leadership.
- **Warm-ups and automaticity** including **Quicksmart** being utilised whole class.
- **Gradual release methodology**
- **Differentiation** of the learning occurs to ensure all students are challenged within their “zone of proximal development” and made possible through Daily 3 process.

Review date Sept 2019