



NOARLUNGA DOWNS P-7 MATHS AGREEMENT 2018

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

- Cross-curricula success requires the ability recognise connections and application of maths/numeracy..
- Numeracy relies on developing an increasingly sophisticated understanding of mathematical concepts and fluency with processes, and the ability to pose and solve problems and reason in *Number and Algebra, Measurement and Geometry, and Statistics and Probability*
- Numeracy is a vertical discourse that holds pre-requisite knowledge that is gradually built upon each year.

SOURCE:

Teaching and learning occurs as outlined in:

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

PEDAGOGY:

- **Daily 3:** Maths by myself, Maths with someone, Maths writing (problem-solving) and **conferencing**.
- 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 visual representation to abstract** is expected as part of the **process for concept development at all year levels**
- **Daily goal setting and warm ups** preface each lesson to increase student **automaticity** to ensure **proficiency** in all areas of maths content, maths language and process vocabulary.
- **Leadership classroom observations** and teacher feedback occur for reflection, informing and developing of teacher practice.
- **Differentiated** learning tasks target all students progressing within their zone of proximal development.
- **Explicit written student feedback and formative assessment** targets the next step in their learning.
- **Learning rubrics** support students to self-assess and peer-assess learning.
- **Data collection and data wall displays** inform practice and ensure mutual ownership of learners.

PROCESSES:

- **4 X 80 minute numeracy block** Monday to Friday occurs in all classes after lunch.
- **Timetabled leadership participate in classes in Numeracy Block 4 mornings per week.**

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

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 NMS (National Minimal Standard)	NAPLAN DECD SEA (Standard of Education Achievement)	Numeracy indicators	PAT-M Scale score
Preschool			Level 1,2,3,4	
R				
1				
2				
3	At or above band 3	At or above Band 4		101 or above
4				110 or above
5	At or above band 5	At or above Band 6		112 or above
6				120 or above
7	At or above band 6	At or above band 7		121 or above

NB: From Sept 2017 onward

INTERVENTION PROGRAMS for students at risk (STAR):

- **80 minutes of literacy block** supported by leadership.
- **Warm-ups and automaticity**
- **Gradual release methodology**
- **Differentiation** of the learning to ensure all students are challenged within their “zone of proximal development”

Review date Jan 2019