Teaching Maths – What does it look like?

Aspiri Primary School will have a whole school approach to teaching Maths that includes some agreed programs and assessments. It will differ slightly according to the developmental stage of the students that you teach. But the basic outline does remain the same.

Maths sessions could last from anywhere from 60 minutes to 90 minutes and sessions may be completed in any order (Apart from the warm up). Short, sharp, focused and frequent teaching opportunities should also occur throughout the day as opportunities to reinforce and practise fluency of basic skills.

Warm up/Tuning in activities (5 – 10 Minutes)

Range of activities to consolidate and 'automate' skills as they move from short term to long term memory. This is an opportunity to revise concepts, drill basic skills and prepare students for learning that will happen in today's lessons.

Whole Class Modelled Lesson (10 – 20 Minutes)

This is the explicit teaching part of the lesson and is used to teach new concepts to the whole class and revisit concepts that need more teaching. The teacher will write or state the learning intentions (WALT), Success Criteria (WILF) and reason for learning (TIB) to the students so they know what they will be expected to learn. Teacher to demonstrate and show what is expected from the students in regards to their learning and may differentiate the work through guided or independent practice.

Maths Groups and Explicit Teaching

During Maths Groups, the class will be split up into 3-5 groups based on ability level. Groups will have the opportunity to work on fun and engaging activities to practise skills that have been previously taught whilst one group works with the teacher to explicitly target the next stage of development.

Plenary/ Review

As a class review the learning objective and create opportunities for students to demonstrate/share what they have learnt orally and in writing.

Australian Curriculum

		Strands		
Proficiency Strands	Understand-ing	**Number and Place Value**	**Statistics and Probability**	**Measurement and Geometry**
	Fluency	• Number and Place Value • Real Numbers • Fractions and Decimals • Money and Financial matters • Patterns and Algebra	• Using Units of Measurement • Shape • Geometric Reasoning • Location and Transformation	• Chance • Data interpretation and representation
	Problem Solving			
	Reasoning			

Number and Place Value Development of Skill

Numeral Identification

Emergent	1-10	1-20	1-100	1-1000
Does not recognise all numbers	Recognises numerals 1-10	Recognises numerals 1-20	Recognises numerals to 100	Recognises numerals to 100

Forward and Backward Number Word Sequences

Emergent	Initial (10)	Intermediate (10)	Facile (10)	Facile (30)	Facile (100)
Cannot count to or backwards from 10	Can count to or backwards from 10 but cannot give the number after	Can count to or backwards from 10 and give the number after but counts from one	Can count to and backwards from 10 and give the number after or before	As with Facile (10) but with numbers to 30	As with Facile (10) but with numbers up to 100

Subitising

Emergent	Perceptual	Conceptual
May be able to recognise dot patterns for very small numbers, say 2. Needs to count the dot pattern by ones for larger numbers.	Students can instantly recognise dice patterns	Student is able to see dominoes as both two groups and a whole.

Early Arithmetic Strategies

Emergent (Pre-Counting)	Perceptual (Concrete Counting)	Figurative (Abstract Counting)	Counting On (Strategic Counting)	Facile / Calculate (Strategic Counting)
Unable to coordinate number words with items when counting	Needs to see, touch or hear items to work out answer. Counts from one	Can complete concealed tasks but counts from one	Uses larger number and counts on to find the answer	Uses known facts and other non-count-by-one strategies (e.g. doubles, portioning) to solve problems

APS Whole School Approach to Teaching Mathematics

Australian Curriculum, School Curriculum and Standards Authority - The AC Maths aims to ensure that students are confident, creative users and communicators of mathematics, able to investigate, represent and interpret situations in their personal and work lives and as citizens develop an increasingly sophisticated understanding of mathematical concepts and fluency with processes, and are able to pose and solve problems and reason in Number and Algebra, Measurement and Geometry, and Statistics and Probability recognise connections between the areas of mathematics and other disciplines and appreciate mathematics as an accessible and enjoyable discipline to study

Western Australian Curriculum and Assessment Outline

The Western Australian Curriculum is the Pre-primary to Year 10 curriculum that provides a coherent and comprehensive set of prescribed content and achievement standards which schools will use to plan student learning programs, assess student progress and report to parents.

Early Years Learning Framework

Kindergarten Curriculum Guidelines

School Performance/Data Analysis

- NAPLAN
- ON-ENTRY ASSESSMENT

School Based Data Analysis (K)

- SCHEDULE FOR EARLY NUMERACY ASSESSMENT 1 (SENA 1)
- ON-ENTRY CONTINUUM
- OBSERVATION AND CHECKLISTS

Aspiri Primary School Beliefs

We have high academic expectations of all students

School Based Data Analysis (PP-6)

- SCHEDULE FOR EARLY NUMERACY ASSESSMENT 1 & 2 (SENA 1 & SENA 2)
- ON-ENTRY CONTINUUM
- REPORTING AND MODERATION
- OBSERVATION AND CHECKLISTS

Targets and Milestones 100% of:

- Kindergarten students know the last number in the count, use one to one correspondence, subitise die patterns and repeat 2 part patterns.
- Kindergarten students can count forwards and backwards to 10.
- PP students are figurative (abstract counting).
- Year 1 students are counting on and back (strategic counting).
- Year 2 students are facile (can use counting on, friends of 10, part/whole).

Model for Instruction Explicit teaching and Gradual Release

- Learning intentions / Success Criteria
- Modelled (I do, you watch)
- Guided (I do, you help & You do, I help)
- Independent (You do, I watch)

Reporting and Moderation

- Regular moderation and collaborative planning within and across Learning Teams.

Number & Algebra	Measurement & Geometry	Statistics & Probability
- Number & place value - Patterns & Algebra	- Using units of measurement - Shape - Location & transformation	- Data representation & interpretation

CRA

- **C =** Concrete
- **R =** Representation
- **A =** Abstract

Whole School Approaches

- Staff to have a focus of 50% Maths / English in their learning program.
- Students will be immersed in structured Numeracy Blocks three sessions per week to cover the content strand of number and algebra
- Students will engage in one session of measurement and geometry, and one session of statistics and probability each week
- Mathematics sessions will include Modelled, Guided and Independent Teaching of the content strands – number and algebra, measurement and geometry, and statistics and probability and the proficiency strands of understanding, fluency, problem solving and reasoning
- Staff to use common and consistent mathematical language. *(Australian Curriculum)*

Whole School Resources

- iPads and Macs
- Concrete Material
- Maths Boxes
- Mini Whiteboards and markers
- First Steps