Tambo Upper Primary School

Numeracy Framework

The curriculum is organised around the three Content Strands and four Proficiency Strands.

Content Strands describe *what* is to be taught and learnt:

Number and Algebra

Measurement and Geometry

Statistics and Probability

Proficiency Strands describe *how* content is explored or developed, that is, the *thinking* and *doing* of mathematics:

Understanding

Fluency

Problem Solving

Reasoning

Proficiency Strands

Understanding:. They make connections between related concepts and progressively apply the familiar to develop new ideas. They develop an understanding of the relationship between the 'why' and the 'how' of mathematics. Students build understanding when they connect related ideas, when they represent concepts in different ways, when they identify commonalities and differences between aspects of content, when they describe their thinking mathematically and when they interpret mathematical information.

Fluency: Students develop skills in choosing appropriate procedures, carrying out procedures flexibly, accurately, efficiently and appropriately, and recalling factual knowledge and concepts readily. Students are fluent when they calculate answers efficiently, when they recognise robust ways of answering questions, when they

choose appropriate methods and approximations, when they recall definitions and regularly use facts, and when they can manipulate expressions and equations to find solutions.

Problem Solving: Students develop the ability to make choices, interpret, formulate, model and investigate problem situations, and communicate solutions effectively. Students formulate and solve problems when they use mathematics to represent unfamiliar or meaningful situations, when they design investigations and plan their approaches, when they apply their existing strategies to seek solutions, and when they verify that their answers are reasonable.

Reasoning: Students develop an increasingly sophisticated capacity for logical thought and actions, such as analysing, proving, evaluating, explaining, inferring, justifying and generalising. Students are reasoning mathematically when they explain their thinking, when they deduce and justify strategies used and conclusions reached, when they adapt the known to the unknown, when they transfer learning from one context to another, when they prove that something is true or false and when they compare and contrast related ideas and explain their choices.

Structure of a Mathematics Session using the Proficiencies to underpin each component

Time	Who	What	How
5-10 min	Whole Class	Fluency Task	Maths Mentals – Repetition
5-10 min	Whole Class	Modelled or Shared teaching approach	WALT – Content - Multi-Sensory – Explicit or Inquiry Approach
30-40 min	Whole Class, small groups,, individual and teacher focus groups	Problem Solving, Understanding, Reasoning or Fluency tasks to support, allow for practice or extend students	Content Focus Differentiated Learning Inquiry Approach
5-10 min	Whole Class	Learning Reflection	Success Criteria – 'I Can' statements

At Tambo Upper Primary School, mathematics is delivered through a combination of Explicit Teaching and an Inquiry Approach. The skills and content are taught explicitly and then opportunities are provided for students to consolidate and extend their learning through problem solving tasks and various learning platforms.

MATHEMATICS PROFICIENCY STRANDS

The proficiency strands are an integral part of mathematics content across all strands. The proficiencies reinforce the significance of working mathematically within the content and describe how the content is explored or developed. They provide the language to build in the developmental aspects of the learning of mathematics

	Understanding Fluency		Problem Solving	Reasoning
Foundation	Understanding includes connecting names, numerals and quantities	Fluency includes readily counting numbers in sequences, continuing patterns, and comparing the lengths of objects	Problem Solving includes using materials to model authentic problems, sorting objects, using familiar counting sequences to solve unfamiliar problems, and discussing the reasonableness of the answer	Reasoning includes explaining comparisons of quantities, creating patterns, and explaining processes for indirect comparison of length
Level 1	Understanding includes connecting names, numerals and quantities, and partitioning numbers in various ways	Fluency includes counting number in sequences readily forward and backwards, locating numbers on a line, and naming the days of the week	Problem Solving includes using materials to model authentic problems, giving and receiving directions to unfamiliar places, and using familiar counting sequences to solve unfamiliar problems and discussing the reasonableness of the answer	Reasoning includes explaining direct and indirect comparisons of length using uniform informal units, justifying representations of data, and explaining patterns that have been created
Level 2	Understanding includes connecting number calculations with counting sequences, partitioning and combining numbers flexibly, identifying and describing the relationship between addition and subtraction and between multiplication and division	Fluency includes counting numbers in sequences readily, using informal units iteratively to compare measurements, using the language of chance to describe outcomes of familiar chance events and describing and comparing time durations	Problem Solving includes formulating problems from authentic situations, making models and using number sentences that represent problem situations, and matching transformations with their original shape	Reasoning includes using known facts to derive strategies for unfamiliar calculations, comparing and contrasting related models of operations, and creating and interpreting simple representations of data

Level 3	Understanding includes connecting number representations with number sequences, partitioning and combining numbers flexibly, representing unit fractions, using appropriate language to communicate times, and identifying environmental symmetry	Fluency includes recalling multiplication facts, using familiar metric units to order and compare objects, identifying and describing outcomes of chance experiments, interpreting maps and communicating positions	Problem Solving includes formulating and modelling authentic situations involving planning methods of data collection and representation, making models of three-dimensional objects and using number properties to continue number patterns	Reasoning includes using generalising from number properties and results of calculations, comparing angles, creating and interpreting variations in the results of data collections and data displays
Level 4	Understanding includes making connections between representations of numbers, partitioning and combining numbers flexibly, extending place value to decimals, using appropriate language to communicate times, and describing properties of symmetrical shapes	Fluency includes recalling multiplication tables, communicating sequences of simple fractions, using instruments to measure accurately, creating patterns with shapes and their transformations, and collecting and recording data	Problem Solving includes formulating, modelling and recording authentic situations involving operations, comparing large numbers with each other, comparing time durations, and using properties of numbers to continue patterns	Reasoning includes using generalising from number properties and results of calculations, deriving strategies for unfamiliar multiplication and division tasks, comparing angles, communicating information using graphical displays and evaluating the appropriateness of different displays
Level 5	Understanding includes making connections between representations of numbers, using fractions to represent probabilities, comparing and ordering fractions and decimals and representing them in various ways, describing transformations and identifying line and rotational symmetry	Fluency includes choosing appropriate units of measurement for calculation of perimeter and area, using estimation to check the reasonableness of answers to calculations and using instruments to measure angles	Problem Solving includes formulating and solving authentic problems using whole numbers and measurements and creating financial plans	Reasoning includes investigating strategies to perform calculations efficiently, continuing patterns involving fractions and decimals, interpreting results of chance experiments, posing appropriate questions for data investigations and interpreting data sets
Level 6	Understanding includes describing properties of different sets of numbers, using fractions and decimals to describe probabilities,	Fluency includes representing integers on a number line, calculating simple percentages, using brackets appropriately,	Problem Solving includes formulating and solving authentic problems using fractions, decimals, percentages	Reasoning includes explaining mental strategies for performing calculations, describing results for continuing number sequences,

| representing fractions and decimals in various ways and describing connections between them, and making reasonable estimations | converting between fractions and decimals, using operations with fractions, decimals and percentages, measuring using metric units, and interpreting timetables | and measurements, interpreting secondary data displays, and finding the size of unknown angles | explaining the transformation of one shape into another, explaining why the actual results of chance experiments may differ from expected results |

Content Strands

Number and Algebra

Number and Algebra are developed together, as each enriches the study of the other. Students apply number sense and strategies for counting and representing numbers. They explore the magnitude and properties of numbers. They apply a range of strategies for computation and understand the connections between operations. They recognise patterns and understand the concepts of variable and function. They build on their understanding of the number system to describe relationships and formulate generalisations. They recognise equivalence and solve equations and inequalities. They apply their number and algebra skills to conduct investigations, solve problems and communicate their reasoning.

Measurement and Geometry

Measurement and Geometry are presented together to emphasise their relationship to each other, enhancing their practical relevance. Students develop an increasingly sophisticated understanding of size, shape, relative position and movement of two-dimensional figures in the plane and three-dimensional objects in space. They investigate properties and apply their understanding of them to define, compare and construct figures and objects. They learn to develop geometric arguments. They make meaningful measurements of quantities, choosing appropriate metric units of measurement. They build an understanding of the connections between units and calculate derived measures such as area, speed and density.

Statistics and Probability

Statistics and Probability initially develop in parallel and the curriculum then progressively builds the links between them. Students recognise and analyse data and draw inferences. They represent, summarise and interpret data and undertake purposeful investigations involving the collection and interpretation of data. They assess likelihood and assign probabilities using experimental and theoretical approaches. They develop an increasingly sophisticated ability to critically evaluate chance and data concepts and make reasoned judgments and decisions, as well as building skills to critically evaluate statistical information and develop intuitions about dat

Level Overviews

Foundation – 6

All staff will utilise the Level Overviews to ensure that all content is being taught. A curriculum audit will take place at the end of each term.

LEVEL OVERVIEW   Foundation

Number and Algebra		Term 1	Term 2	Term 3	Term 4
Number and place value	Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point				
	Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond				
	Subitise small collections of objects				
	Compare, order and make correspondences between collections, initially to 20, and explain reasoning				
	Represent practical situations to model addition and sharing				
Patterns and algebra	Sort and classify familiar objects and explain the basis for these classifications. Copy, continue and create patterns with objects and drawings				

Measurement and Geometry		Term 1	Term 2	Term 3	Term 4
Using units of measurement	Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language				
	Compare and order the duration of events using the everyday language of time				
	Connect days of the week to familiar events and actions				
Shape	Sort, describe and name familiar two-dimensional shapes and three-dimensional objects in the environment				
Location and transformation	Describe position and movement				

Statistics and Probability		Term 1	Term 2	Term 3	Term 4
Data representation and interpretation	Answer yes/no questions to collect information				

LEVEL OVERVIEW   Level 1

Number and Algebra		Term 1	Term 2	Term 3	Term 4
Number and place value	Develop confidence with number sequences to and from 100 by ones from any starting point. Skip count by twos, fives and tens starting from zero				
	Recognise, model, read, write and order numbers to at least 100. Locate these numbers on a number line.				
	Count collections to 100 by partitioning numbers using place value				
	Represent and solve simple addition and subtraction problems using a range of strategies including counting on, partitioning and rearranging parts				
Fractions and decimals	Recognise and describe one-half as one of two equal parts of a whole				
Money and financial mathematics	Recognise, describe and order Australian coins according to their value				
Patterns and algebra	Investigate and describe number patterns formed by skip counting and patterns with objects				
Measurement and Geometry		Term 1	Term 2	Term 3	Term 4
Using units of measurement	Measure and compare the lengths and capacities of pairs of objects using uniform informal units				
	Tell time to the half-hour				
	Describe duration using months, weeks, days and hours				
Shape	Recognise and classify familiar two-dimensional shapes and three-dimensional objects using obvious features				
Location and transformation	Give and follow directions to familiar locations				
Statistics and Probability		Term 1	Term 2	Term 3	Term 4
Chance	Identify outcomes of familiar events involving chance and describe them using everyday language such as 'will happen', 'won't happen' or 'might happen'				
Data representation and interpretation	Choose simple questions and gather responses				
	Represent data with objects and drawings where one object or drawing represents one data value. Describe the displays				

LEVEL OVERVIEW   Level 2

Number and Algebra		Term 1	Term 2	Term 3	Term 4
Number and place value	Investigate number sequences, initially those increasing and decreasing by twos, threes, fives and ten from any starting point, then moving to other sequences				
	Recognise, model, represent and order numbers to at least 1000				
	Group, partition and rearrange collections up to 1000 in hundreds, tens and ones to facilitate more efficient counting				
	Explore the connection between addition and subtraction				
	Solve simple addition and subtraction problems using a range of efficient mental and written strategies				
	Recognise and represent multiplication as repeated addition, groups and arrays				
	Recognise and represent division as grouping into equal sets and solve simple problems using these representations				
Fractions and decimals	Recognise and interpret common uses of halves, quarters and eighths of shapes and collections				
Money and financial mathematics	Count and order small collections of Australian coins and notes according to their value				
Patterns and algebra	Describe patterns with numbers and identify missing elements				
	Solve problems by using number sentences for addition or subtraction				

Measurement and Geometry		Term 1	Term 2	Term 3	Term 4
Using units of measurement	Compare and order several shapes and objects based on length, area, volume and capacity using appropriate uniform informal units				
	Compare masses of objects using balance scales				
	Tell time to the quarter-hour, using the language of 'past' and 'to'				
	Name and order months and seasons				
	Use a calendar to identify the date and determine the number of days in each month				
Shape	Describe and draw two-dimensional shapes, with and without digital technologies				
	Describe the features of three-dimensional objects				
Location and transformation	Interpret simple maps of familiar locations and identify the relative positions of key features				
	Investigate the effect of one-step slides and flips with and without digital technologies				
	Identify and describe half and quarter turns				

Statistics and Probability		Term 1	Term 2	Term 3	Term 4
Chance	Identify practical activities and everyday events that involve chance. Describe outcomes as 'likely' or 'unlikely' and identify some events as 'certain' or 'impossible'				
Data representation and interpretation	Identify a question of interest based on one categorical variable. Gather data relevant to the question				
	Collect, check and classify data				
	Create displays of data using lists, table and picture graphs and interpret them				

LEVEL OVERVIEW   Level 3

Number and Algebra		Term 1	Term 2	Term 3	Term 4
Number and place value	Investigate the conditions required for a number to be odd or even and identify odd and even numbers				
	Recognise, model, represent and order numbers to at least 10 000				
	Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems				
	Recognise and explain the connection between addition and subtraction				
	Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation				
	Recall multiplication facts of two, three, five and ten and related division facts				
	Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies				
Fractions and decimals	Model and represent unit fractions including 1/2, 1/4, 1/3, 1/5 and their multiples to a complete whole				
Money and financial mathematics	Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents				
Patterns and algebra	Describe, continue, and create number patterns resulting from performing addition or subtraction				

Measurement and Geometry		Term 1	Term 2	Term 3	Term 4
Using units of measurement	Measure, order and compare objects using familiar metric units of length, mass and capacity				
	Tell time to the minute and investigate the relationship between units of time				
Shape	Make models of three-dimensional objects and describe key features				
Location and transformation	Create and interpret simple grid maps to show position and pathways				
	Identify symmetry in the environment				
Geometric reasoning	Identify angles as measures of turn and compare angle sizes in everyday situations				

Statistics and Probability		Term 1	Term 2	Term 3	Term 4
Chance	Conduct chance experiments, identify and describe possible outcomes and recognise variation in results				
Data representation and interpretation	Identify questions or issues for categorical variables. Identify data sources and plan methods of data collection and recording				
	Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies				
	Interpret and compare data displays				

LEVEL OVERVIEW   Level 4

Number and Algebra		Term 1	Term 2	Term 3	Term 4
Number and place value	Investigate and use the properties of odd and even numbers				
	Recognise, represent and order numbers to at least tens of thousands				
	Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems				
	Investigate number sequences involving multiples of 3, 4, 6, 7, 8, and 9				
	Recall multiplication facts up to 10 × 10 and related division facts				
	Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder				
Fractions and decimals	Investigate equivalent fractions used in contexts				
	Count by quarters halves and thirds, including with mixed numerals. Locate and represent these fractions on a number line				
	Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation				
Money and financial mathematics	Solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies				
Patterns and algebra	Explore and describe number patterns resulting from performing multiplication				
	Solve word problems by using number sentences involving multiplication or division where there is no remainder				
	Use equivalent number sentences involving addition and subtraction to find unknown quantities				

Measurement and Geometry		Term 1	Term 2	Term 3	Term 4
Using units of measurement	Use scaled instruments to measure and compare lengths, masses, capacities and temperatures				
	Compare objects using familiar metric units of area and volume				
	Convert between units of time				
	Use am and pm notation and solve simple time problems				
Shape	Compare the areas of regular and irregular shapes by informal means				
	Compare and describe two dimensional shapes that result from combining and splitting common shapes, with and without the use of digital technologies				
Location and transformation	Use simple scales, legends and directions to interpret information contained in basic maps				
	Create symmetrical patterns, pictures and shapes with and without digital technologies				
Geometric reasoning	Compare angles and classify them as equal to, greater than or less than a right angle				

Statistics and Probability		Term 1	Term 2	Term 3	Term 4
Chance	Describe possible everyday events and order their chances of occurring				
	Identify everyday events where one cannot happen if the other happens				
	Identify events where the chance of one will not be affected by the occurrence of the other				
Data representation and interpretation	Select and trial methods for data collection, including survey questions and recording sheets				
	Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data values				
	Evaluate the effectiveness of different displays in illustrating data features including variability				

LEVEL OVERVIEW   Level 5

Number and Algebra		Term 1	Term 2	Term 3	Term 4
Number and place value	Identify and describe factors and multiples of whole numbers and use them to solve problems				
	Use estimation and rounding to check the reasonableness of answers to calculations				
	Solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental, written strategies and appropriate digital technologies				
	Solve problems involving division by a one digit number, including those that result in a remainder				
	Use efficient mental and written strategies and apply appropriate digital technologies to solve problems				
Fractions and decimals	Compare and order common unit fractions and locate and represent them on a number line				
	Investigate strategies to solve problems involving addition and subtraction of fractions with the same denominator				
	Recognise that the place value system can be extended beyond hundredths				
	Compare, order and represent decimals				
Money and financial mathematics	Create simple financial plans				
Patterns and algebra	Describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction				
	Use equivalent number sentences involving multiplication and division to find unknown quantities				

Measurement and Geometry		Term 1	Term 2	Term 3	Term 4
Using units of measurement	Choose appropriate units of measurement for length, area, volume, capacity and mass				
	Calculate the perimeter and area of rectangles using familiar metric units				
	Compare 12- and 24-hour time systems and convert between them				
Shape	Connect three-dimensional objects with their nets and other two-dimensional representations				
Location and transformation	Use a grid reference system to describe locations. Describe routes using landmarks and directional language				
	Describe translations, reflections and rotations of two-dimensional shapes. Identify line and rotational symmetries				
	Apply the enlargement transformation to familiar two dimensional shapes and explore the properties of the resulting image compared with the original				
Geometric reasoning	Estimate, measure and compare angles using degrees. Construct angles using a protractor				

Statistics and Probability		Term 1	Term 2	Term 3	Term 4
Chance	List outcomes of chance experiments involving equally likely outcomes and represent probabilities of those outcomes using fractions				
	Recognise that probabilities range from 0 to 1				
Data representation and interpretation	Pose questions and collect categorical or numerical data by observation or survey				
	Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies				
	Describe and interpret different data sets in context				

Number and Algebra		Term 1	Term 2	Term 3	Term 4
Number and place value	Identify and describe properties of prime, composite, square and triangular numbers				
	Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers				
	Investigate everyday situations that use integers. Locate and represent these numbers on a number line				
Fractions and decimals	Compare fractions with related denominators and locate and represent them on a number line				
	Solve problems involving addition and subtraction of fractions with the same or related denominators				
	Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies				
	Add and subtract decimals, with and without digital technologies, and use estimation and rounding to check the reasonableness of answers				
	Multiply decimals by whole numbers and perform divisions by non-zero whole numbers where the results are terminating decimals, with and without digital technologies				
	Multiply and divide decimals by powers of 10				
	Make connections between equivalent fractions, decimals and percentages				
Money and financial mathematics	Investigate and calculate percentage discounts of 10%, 25% and 50% on sale items, with and without digital technologies				
Patterns and algebra	Continue and create sequences involving whole numbers, fractions and decimals. Describe the rule used to create the sequence				
	Explore the use of brackets and order of operations to write number sentences				

Measurement and Geometry		Term 1	Term 2	Term 3	Term 4
Using units of measurement	Connect decimal representations to the metric system				
	Convert between common metric units of length, mass and capacity				
	Solve problems involving the comparison of lengths and areas using appropriate units				
	Connect volume and capacity and their units of measurement				
	Interpret and use timetables				
Shape	Construct simple prisms and pyramids				
Location and transformation	Investigate combinations of translations, reflections and rotations, with and without the use of digital technologies				
	Introduce the Cartesian coordinate system using all four quadrants				
Geometric reasoning	Investigate, with and without digital technologies, angles on a straight line, angles at a point and vertically opposite angles. Use results to find unknown angles				

Statistics and Probability		Term 1	Term 2	Term 3	Term 4
Chance	Describe probabilities using fractions, decimals and percentages				
	Conduct chance experiments with both small and large numbers of trials using appropriate digital technologies				
	Compare observed frequencies across experiments with expected frequencies				
Data representation and interpretation	Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables				
	Interpret secondary data presented in digital media and elsewhere				

'I can' Statements

Foundation - 6

The 'I can' statements have been developed to ensure that all staff, students and parents are able to understand the expectations and achievement standards within the Mathematics curriculum. They will be used as success criteria and form the basis for developing student learning independence and ownership.
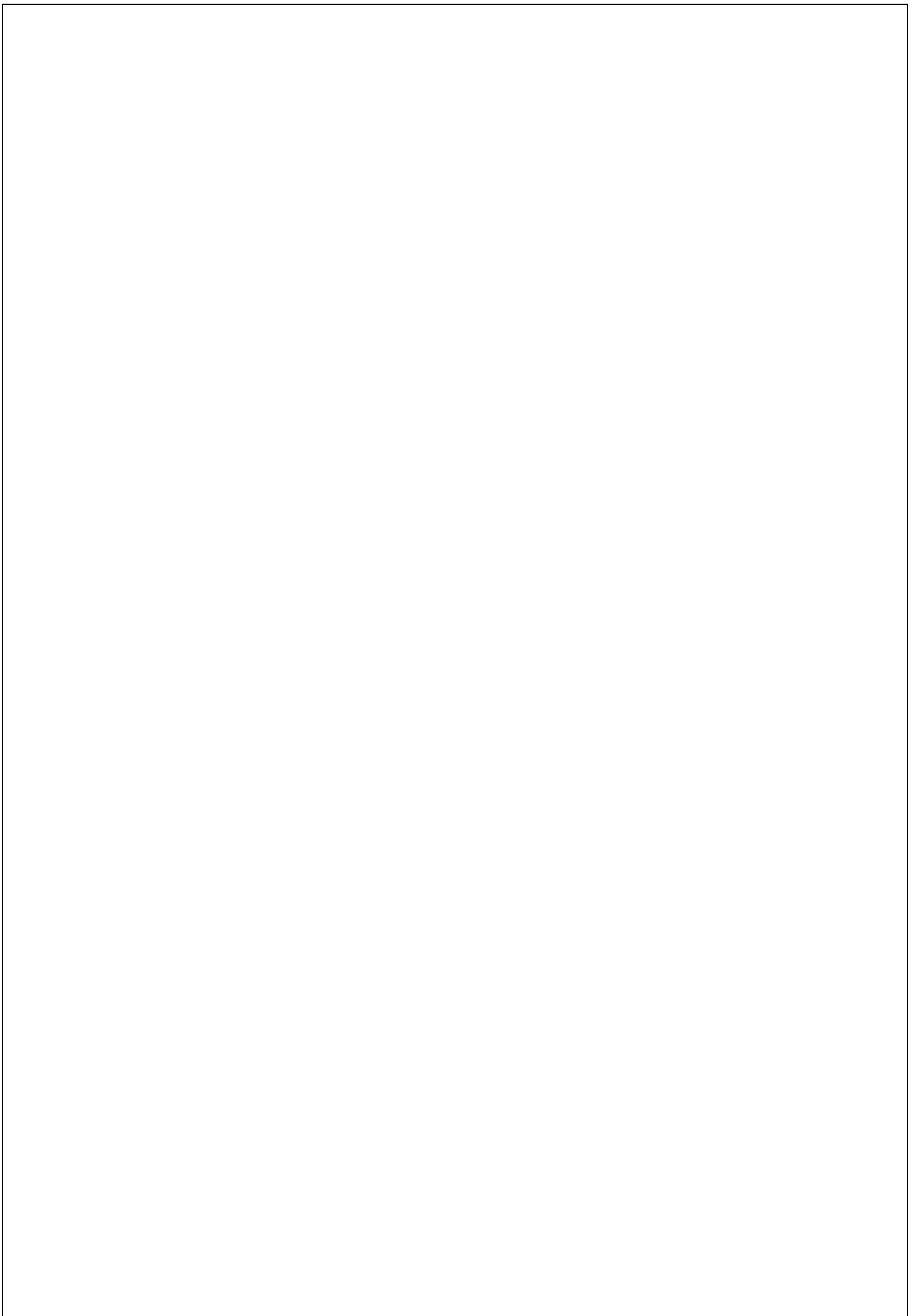
Foundation

	Problem Solving	Understanding	Reasoning	Fluency
Proficiencies	• I can use materials to model problems • I can sort objects by shape, colour and size • I can use numbers to 20 to count forward, backwards, count on and count back to solve problems • I can discuss the reasonableness of the answer	• I can connect names, numerals and quantities to 20	• I can explain comparisons of quantities • I can create patterns • I can explain processes for comparing lengths	• I can count numbers in sequences to 20 • I can readily continue patterns to 20 • I can compare the lengths of objects

Number and Algebra	Measurement and Geometry	Statistics and Probability

Number and Place Value
    I can count in sequences to and from 20
    I can start at any number and go backward and forward to 20
    I can match number names, numerals and quantities up to 20 including zero
    I can Subitise small groups
    I can compare, order and make collections to 20
    I can show addition and sharing to 20
Patterns and Algebra
    I can sort and classify everyday objects
    I can copy a pattern with objects and drawings
    I can continue a pattern with objects and drawings
    I can create a pattern with objects and drawings
	Using units of measurement
	    I can decide which is longer, heavier or holds more
	    I can use everyday language to explain what is longer, heavier or holds more
	    I can compare and order my day and estimate how long events can take
	    I can name the days of the week for familiar events
	Shape
	    I can sort, describe and name familiar two-dimensional shapes
	    I can sort three-dimensional objects in the environment
	Location and Transformation
	    I can use words like 'between', 'near', 'next to', 'forwards', 'towards' to describe where I am
		Data representation and interpretation
		    I can answer 'yes' and 'no' questions about graphs

Level 1

	Problem Solving	Understanding	Reasoning	Fluency
Proficiencies	• I can use materials to model problems • I can give and receive directions to unfamiliar places • I can use counting sequences to solve problems • I can discuss the reasonableness of the answer	• I can connect names, numerals and quantities • I can partition numbers in various ways	• I can compare length using informal units • I can justify representations of data • I can explain patterns that have been created	• I can include counting number in sequences readily forward and backwards • I can locate numbers on a line • I can name the days of the week

Number and Algebra	Measurement and Geometry	Statistics and Probability

Number and Place Value
    I can count to and from 100
    I can locate numbers between 0-100 on a number line.
    I can partition numbers using place value
    I can carry out simple additions and subtractions
    I can use counting strategies (counting on, partitioning, re arranging)
Fractions and Decimals
    I can identify one half of a whole
Money and Financial Matters
    I can recognise and describe Australian coins according to their value
Patterns and Algebra
    I can skip count by 2s, 5s and 10s from 0
    I can continue and describe patterns using numbers and objects
	Using units of measurement
	    I can use informal units of measurement to order objects based on length
	    I can use informal units of measurement to order objects in order of capacity
	    I can tell time to the half-hour
	    I can explain time in terms of months, days, weeks and hours
	
	Shape
	    I can describe two- dimensional shapes
	    I can describe three-dimensional objects
	
	Location and Transformation
	    I can use the language of distance and direction to move from place to place
		Chance
		    I can use language of certain, possible and impossible
		
		Data representation and interpretation
		    I can describe data displays.
		    I can ask questions to collect
		    I can draw simple data displays

Level 2

	Problem Solving	Understanding	Reasoning	Fluency
Proficiencies	• I can formulate problems from authentic situations • I can make models using number sentences that represent problem situations • I can plan routes on maps • I can match transformations with their original shape	• I can connect numbers with counting sequences • I can partition and combine numbers • I can identify and describe the relationship between addition and subtraction and between multiplication and division	• I can use facts for strategies for unfamiliar calculations • I can compare and contrast related models of operations • I can describe connections between 2D and 3D shapes • I can create and interpret simple representations of data	• I can count numbers in sequences • I can use units to compare measurements • I can list possible outcomes of chance events • I can describe and compare time i.e. days/weeks/hours

Number and Algebra	Measurement and Geometry	Statistics and Probability

Number and Place Value
   I can count to and from 1000
   I can and order numbers up to 1000
   I can show addition and subtraction and explore the connection between the two
   I can use a range of strategies (group, partition, and re arrange, commutativity, building to 10, doubles, 10 facts and adding to 10)
   I can show multiplication (repeated addition, groups and arrays) and division by grouping into sets
Fractions and Decimals
   I can divide collections and shapes into halves, quarters and eighths
Money and Financial Matters
   I can find the total value of collections of Australian notes and coins
Patterns and Algebra
   I can recognise increasing and decreasing number sequences involving 2s, 3s, 5s and 10s
   I can show the missing number in a number sequence
   I can use technology to produce sequences by constant addition
	Using units of measurement
	   I can order shapes and objects, using informal units for a range of measures
	   I can tell time to the quarter hour
	   I can use a calendar to identify the date, days, weeks and months
	   I can use a calendar to show seasons and other events
	
	Shape
	   I can draw two dimensional shapes
	   I can talk about two dimensional shapes and explain features
	   I can recognise the features of three dimensional objects
	
	Location and Transformation
	   I can explain the effects of one-step transformations
	   I can interpret simple maps of familiar locations
		Chance
		   I can describe outcomes of familiar events using everyday language
		
		Data representation and interpretation
		   I can collect data (information) from relevant questions to create lists, tables and picture graphs with and without the use of digital technology
		   I can interpret data in context

Level 3

	Problem Solving	Understanding	Reasoning	Fluency
Proficiencies	• I can collect information to use in graphs • I can make models of three dimensional objects • I can use numbers to continue number pattern	• I can connect number patterns with number sequences • I can partition and combine numbers to show unit fractions • I can communicate times i.e. weeks, months, hours, minutes, seconds • I can identify symmetry	• I can use and explain estimating and checking • I can compare angles • I can create and interpret variations in the results of data collections and data displays	• I can recall multiplication facts • I can use metric units to order and compare objects • I can identify and describe outcomes of chance experiments • I can interpret maps and communicate positions

Number and Algebra	Measurement and Geometry	Statistics and Probability

Number and Place Value
    I can count to and from 10 000
    I can order numbers to and from 10 000
    I can show the connection between addition and subtraction
    I can solve problems for multiplication: drawing a picture, using a table, working backwards (2s, 3s, 5s, 10s)
    I can recall addition and multiplication facts for single-digit numbers
    I can partition, rearrange and regroup to 10 000
Fractions and Decimals
    I can model and represent fractions for halves, thirds, quarters, fifths and eighths, and multiples of these up to one
Money and Financial Matters
    I can show money values in various ways
    I can correctly count out change
Patterns and Algebra
    I can classify numbers as odd or even
    I can continue number patterns involving addition or subtraction
    I can explore simple number sequences based on multiples
	Using units of measurement
	    I can use mm, cm, m, km for length
	    I can use gm, kg for mass
	    I can use litre and ml for capacity
	    I can tell time to the nearest minute
	
	Shape
	    I can identify symmetry
	    I can use angles to measure a turn
	    I can make models of three dimensional objects
	
	Location and Transformation
	    I can match positions on maps with given information
	    I can create simple maps
		Chance
		    I can conduct chance experiments
		    I can list possible outcomes of events
		    I can explain differences in results
		
		Data representation and interpretation
		    I can carry out simple data investigations
		    I can interpret and compare graph and information in a table

Level 4

	Problem Solving	Understanding	Reasoning	Fluency
Proficiencies	• I can formulate, model and record addition, subtraction, multiplication and division • I can compare large numbers • I can compare lengths of time • I can use numbers to continue patterns	• I can make connections between numbers • I can partition and combine numbers • I can extend place value to decimals • I can communicate time • I can use informal units for comparing and describing shapes	• I can use estimation to check results of calculations • I can use strategies for multiplication and division tasks – repeated addition, arrays, doubling, skip counting, number facts • I can compare angles • I can communicating information using graphs	• I can recall multiplication tables • I can communicate sequences of fractions • I can create patterns with shapes and their transformations • I can collect and record data

Number and Algebra	Measurement and Geometry	Statistics and Probability

Number and Place Value
    I can recall multiplication and division facts to 10 x 10
    I can order numbers to and from 10 000
    I can choose strategies for calculations involving multiplication and division (3s, 4s, 6s, 7s, 8s, 9s) repeated addition, arrays, doubling, skip counting, number facts
    I can estimate answers
Fractions and Decimals
    I can locate familiar fractions on a number line
    I can recognise common equivalent fractions in familiar contexts
    I can make connections between fractions and decimal notations up to two decimal places e.g. ¼ =0.25
Money and Financial Matters
    I can solve simple purchasing problems with and without the use of digital technology (nearest 5c)
Patterns and Algebra
    I can identify unknown quantities in number sentences e.g. 23 + ? = 57–19
    I can describe number patterns resulting from multiplication
    I can continue number sequences involving multiples of single-digit numbers (2, 4, 6) and unit fractions (1/2, 1, 1 1/2) and locate them on a number line
	Using units of measurement
	    I can compare areas of regular and irregular shapes, using informal units (counting squares on grid paper)
	    I can solve problems involving time
	    I can use tape measure, ruler to measure length of shapes and objects
	    I can use a protractor to measure angles of shapes and objects
	    I can use mm2, cm2, m2 to measure area of shapes and objects
	    I can use g, mg, kg to measure mass of objects
	    I can use L, ml to measure capacity of objects
	    I can measure temperature
	    I can convert seconds, minutes, hours
	Shape
	    I can create symmetrical shapes
	    I can create patterns, with and without the use of digital technology
	    I can classify angles in relation to a right angle
	Location and Transformation
	    I can interpret information contained in maps ie legends, scales and directions
		Chance
		    I can list the probabilities of everyday events
		
		Data representation and interpretation
		    I can describe different methods for data collection(survey, questions) and representation 9tables, graphs)
		    I can make tables and graphs from given

Level 5

	Problem Solving	Understanding	Reasoning	Fluency
Proficiencies	• I can formulate and solve authentic problems using numbers • I can create transformations • I can identify line and rotational symmetries	• I can make connections between representations of numbers • I can use fractions to represent probabilities • I can compare and order fractions and decimals • I can represent them in various ways	• I can investigate strategies to perform calculations efficiently • I can create financial plans • I can interpret results of chance experiments • I can interpret data sets	• I can choose appropriate units of measurement for calculation of perimeter and area • I can use estimation to check the reasonableness of answers to calculations • I can use instruments to measure angles

Number and Algebra	Measurement and Geometry	Statistics and Probability

Number and Place Value
   I can solve simple problems involving addition, subtraction, multiplication and division
   I can estimate my answers by rounding
   I can identify and describe factors and multiples
   I can solve one and two digit multiplication problems
   I can divide 2 digit numbers by one digit numbers with remainders
Fractions and Decimals
   I can order decimals and unit fractions
   I can locate decimals and unit fractions on a number line beyond 100ths
   I can add and subtract fractions with the same denominator
Money and Financial Matters
   I can explain plans for simple budgets
Patterns and Algebra
   I can find unknown quantities in number sentences
   I can continue patterns by adding or subtracting fractions and decimals
	Using units of measurement
	   I can use a tape measure, ruler, trundle wheel to measure length
	   I can use mm2, cm2, m2, km2, km3 to measure area of shapes and objects
	   I can use appropriate units of measurement for volume (cubic millimetre mm3 cubic centimetre cm3, cubic metre m3)
	   I can use L, ml to measure capacity
	   I can use g, mg, kg, tonne to measure mass of objects
	   I can calculate perimeter and area of rectangles
	   I can convert between 12 and 24-hour time
	Shape
	   I can estimate angles
	   I can use protractors and digital technology to construct and measure angles using degrees
	   I can connect three dimensional objects with their two dimensional nets
	Location and Transformation
	   I can use a grid reference system to locate landmarks
	   I can describe transformations of two dimensional shapes
	   I can identify line and rotational symmetry
		Chance
		   I can list outcomes of chance experiments with equally likely outcomes
		   I can assign probabilities as a number from 0 to 1
		
		Data representation and interpretation
		   I can pose questions to gather data
		   I can construct various displays appropriate for the data
		   I can compare and interpret different data sets

Level 6

	Problem Solving	Understanding	Reasoning	Fluency
Proficiencies	• I can create and solve problems using numbers and measurements • I can create similar shapes through enlargements (different sizes) • I can represent secondary data • I can calculate angles	• I can describe properties of different numbers • I can use fractions and decimals to describe probabilities • I can represent fractions/decimals in various ways • I can describe connections between fractions and decimals • I can make reasonable estimations	• I can explain mental strategies when solving problems • I can describe results for number sequences • I can investigate angles • I can explain the transformation of one shape into another	• I can represent negative numbers on a number line • I can calculate simple percentages • I can use brackets appropriately • I can convert between fractions and decimals • I can use operations with fractions, decimals & % • I can measure using metric units • I can interpret timetables

Number and Algebra	Measurement and Geometry	Statistics and Probability

Number and Place Value
   I can recognise the properties of prime numbers
   I can recognise the properties composite numbers
   I can recognise the properties of square numbers
   I can recognise the properties of triangular numbers
   I can solve problems that involve all four operations with whole numbers
Fractions and Decimals
   I can locate fractions and integers on a number line
   I can connect fractions, decimals and percentages
   I can solve problems involving the addition and subtraction of related fractions
   I can make connections between the powers of 10 and the multiplication and division of decimals
   I can add decimals
   I can subtract decimals
   I can multiply decimals
   I can divide decimals
Money and Financial Matters
	Using units of measurement
	   I can relate decimals to the metric system and choose appropriate units of measurement to perform a calculation
	   I can solve problems involving length and area
	   I can make connections between capacity and volume
	   I can interpret a variety of everyday timetables
	Shape
	   I can make simple prisms and pyramids
	   I can investigate simple combinations of transformations
	Geometric Reasoning
	   I can show angles as a straight line
		Chance
		   I can communicate probabilities of events
		   I can use simple ratios, fractions, decimals and percentages as a unit of chance and probability
		   I can compare observed and expected frequencies of events
		Data representation and interpretation
		   I can interpret and compare a variety of data displays, including displays for two categorical variables
		   I can analyse and evaluate data from

I can calculate common percentage discounts on sale items – 10%, 25%, 50%
 	
Patterns and Algebra
    I can write number sentences using brackets and order of operations
    I can specify rules used to generate sequences involving whole numbers, fractions and decimals.
    I can use ordered pairs of integers to represent coordinates of points and locate them		