

Mathematics Scope and Sequence - Warrandyte Primary School - Foundation to Level 6 - Term 1



Number | Algebra | Measurement | Space | Statistics | Probability

Foundation	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Key Concepts: Place Value, Partitioning, Estimation, Number Facts - Addition & Subtraction, Time			Key Concepts: Place Value, Estimation, Number Facts - Addition & Subtraction, Multiplication, Time		Key Concepts: Place Value, Estimation, Rounding, Number Facts - Multiplication & Division, Number Properties, Time	
Place Value						
name, represent and order numbers, including zero to at least 20, using physical and virtual materials and numerals (VC2MFN01)	recognise, represent and order numbers to at least 120 using physical and virtual materials, numerals, number lines and charts (VC2M1N01)	recognise, represent and order numbers to at least 1000 using physical and virtual materials, numerals and number lines (VC2M2N01)	recognise, represent and order natural numbers using naming and writing conventions for numerals beyond 10 000 (VC2M3N02)	recognise and extend the application of place value to tenths and hundredths and use the conventions of decimal notation to name and represent decimals (VC2M4N01)	interpret, compare and order numbers with more than 2 decimal places, including numbers greater than one, using place value understanding; represent these on a number line (VC2M5N01)	recognise situations, including financial contexts, that use integers; locate and represent integers on a number line and as coordinates on the Cartesian plane (VC2M6N01)
recognise and name the number of objects within a collection up to 5 using subitising (VC2MFN02)	partition one- and two-digit numbers in different ways using physical and virtual materials, including partitioning two-digit numbers into tens and ones (VC2M1N02)	partition, rearrange, regroup and rename two- and three-digit numbers using standard and non-standard groupings; recognise the role of a zero digit in place value notation (VC2M2N02)	Estimation			
			estimate the quantity of objects in collections and make estimates when solving problems to determine the reasonableness of calculations (VC2M3N06)	choose and use estimation and rounding to check and explain the reasonableness of calculations, including the results of financial transactions (VC2M4N07)	check and explain the reasonableness of solutions to problems, including financial contexts using estimation strategies appropriate to the context (VC2M5N08)	approximate numerical solutions to problems involving rational numbers and percentages, using appropriate estimation strategies (VC2M6N08)
quantify and compare collections to at least 20 using counting and explain or demonstrate reasoning (VC2MFN03)	quantify sets of objects, to at least 120, by partitioning collections into equal groups using number knowledge and skip counting (VC2M1N03)					
			Number Properties			
			identify, explain and use the properties of odd and even numbers (VC2M3N01)	investigate number sequences involving multiples of 3, 4, 6, 7, 8 and 9 (VC2M4N02)	express natural numbers as products of their factors, recognise multiples and determine if one number is divisible by another (VC2M5N02)	identify and describe the properties of prime, composite, square and triangular numbers and use these properties to solve problems and simplify calculations (VC2M6N02)
			Number Facts (Addition & Subtraction)		Number Facts (Multiplication & Division)	
			recall and demonstrate proficiency with addition facts to 20; extend and apply facts to develop related subtraction facts (VC2M2A02)	extend and apply knowledge of addition and subtraction facts to 20 to develop efficient mental strategies for computation with larger numbers without a calculator (VC2M3A02)	recall and demonstrate proficiency with multiplication facts up to 10 × 10 and related division facts, and explain the patterns in these; extend and apply facts to develop efficient mental and written strategies for computation with larger numbers without a calculator (VC2M4A02)	recognise and explain the connection between multiplication and division as inverse operations and use this to develop families of number facts (VC2M5A01)
Time						
sequence days of the week and times of the day, including morning, lunchtime, afternoon and night-time, and connect them to familiar events and actions (VC2MFM02)	describe the duration and sequence of events using years, months, weeks, days and hours (VC2M1M03)	identify the date and determine the number of days between events using calendars (VC2M2M03)	recognise and use the relationship between formal units of time, including days, hours, minutes and seconds, to estimate and compare the duration of events (VC2M3M03)	solve problems involving the duration of time including situations involving ‘am’ and ‘pm’ and conversions between units of time (VC2M4M03)	compare 12- and 24-hour time systems and solve practical problems involving the conversion between them (VC2M5M03)	measure, calculate and compare elapsed time; interpret and use timetables and itineraries to plan activities and determine the duration of events and journeys (VC2M6M03)
		recognise and read the time represented on an analog clock to the hour, half-hour and quarter hour (VC2M2M04)	describe the relationship between the hours and minutes on analog and digital clocks, and read the time to the nearest minute (VC2M3M04)			
		identify common uses and represent halves, quarters and eighths in relation to shapes, objects and events (VC2M2M02)				

Mathematics Scope and Sequence - Warrandyte Primary School - Foundation to Level 6 - Term 2

Foundation	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Key Concepts: Addition & Subtraction, Fractions, Number Sequences & Patterns, Shapes, Collecting Data						
Addition & Subtraction						
partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts (VC2MFN04)	add and subtract numbers within 20, using physical and virtual materials, part-part-whole knowledge to 10 and a variety of calculation strategies (VC2M1N04)	add and subtract one- and two-digit numbers, represent problems using number sentences and solve using part-part-whole reasoning and a variety of calculation strategies (VC2M2N04)	add and subtract two- and three-digit numbers using place value to partition, rearrange and regroup numbers to assist in calculations without a calculator (VC2M3N04)	develop efficient mental and written strategies and use appropriate digital tools for solving problems involving addition and subtraction, and multiplication and division where there is no remainder (VC2M4N06)	solve problems involving addition and subtraction of fractions with the same or related denominators, using different strategies (VC2M5N05)	solve problems involving addition and subtraction of fractions using knowledge of equivalent fractions (VC2M6N05)
		Fractions / Equivalency				
		recognise and describe one-half as one of 2 equal parts of a whole and connect halves, quarters and eighths through repeated halving (VC2M2N03)	recognise and represent unit fractions including 1/2, 1/3, 1/4, 1/5 and 1/10 and their multiples in different ways; combine fractions with the same denominator to complete the whole (VC2M3N03)	find equivalent representations of fractions using related denominators and make connections between fractions and decimal notation (VC2M4N03)	recognise that 100% represents the complete whole and use percentages to describe, represent and compare relative size; connect familiar percentages to their decimal and fraction equivalents (VC2M5N04)	solve problems that require finding a familiar fraction, decimal or percentage of a quantity, including percentage discounts, choosing efficient calculation strategies with and without digital tools (VC2M6N07)
				count by multiples of quarters, halves and thirds, including mixed numerals; locate and represent these fractions as numbers on number lines (VC2M4N04)	compare and order common unit fractions with the same and related denominators, including mixed numerals, applying knowledge of factors and multiples; represent these fractions on a number line (VC2M5N03)	apply knowledge of equivalence to compare, order and represent common fractions, including halves, thirds and quarters, on the same number line and justify their order (VC2M6N03)
Number Sequences						
follow a short sequence of instructions; recognise, copy, continue and create repeating patterns represented in different ways (VC2MFA01)	recognise, continue and create repeating patterns with numbers, symbols, shapes and objects, identifying the repeating unit and recognising the importance of repetition in solving problems (VC2M1A02)	recognise, describe and create additive patterns that increase or decrease by a constant amount, using numbers, shapes and objects, and identify missing elements in the pattern (VC2M2A01)	recognise and explain the connection between addition and subtraction as inverse operations, apply to partition numbers and find unknown values in number sentences (VC2M3A01)	find unknown values in numerical equations involving addition and subtraction, using the properties of numbers and operations (VC2M4A01)		
Space (Shapes)						
sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons (VC2MFSP01)	make, compare and classify familiar shapes; recognise familiar shapes and objects in the environment, identifying the similarities and differences between them (VC2M1SP01)	recognise, compare and classify shapes, referencing the number of sides and using spatial terms such as ‘opposite’, ‘parallel’, ‘curved’ and ‘straight’ (VC2M2SP01)	make, compare and classify objects, identifying key features and explaining why these features make them suited to their uses (VC2M3SP01)	explain and compare the geometric properties of two-dimensional shapes and three-dimensional objects (VC2M4SP01)	connect objects to their nets and build objects from their nets using spatial and geometric reasoning (VC2M5SP01)	compare the parallel cross-sections of objects and recognise their relationships to right prisms (VC2M6SP01)
				represent and approximate composite shapes and objects in the environment, using combinations of familiar shapes and objects (VC2M4SP02)		
Statistics - Collecting, Organising & Analysing						
collect, sort and compare data represented by objects and images in response to given investigative questions that have only 2 outcomes and relate to familiar situations (VC2MFST01)	acquire and record data for categorical variables in various ways including using digital tools, objects, images, drawings, lists, tally marks and symbols (VC2M1ST01)	acquire data for categorical variables through surveys, observation, experiment and using digital tools; sort data into relevant categories and display data using lists and tables (VC2M2ST01)	acquire data for categorical and discrete numerical variables to address a question of interest or purpose by observing, collecting and accessing data sets; record the data using appropriate methods, including frequency tables and spreadsheets (VC2M3ST01)	acquire data for categorical and discrete numerical variables to address a question of interest or purpose using digital tools; represent data using many-to-one pictographs, column graphs and other displays or visualisations; interpret and discuss the information that has been created (VC2M4ST01)	acquire, validate and represent data for nominal and ordinal categorical and discrete numerical variables to address a question of interest or purpose using software including spreadsheets; discuss and report on data distributions in terms of highest frequency (mode) and shape, in the context of the data (VC2M5ST01)	identify statistically informed arguments presented in traditional and digital media; discuss and critique methods, data representations and conclusions (VC2M6ST02)
	represent collected data for a categorical variable using one-to-one displays and digital tools where appropriate; compare the data using frequencies and discuss the findings (VC2M1ST02)		conduct guided statistical investigations involving the collection, representation and interpretation of data for categorical and discrete numerical variables with respect to questions of interest (VC2M3ST03)	conduct statistical investigations, collecting data through survey responses and other methods; record and display data using digital tools; interpret the data and communicate the results (VC2M4ST03)	plan and conduct statistical investigations by posing questions or identifying a problem and collecting relevant data; choose appropriate displays and interpret the data; communicate findings within the context of the investigation (VC2M5ST03)	plan and conduct statistical investigations by posing and refining questions to collect categorical or numerical data by observation or survey, or identifying a problem and collecting relevant data; analyse and interpret the data and communicate findings within the context of the investigation (VC2M6ST03)

Mathematics Scope and Sequence - Warrandyte Primary School - Foundation to Level 6 - Term 3

Foundation	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Key Concepts: Sharing & Grouping, Money, Length/Mass/Capacity		Key Concepts: Multiplication & Division, Number Facts, Money, Length/Mass, Angles			Key Concepts: Multiplication & Division, Order of Operations, Money, Length/Mass, Angles	
Sharing & Grouping		Multiplication & Division				
represent practical situations that involve equal sharing and grouping with physical and virtual materials and use counting or subitising strategies (VC2MFN06)	use mathematical modelling to solve practical problems involving equal sharing and grouping; represent the situations with diagrams, physical and virtual materials, and use calculation strategies to solve the problem (VC2M1N06)	multiply and divide by one-digit numbers using repeated addition, equal grouping, arrays and partitioning to support a variety of calculation strategies (VC2M2N05)	multiply and divide one- and two-digit numbers, representing problems using number sentences, diagrams and arrays, and using a variety of calculation strategies (VC2M3N05)	solve problems involving multiplying or dividing natural numbers by multiples and powers of 10 without a calculator, using the multiplicative relationship between the place value of digits (VC2M4N05)	solve problems involving multiplication of larger numbers by one- or two-digit numbers, choosing efficient mental and written calculation strategies and using digital tools where appropriate; check the reasonableness of answers (VC2M5N06)	multiply and divide decimals by multiples of powers of 10 without a calculator, applying knowledge of place value and proficiency with multiplication facts, using estimation and rounding to check the reasonableness of answers (VC2M6N06)
					solve problems involving division, choosing efficient mental and written strategies and using digital tools where appropriate; interpret any remainder according to the context and express results as a whole number, decimal or fraction (VC2M5N07)	
		Number Facts (Multiplication & Division)			Order of Operations	
		recall and demonstrate proficiency with multiplication facts for twos; extend and apply facts to develop the related division facts using doubling and halving (VC2M2A03)	recall and demonstrate proficiency with multiplication facts for 3, 4, 5 and 10; extend and apply facts to develop the related division facts (VC2M3A03)	recall and demonstrate proficiency with multiplication facts up to 10 × 10 and related division facts, and explain the patterns in these; extend and apply facts to develop efficient mental and written strategies for computation with larger numbers without a calculator (VC2M4A02)	find unknown values in numerical equations involving multiplication and division using the properties of numbers and operations (VC2M5A02)	find unknown values in numerical equations involving brackets and combinations of arithmetic operations, using the properties of numbers and operations (VC2M6A02)
		apply repetition in arithmetic operations, including multiplication as repeated addition and division as repeated subtraction (VC2M2A04)				
Money						
represent practical situations, including simple financial situations, involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies (VC2MFN05)	use mathematical modelling to solve practical problems involving additive situations, including simple money transactions; represent the situations with diagrams, physical and virtual materials; use calculation strategies to solve the problem (VC2M1N05)	use mathematical modelling to solve practical problems involving additive and multiplicative situations, including money transactions; represent situations and choose calculation strategies; interpret and communicate solutions in terms of the context (VC2M2N06)	use mathematical modelling to solve practical problems involving additive and multiplicative situations, including financial contexts; formulate problems using number sentences and choose calculation strategies, using digital tools where appropriate; interpret and communicate solutions in terms of the situation (VC2M3N08)	use mathematical modelling to solve practical problems that involve additive and multiplicative situations, including financial contexts; formulate the problems using number sentences and choose efficient calculation strategies, using digital tools where appropriate; interpret and communicate solutions in terms of the situation (VC2M4N09)	use mathematical modelling to solve practical problems involving additive and multiplicative situations, including simple financial planning contexts; formulate the problems, choosing operations and efficient mental and written calculation strategies, and using digital tools where appropriate; interpret and communicate solutions in terms of the situation (VC2M5N09)	use mathematical modelling to solve practical problems involving rational numbers and percentages, including in financial contexts; formulate the problems, choosing operations and using efficient mental and written calculation strategies, and using digital tools where appropriate; interpret and communicate solutions in terms of the situation, justifying the choices made (VC2M6N09)
			recognise the relationships between dollars and cents and represent money values in different ways (VC2M3N07)	solve problems involving purchases and the calculation of change to the nearest 5 cents with and without digital tools (VC2M4N08)		
Length, Mass, Capacity						
identify and compare attributes of objects and events, including length, capacity, mass and duration, use direct comparisons and communicate reasoning (VC2MFM01)	compare directly and indirectly and order objects and events using attributes of length, mass, capacity and duration, communicating reasoning (VC2M1M01)	measure and compare objects based on length, capacity and mass using appropriate uniform informal units and smaller units for accuracy when necessary (VC2M2M01)	identify which metric units are used to measure everyday items; use measurements of familiar items and known units to make estimates (VC2M3M01)	use scaled and digital instruments to interpret unmarked and partial units to measure and compare lengths, masses, capacities, durations and temperatures, using appropriate units (VC2M4M01)	choose appropriate metric units when measuring the length, mass and capacity of objects; use smaller units or a combination of units to obtain a more accurate measure (VC2M5M01)	convert between common metric units of length, mass and capacity; choose and use decimal representations of metric measurements relevant to the context of a problem (VC2M6M01)
	measure the length of shapes and objects using informal units, recognising that units need to be uniform and used end-to-end (VC2M1M02)	identify common uses and represent halves, quarters and eighths in relation to shapes, objects and events (VC2M2M02)	measure and compare objects using familiar metric units of length, mass and capacity, and instruments with labelled markings (VC2M3M02)	recognise ways of measuring and approximating the perimeter and area of shapes and enclosed spaces, using appropriate formal and informal units (VC2M4M02)	solve practical problems involving the perimeter and area of regular and irregular shapes using appropriate metric units (VC2M5M02)	establish the formula for the area of a rectangle and use it to solve practical problems (VC2M6M02)
		Angles				
		identify, describe and demonstrate quarter, half, three-quarter and full measures of turn in everyday situations (VC2M2M05)	identify angles as measures of turn and use right angles as a reference to compare angles in everyday situations (VC2M3M05)	estimate and compare angles using angle names including acute, obtuse, straight angle, reflex and revolution, and recognise their relationship to a right angle (VC2M4M04)	estimate, construct and measure angles in degrees, using appropriate tools, including a protractor, and relate these measures to angle names (VC2M5M04)	identify the relationships between angles on a straight line, angles at a point and vertically opposite angles; use these to determine unknown angles, communicating reasoning (VC2M6M04)

Mathematics Scope and Sequence - Warrandyte Primary School - Foundation to Level 6 - Term 4

Foundation	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Key Concepts: Location, Number Revision			Key Concepts: Algorithms, Graphs, Location, Probability		Key Concepts: Algorithms, Data Sets, Location, Probability	
			Algorithms			
			follow and create algorithms involving a sequence of steps and decisions to investigate numbers; describe any emerging patterns (VC2M3N09)	follow and create algorithms involving a sequence of steps and decisions that use addition or multiplication to generate sets of numbers; identify and describe any emerging patterns (VC2M4N10)	follow a mathematical algorithm involving branching and repetition (iteration); create and use algorithms involving a sequence of steps and decisions and digital tools to experiment with factors, multiples and divisibility; identify, interpret and describe emerging patterns (VC2M5N10)	design and use algorithms involving a sequence of steps and decisions that use rules to generate sets of numbers; identify, interpret and explain emerging patterns (VC2M6A03)
		Statistics - Creating Graphs		Statistics - Interpreting Data Sets		
		create different graphical representations of data using software where appropriate; compare the different representations, and identify and describe common and distinctive features in response to questions (VC2M2ST02)	create and compare different graphical representations of data sets, including using software where appropriate; interpret the data in terms of the context (VC2M3ST02)	analyse the effectiveness of different displays or visualisations in illustrating and comparing data distributions, then discuss the shape of distributions and the variation in the data (VC2M4ST02)	interpret line graphs representing change over time; discuss the relationships that are represented and conclusions that can be made (VC2M5ST02)	interpret and compare data sets for ordinal and nominal categorical, discrete and continuous numerical variables using comparative displays or visualisations and digital tools; compare distributions in terms of mode, range and shape (VC2M6ST01)
Space (Location)						
describe the position and location of themselves and objects in relation to other people and objects within a familiar space (VC2MFSP02)	give and follow directions to move people and objects to different locations within a space (VC2M1SP02)	locate positions in two-dimensional representations of a familiar space; move positions by following directions and pathways (VC2M2SP02)	interpret and create two-dimensional representations of familiar environments, locating key landmarks and objects relative to each other (VC2M3SP02)	create and interpret grid reference systems using grid references and directions to locate and describe positions and pathways (VC2M4SP03)	construct a grid coordinate system that uses coordinates to locate positions within a space; use coordinates and directional language to describe position and movement (VC2M5SP02)	locate points in the 4 quadrants of the Cartesian plane; describe changes to the coordinates when a point is moved to a different position in the plane (VC2M6SP02)
				create and interpret grid reference systems using grid references and directions to locate and describe positions and pathways (VC2M4SP03)	describe and perform translations, reflections and rotations of shapes, using dynamic geometry software where appropriate; recognise what changes and what remains the same, and identify any symmetries (VC2M5SP03)	recognise and use combinations of transformations to create tessellations and other geometric patterns, using dynamic geometry software where appropriate (VC2M6SP03)
			Probability			
			identify practical activities and everyday events that involve chance, and describe possible outcomes and events as 'likely' or 'unlikely' and identify some events as 'certain' or 'impossible', explaining reasoning (VC2M3P01)	describe possible everyday events and the possible outcomes of chance experiments and order outcomes or events based on their likelihood of occurring; identify independent or dependent events (VC2M4P01)	list the possible outcomes of chance experiments involving equally likely outcomes and compare to those that are not equally likely (VC2M5P01)	describe probabilities using fractions, decimals and percentages; recognise that probabilities lie on numerical scales of 0–1 or 0%–100%; use estimation to assign probabilities that events occur in a given context, using common fractions, percentages and decimals (VC2M6P01)
			conduct repeated chance experiments; identify and describe possible outcomes, record the results, and recognise and discuss the variation (VC2M3P02)	conduct repeated chance experiments to observe relationships between outcomes in games and other chance situations, and identify and describe the variation in results (VC2M4P02)	conduct repeated chance experiments, including those with and without equally likely outcomes, and observe and record the results; use frequency to compare outcomes and estimate their likelihoods (VC2M5P02)	conduct repeated chance experiments and run simulations with an increasing number of trials using digital tools; compare observations with expected results and discuss the effect on variation of increasing the number of trials (VC2M6P02)