# MATHEMATICS SCOPE AND SEQUENCE

# Term 1

	Number and Place Value 3 weeks	Shape 2 weeks	Patterns 2 weeks	Measurement 2 weeks
F O U n d a t i O n	Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point (VCMNA069) Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond (VCMNA070) Subitise small collections of objects (VCMNA071) Compare, order and make correspondences between collections, initially to 20, and explain reasoning (VCMNA072)	Sort, describe and name familiar two-dimensional shapes and three-dimensional objects in the environment <u>(VCMMG081)</u>	Sort and classify familiar objects and explain the basis for these classifications, and copy, continue and create patterns with objects and drawings (VCMNA076) Follow a short sequence of instructions (VCMNA077)	Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language (VCMMG078)
	Number and Place Value	Shape	Patterns and skip	Units of measurement
	3 weeks	2 weeks	counting 2 weeks	2 weeks
Y	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 (VCMNA086)	Recognise and classify familiar two-dimensional	Investigate and describe number patterns formed by	Measure and compare the lengths, masses and capacities of pairs of
e a r	Recognise, model, read, write and order numbers to at least 100. Locate these numbers on a number line (VCMNA087)	three-dimensional objects using obvious features (VCMMG098)	with objects (VCM A093)	units (VCMMG095)

	Recognise, model, represent and order numbers to at least 1000 (VCMNA104) Group, partition and rearrange collections up to 1000 in hundreds, tens and ones to facilitate more efficient counting (VCMNA105)	Describe and draw two-dimensional shapes, with and without digital technologies (VCMMG120) Describe the features of three-dimensional objects (VCMMG121)	Investigate number sequences, initially those increasing and decreasing by twos, threes, fives and ten from any starting point, then moving to other sequences (VCMNA103) Describe patterns with numbers and identify missing elements (VCMNA112)	Compare and order several shapes and objects based on length, area, volume and capacity using appropriate uniform informal units (VCMMG115)
	Number and Place Value	2D shapes and 3D	Addition and Subtraction	Units of Measurement
	3 weeks	objects	2 weeks	- Incl. Length, Area and
		2 weeks		Perimeter
				2 weeks
Y e a r 3	Investigate the conditions required for a number to be odd or even and identify odd and even numbers ( <u>VCMNA129</u> ) Recognise, model, represent and order numbers to at least 10 000 ( <u>VCMNA130</u> ) Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems ( <u>VCMNA131</u> )	Make models of three-dimensional objects and describe key features <u>(VCMMG142)</u>	Recognise and explain the connection between addition and subtraction (VCMNA132) Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation (VCMNA133)	Measure, order and compare objects using familiar metric units of length, area, mass and capacity (VCMMG140)
4	Investigate and use the properties of odd and even numbers (VCMNA151) Recognise, represent and order numbers to at least tens of thousands (VCMNA152) Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems (VCMNA153) Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and	Compare and describe two dimensional shapes that result from combining and splitting common shapes, with and without the use of digital technologies (VCMMG170) Explain and compare the geometric properties of two-dimensional shapes and three-dimensional	Use equivalent number sentences involving addition and subtraction to find unknown quantities (VCMNA163)	Use scaled instruments to measure and compare lengths, masses, capacities and temperatures (VCMMG165) Compare objects using familiar metric units of area and volume (VCMMG166) Compare the areas of regular and irregular shapes by informal means (VCMMG169)
	decimal notation (VCMNA159)	objects (VCMMG171)		

	Number and Place Value 3 weeks	2D shapes and 3D objects 2 weeks	Addition and Subtraction 2 weeks	Units of Measurement - Incl. Length, Area and Perimeter 2 weeks
v	Recognise, represent and order numbers to at least hundreds of thousands (VCMNA186) Recognise that the place value system can be extended beyond hundredths (VCMNA189)	Connect three-dimensional objects with their nets and other two-dimensional representations (VCMMG198 )	Use estimation and rounding to check the reasonableness of answers to calculations (VCMNA182)	Choose appropriate units of measurement for length, area, volume, capacity and mass (VCMMG195)
e a r	Compare, order and represent decimals (VCMNA190)		Use efficient mental and written strategies and apply appropriate digital technologies to solve problems (VCMNA185)	Calculate the perimeter and area of rectangles and the volume and capacity of prisms using familiar metric units (VCMMG196)
5 / 6	Investigate everyday situations that use integers. Locate and represent these numbers on a number line (VCMNA210)	Construct simple prisms and pyramids (VCMMG228)	Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers and make estimates for these computations (VCMNA209) Add and subtract decimals, with and without digital technologies, and use estimation and rounding to check the reasonableness of answers (VCMNA214)	Connect decimal representations to the metric system (VCMMG222) Convert between common metric units of length, mass and capacity (VCMMG223) Solve problems involving the comparison of lengths and areas using appropriate units (VCMMG224)

# Term 2

	Addition and Subtraction	Data and Representation	Time	Representing Number
	2 weeks	2 weeks	2 weeks	2 weeks
F o u n d a t i o n	Represent practical situations to model addition and subtraction (VCMNA073)	Answer yes/no questions to collect information (VCMSP083) Organise answers to yes/no questions into simple data displays using objects and drawings (VCMSP084) Interpret simple data displays about yes/no questions (VCMSP085)	Compare and order the duration of events using the everyday language of time (VCMMG079) Connect days of the week to familiar events and actions (VCMMG080)	Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point (VCMNA069) Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond (VCMNA070) Subitise small collections of objects (VCMNA071) Compare, order and make correspondences between collections, initially to 20, and explain reasoning (VCMNA072)

	Addition and Subtraction 2 weeks	Data and Representation 2 weeks	Time 2 weeks	Representing Number - Fractions 2 weeks
Y e	Represent and solve simple addition and subtraction problems using a range of strategies including counting	Choose simple questions and gather responses (VCMSP101)	Tell time to the half-hour ( <u>VCMMG096)</u>	Recognise and describe one-half as one of two equal parts of a whole (VCMNA091)
a r 1	on, partitioning and rearranging parts ( <u>VCMNA089</u> )	Represent data with objects and drawings where one object or drawing represents one data value. Describe the displays (VCMSP102)	Describe duration using months, weeks, days and hours (VCMMG097)	

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Explore the connection between addition and subtraction (VCMNA106)	Identify a question of interest based on one categorical variable. Gather data relevant to the	Tell time to the quarter-hour, using the language of 'past' and 'to' (VCMMG117)	Recognise and interpret common uses of halves, quarters and eighths of shapes and
Solve simple addition and subtraction	question (VCMSP126)		collections (VCMNA110)
problems using a range of efficient		Name and order months and	
mental and written	Collect, check and classify	seasons (VCMMG118)	
strategies (VCMNA107)	data (VCMSP127)		
		Use a calendar to identify the date	
	Create displays of data using lists,	and determine the number of days in	
	table and picture graphs and interpret	each month (VCMMG119)	
	them (VCMSP128)		

	Multiplication and Division	Data and Representation	Time	Fractions
	2 weeks	2 weeks	2 weeks	2 weeks
	Recall multiplication facts of two, three, five and ten and related division facts (VCMNA134)	Identify questions or issues for categorical variables. Identify data sources and plan methods of data collection and recording (VCMSP148)	Tell time to the minute and investigate the relationship between units of time (VCMMG141)	Model and represent unit fractions including 1/2, 1/4, 1/3, 1/5 and their multiples to a complete whole (VCMNA136)
Y e	Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies (VCMNA135)	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 (VCMSP149) Interpret and compare data displays (VCMSP150)		
a r 3	Recall multiplication facts up to 10 × 10 and related division facts (VCMNA155)	Select and trial methods for data collection, including survey questions and recording sheets (VCMSP178)	Convert between units of time (VCMMG167)	Investigate equivalent fractions used in contexts (VCMNA157)
/	Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder (VCMNA156) Explore and describe number patterns resulting from performing multiplication (VCMNA161) Solve word problems by using	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 (VCMSP179) Evaluate the effectiveness of different displays in illustrating data features including variability (VCMSP180)	Use am and pm notation and solve simple time problems ( <u>VCMMG168</u> )	Count by quarters, halves and thirds, including with mixed numerals. Locate and represent these fractions on a number line (VCMNA158) Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation (VCMNA159)
	number sentences involving multiplication or division where there is no remainder (VCMNA162)			

	Multiplication and Division 2 weeks	Data and Representation 2 weeks	Time 2 weeks	Fractions, Percentages and Decimals
Y e a r 5 / 6	Identify and describe factors and multiples of whole numbers and use them to solve problems (VCMNA181) Use estimation and rounding to check the reasonableness of answers to calculations (VCMNA182) Solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental, written strategies and appropriate digital technologies (VCMNA183) Solve problems involving division by a one digit number, including those that result in a remainder (VCMNA184) Use efficient mental and written strategies and apply appropriate digital technologies to solve problems (VCMNA185) Use equivalent number sentences involving multiplication and division to find unknown quantities (VCMNA193)	Pose questions and collect categorical or numerical data by observation or survey (VCMSP205) Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies (VCMSP206) Describe and interpret different data sets in context (VCMSP207)	Compare 12- and 24-hour time systems and convert between them (VCMMG197)	2 Weeks Compare and order common unit fractions and locate and represent them on a number line (VCMNA187) Investigate strategies to solve problems involving addition and subtraction of fractions with the same denominator (VCMNA188)

Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers and make estimates for these computations (VCMNA209)	Construct, interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables (VCMSP235)	Interpret and use timetables (VCMMG226) Measure, calculate and compare elapsed time (VCMMG227)	Compare fractions with related denominators and locate and represent them on a number line (VCMNA211)
Multiply decimals by whole numbers and perform divisions by non-zero whole numbers where the results are terminating	Interpret secondary data presented in digital media and elsewhere (VCMSP236)		and subtraction of fractions with the same or related denominators (VCMNA212)
decimals, with and without digital technologies ( <u>VCMNA215</u> ) Multiply and divide decimals by powers of 10 ( <u>VCMNA216</u> )	Pose and refine questions to collect categorical or numerical data by observation or survey (VCMSP237)		Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies (VCMNA213)
			Make connections between equivalent fractions, decimals and percentages (VCMNA217)

F	Location/ Transformation	Money	Chance	Division (Addition and
0	2 weeks	2 weeks	2 weeks	Subtraction)
u				3 weeks
n	Describe position and	Represent simple, everyday financial	Introduction to chance	Represent practical situations to model
d	movement (VCMMG082)	situations involving		sharing (VCMNA074)
а	Describe position and			
t	movement (VCMMG082)			
i				
0				
n				

	Location /Transformation 2 weeks	Money 2 weeks	Chance and Probability 2 weeks	Multiplication and Division 3 weeks
Y e	Give and follow directions to familiar locations ( <u>VCMMG099</u> )	Recognise, describe and order Australian coins according to their value (VCMNA092)	Identify outcomes of familiar events involving chance and describe them using everyday language such as 'will happen', 'won't happen' or 'might happen' (VCMSP100)	Represent practical situations that model sharing ( <u>VCMNA090</u> )
a r 1 / 2	Investigate the effect of one-step slides and flips with and without digital technologies (VCMMG123)	Count and order small collections of Australian coins and notes according to their value (VCMNA111)	Identify practical activities and everyday events that involve chance. Describe outcomes as 'likely' or 'unlikely' and identify some events as	Recognise and represent multiplication as repeated addition, groups and arrays (VCMNA108)
	Identify and describe half and quarter turns (VCMMG124)		'certain' or 'impossible' <u>(VCMSP125)</u>	Recognise and represent division as grouping into equal sets and solve simple problems using these representations (VCMNA109)
	Interpret simple maps of familiar locations and identify the relative positions of key features (VCMMG122)			

	Location/Transformation 2 weeks	Money 2 weeks	Chance and Probability 2 weeks	Four Operations 3 weeks
Y e a r	Identify and describe slides and turns found in the natural and built environment (VCMMG145) Identify symmetry in the environment (VCMMG144) Create and interpret simple grid maps to show position and pathways (VCMMG143)	Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents (VCMNA137)	Conduct chance experiments, identify and describe possible outcomes and recognise variation in results (VCMSP147)	Recall multiplication facts of two, three, five and ten and related division facts (VCMNA134) Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies (VCMNA135)
3 / 4	Create symmetrical patterns, pictures and shapes with and without digital technologies (VCMMG173) Use simple scales, legends and directions to interpret information contained in basic maps (VCMMG172)	Solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies (VCMNA160)	Describe possible everyday events and order their chances of occurring (VCMSP175) Identify everyday events where one cannot happen if the other happens (VCMSP176) Identify events where the chance of one will not be affected by the occurrence of the other (VCMSP177)	Define a simple class of problems and solve them using an effective algorithm that involves a short sequence of steps and decisions (VCMNA164)

	Location/Transformation	Money	Chance and Probability	Order of Operations
	2 weeks	2 weeks	2 weeks	3 weeks
Ye	Describe translations, reflections and rotations of two-dimensional shapes. Identify line and rotational symmetries (VCMMG200)	Create simple financial plans (VCMNA191)	List outcomes of chance experiments involving equally likely outcomes and represent probabilities of those outcomes using fractions (VCMSP203)	Use estimation and rounding to check the reasonableness of answers to calculations (VCMNA182)
	Apply the enlargement transformation to familiar two dimensional shapes and explore the properties of the resulting image compared with the original (VCMMG201)		Recognise that probabilities range from 0 to 1 (VCMSP204)	
a r 5 /	Use a grid reference system to describe locations. Describe routes using landmarks and directional language (VCMMG199)			
6	Investigate the effect of combinations of transformations on simple and composite shapes, including creating tessellations, with and without the use of digital technologies (VCMMG229)	Investigate and calculate percentage discounts of 10%, 25% and 50% on sale items, with and without digital technologies (VCMNA218)	Describe probabilities using fractions, decimals and percentages (VCMSP232) Conduct chance experiments with both	Explore the use of brackets and order of operations to write number sentences (VCMNA220) Select and apply efficient mental and
	Introduce the Cartesian coordinate system using all four quadrants (VCMMG230)		small and large numbers of trials using appropriate digital technologies (VCMSP233) Compare observed frequencies across experiments with expected frequencies (VCMSP234)	digital technologies to solve problems involving all four operations with whole numbers and make estimates for these computations (VCMNA209)

# Term 4

F	Measurement - Weight/mass	Number Patterns - Skip counting	Time 2 weeks	Statistics and Data 2 weeks
o u	2 weeks	2 weeks		
n d a	Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday	Introduction to skip counting. Repeated addition	Compare and order the duration of events using the everyday language of time (VCMMG079)	Answer yes/no questions to collect information (VCMSP083)
t i	language <u>(VCMMG078)</u>		Connect days of the week to familiar events and actions (VCMMG080)	Organise answers to yes/no questions into simple data displays using objects and drawings (VCMSP084)
n				Interpret simple data displays about yes/no questions (VCMSP085)

	- Weight/mass	Number Patterns	lime 2 weeks	Statistics and Data
	2 weeks	- Multiplicative thinking 2 weeks	ZWEEKS	ZWEEKS
Y e a	Measure and compare the lengths, masses and capacities of pairs of objects using uniform informal units (VCMMG095)	Recognise the importance of repetition of a process in solving problems (VCMNA094)	Tell time to the half-hour ( <u>VCMMG096</u> ) Describe duration using months, weeks, days and hours ( <u>VCMMG097</u> )	Choose simple questions and gather responses (VCMSP101) Represent data with objects and drawings where one object or drawing represents one data value. Describe the displays (VCMSP102)
r 1 2	Compare masses of objects using balance scales (VCMMG116) Compare and order several shapes and objects based on length, area, volume and capacity using appropriate uniform informal units (VCMMG115)	Investigate number sequences, initially those increasing and decreasing by twos, threes, fives and ten from any starting point, then moving to other sequences (VCMNA103) Describe patterns with numbers and identify missing elements (VCMNA112) Solve problems by using number sentences for addition or subtraction (VCMNA113) Apply repetition in arithmetic operations, including multiplication as repeated addition	Tell time to the quarter-hour, using the language of 'past' and 'to' (VCMMG117) Name and order months and seasons (VCMMG118) Use a calendar to identify the date and determine the number of days in each month (VCMMG119)	Identify a question of interest based on one categorical variable. Gather data relevant to the question (VCMSP126) Collect, check and classify data (VCMSP127) Create displays of data using lists, table and picture graphs and interpret them (VCMSP128)

	Measurement - Volume and Capacity	Number Patterns - Maths rules	Geometric Reasoning 2 weeks	Statistics and Data 2 weeks
	2 weeks	2 weeks		
Y e a r	Measure, order and compare objects using familiar metric units of length, area, mass and capacity (VCMMG140)	Describe, continue, and create number patterns resulting from performing addition or subtraction (VCMNA138) Use a function machine and the inverse machine as a model to apply mathematical rules to numbers or shapes (VCMNA139)	Identify angles as measures of turn and compare angle sizes in everyday situations (VCMMG146)	Identify questions or issues for categorical variables. Identify data sources and plan methods of data collection and recording (VCMSP148) 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 (VCMSP149) Interpret and compare data
3 / 4	Use scaled instruments to measure and compare lengths, masses, capacities and temperatures (VCMMG165) Compare objects using familiar metric units of area and volume (VCMMG166)	Investigate number sequences involving multiples of 3, 4, 6, 7, 8, and 9 (VCMNA154) Explore and describe number patterns resulting from performing multiplication (VCMNA161)	Compare angles and classify them as equal to, greater than or less than a right angle (VCMMG174)	Select and trial methods for data collection, including survey questions and recording sheets (VCMSP178) 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 (VCMSP179)
				Evaluate the effectiveness of different displays in illustrating data features including variability (VCMSP180)

	Measurement - Volume and Capacity	Patterns and Algebra 2 weeks	Geometric Reasoning - Angles	Statistics and Data 2 weeks
	2 weeks		2 weeks	
Y e r 5/	Choose appropriate units of measurement for length, area, volume, capacity and mass (VCMMG195)	Describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction (VCMNA192)	Estimate, measure and compare angles using degrees. Construct angles using a protractor (VCMMG202)	Pose questions and collect categorical or numerical data by observation or survey (VCMSP205)
	Calculate the perimeter and area of rectangles and the volume and capacity of prisms using familiar metric units (VCMMG196)	Use equivalent number sentences involving multiplication and division to find unknown quantities (VCMNA193)		Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies (VCMSP206)
		Follow a mathematical algorithm involving branching and repetition (iteration) (VCMNA194)		Describe and interpret different data sets in context ( <u>VCMSP207)</u>
6	Convert between common metric units of length, mass and capacity (VCMMG223) Connect volume and capacity and their	Continue and create sequences involving whole numbers, fractions and decimals. Describe the rule used to create the sequence (VCMNA219)	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 (VCMMG231)	Construct, interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables (VCMSP235)
	units of measurement (VCMMG225)	Design algorithms involving branching and iteration to solve specific classes of mathematical problems (VCMNA221)		Interpret secondary data presented in digital media and elsewhere (VCMSP236)
		Identify and describe properties of prime, composite, square and triangular numbers (VCMNA208)		Pose and refine questions to collect categorical or numerical data by observation or survey (VCMSP237)