Australian CURRICULUM Review

MATHEMATICS

CONSULTATION CURRICULUM

Scope and sequence F–6

Mathematics	Foundation	Year 1	Year 2
	Achievement standard		
	By the end of Foundation year, students can use subitising and counting strategies to demonstrate that numbers represent a quantity and have an order. They compare and match the size of collections to at least 20 for a purpose. Students make and describe connections between number names, numerals and position in the sequence of numbers. They identify numbers represented in different ways and demonstrate that numbers can be partitioned using two or more partitions or can be combined to make numbers up to10. Students model practical situations that involve equal sharing, adding to, and taking away from a collection to 10. They describe, continue and create repeating patterns using a variety of mediums. Students distinguish between the attributes of mass, capacity and length when comparing objects, using appropriate direct comparison strategies. They directly compare the duration of events by starting events at the same time.Students identify, describe and sort familiar shapes and objects and explain their reasoning using everyday language. Theydescribe position and respond to instructions to move themself or objects to other locations within a familiar space and use everyday language to describe their movements in relation to other objects. Students collect, sort, compare and quantify objects and images in response to given questions in familiar contexts. They discuss the outcomes of familiar activities and chance events.	By the end of Year 1, students connect number names, numerals and quantities. They describe how numbers can be partitioned in different ways and use multiple representations of these numbers. Students demonstrate that numbers are composed in groups of tens and ones and into other number groupings. Students identify the 0–9 repeating sequence in and between the decades and can skip count from different starting points. They partition collections into groups and use skip counting and other quantifying strategies to quantify the number of objects in collections to at least 100. They use materials, including money, and a variety of strategies to model situations and solve everyday problems involving addition, subtraction, equal sharing and grouping. Students identify, describe and create repeating patterns using shapes, objects and number patterns formed by skip counting from different starting points. They compare and order objects based on their attributes of length, mass and capacity, and events based on their duration. Students make direct and indirect comparison of lengths, masses, capacities and durations and explain their strategies. They measure the length of shapes and objects using uniform informal units. Students sort and classify shapes and objects using obvious features. They use directions to move objects within a familiar space. Students collect and record data, create one-to-one displays and compare and discuss the data using total frequencies. They can list and describe the outcomes of familiar chance events using everyday language.	By the end of Year 2, students apply knowledge of place value to group, partition, rearrange and rename two-digit and three-digit numbers in terms of their parts and regroup partitioned numbers to enable more efficient computation. They formulate situations, including financial contexts and solve practical problems involving addition and subtraction, using number sentences and efficient strategies. Students represent practical situations involving multiplication and division using equal groups, arrays, repeated addition and subtraction and solve practical problems using physical and virtual materials. They identify part-whole relationships and interpret common uses of halves and quarters of shapes, objects and collections applied in practical contexts. Students estimate the size of large collections applying their knowledge of place value. They describe and continue patterns formed by increasing or decreasing additively by a fixed amount and connect patterns represented in different contexts. Students use consistent informal units repeatedly to compare different measurements of shapes and objects. They explain the effects of one-step transformations and compare shapes and objects describing features and properties using spatial terms. Students identify relative positions, locate things on two-dimensional representations and move within a space by giving and following directions and pathways. They use a range of methods, including digital tools, to collect and record categorical data, representing and interpreting the data in response to investigative questions. Students describe and order the likelihood of outcomes for everyday events and explain their reasoning.
Strand	**Content description**		
	Students learn to:		
Number	connect numbers (including zero) to their representative quantities, numerals, number names and position in the sequence, initially up to 10 and then beyond (AC9MFN01)	recognise, read, write and order natural numbers to at least 100 and represent them using physical and virtual materials (including Australian coins and notes), number lines and charts (AC9M1N01)	recognise, read, write and order natural numbers to at least 1000 and represent them using physical or virtual materials, number lines and charts, recognising the place value of each digit (AC9M2N01)
	instantly recognise and name the number of objects within collections of up to five items without counting (subitise). Quantify and compare collections of at least 10 objects by recognising and naming the partitions using part-part-whole relationships (AC9MFN02)	recognise that two-digit numbers are composed of groups of tens and ones and can be partitioned into other number groupings (AC9M1N02)	group, partition, rearrange and rename numbers up to 1000 according to their place value and into other number groupings. Explain the role of a zero digit in place value notation (AC9M2N02)
	establish understanding of the language and processes of counting to quantify, compare, order and make correspondences between collections, initially to 20, and explain reasoning (AC9MFN03)	quantify larger sets of objects, to at least 100, by partitioning collections into groups to facilitate more efficient counting. Continue the count, using knowledge place value and skip-counting, recognising that the last number said in the count represents the total quantity of objects, (AC9M1N03)	estimate the quantity of objects in large sets using knowledge of the size of numbers to make and justify reasonable estimates (AC9M2N03)
	model practical situations and solve problems involving addition and subtraction with physical and virtual materials, using counting or subitising strategies to determine the total or the number of objects remaining (AC9MFN04)	model situations (including money transactions) and solve problems involving one-digit and two-digit addition and subtraction using physical or virtual materials, diagrams and a range of strategies (AC9M1N04)	model situations (including money transactions) and solve problems involving addition and subtraction of two-digit numbers using part-whole reasoning, number sentences, physical or virtual materials, diagrams and efficient strategies. Explain the results in terms of the situation

			(AC9M2N04)
	model practical situations and solve problems that involve equal sharing, through role play and games using physical and virtual materials (AC9MFN05)	model situations and solve problems that involve equal sharing and grouping using physical or virtual materials (including money) and diagrams, counting or subitising to find the number in each share or the combined total of the groups (AC9M1N05)	model situations (including money transactions) and solve problems involving multiplication and division, representing the situation as repeated addition, equal groups and arrays. Use a range of efficient strategies to find a solution. Explain the results in terms of the situation (AC9M2N05)
			recognise and describe one-half as one of two equal parts of a whole. Connect halves, quarters and eighths through repeated halving and interpret common uses of halves, quarters and eighths of shapes and collections (AC9M2N06)
Algebra	describe, copy, continue and create repeating patterns using different elements including movement, sounds, colours, objects, shapes, and numbers (AC9MFA01)	recognise, describe, continue and create growing number patterns formed by skip-counting, initially by twos, fives and tens starting from zero (AC9M1A01)	recognise, identify, describe, and continue additive patterns that increase or decrease by fixed amounts and identify missing elements in the pattern (AC9M2A01)
		recognise, describe, continue and create repeating pattern sequences with numbers and objects, identifying the unit of repeat, including recognising the 0-9 repeating sequence within and between the decades (AC9M1A02)	recognise and connect number patterns from one context to a pattern of the same form in another context (AC9M2A02)
Measurement	explore and identify attributes of objects and events including length, capacity, mass and duration. Use direct comparisons and everyday language to compare pairs of objects and events, using these attributes and communicating reasoning (AC9MFM01)	measure and compare objects and events using familiar attributes including length, mass, capacity and duration and order objects and events using direct and indirect comparisons, communicating reasoning for strategies (AC9M1M01)	select attributes and appropriate uniform informal units to measure, compare and order objects and events based on length, capacity, mass and duration, using units without gaps or overlaps and smaller units for accuracy when necessary (AC9M2M01)
		recognise that units need to be uniform and used end to end for consistency when measuring. Explore informal ways to measure, compare and communicate the length of objects using informal units (AC9M1M02)	
	connect days of the week and times of day (morning, lunchtime, afternoon, evening) to familiar events and actions (AC9MFM02)	compare sequences and cycles of events and describe their duration using familiar units of time including years, months, weeks, days and hours (AC9M1M03)	use a calendar to identify the date and determine the number of days in each month and the total number of days in a year (AC9M2M02)
			recognise and tell time to the hour, half hour and quarter-hour (AC9M2M03)
			identify and describe measures of turn (quarter, half, three-quarters and full turns) in everyday situations (AC9M2M04)
Space	sort, name and make familiar shapes and objects. Recognise and describe familiar shapes and objects within the environment using everyday language (AC9MFSP01)	recognise, compare and classify familiar shapes and objects in the environment, using obvious features. Identify the similarities and differences between them (AC9M1SP01)	recognise, compare and classify regular and irregular shapes and objects describing features and properties using spatial terms (including parallel sides) (AC9M2SP01)
	describe position and movement of self and objects in relation to other objects and locations within a familiar space (AC9MFSP02)	give and follow directions to move people and objects to different locations (AC9M1SP02)	locate positions and identify relative positions of key features of a familiar space represented in two-dimensions. Move positions following directions and pathways (AC9M2SP02)
			recognise and explain the effect of one-step transformations (including translation, reflection and rotation) on shapes using dynamic geometric software where appropriate (AC9M2SP03)
Statistics	collect, record, sort and compare data represented by objects and images in response to investigative questions relating to familiar contexts (AC9MFST01)	explore various types of investigative questions used to collect data. Discuss the type of data they produce and the sorts of decisions that could be made) (AC9M1ST01)	identify a question of interest involving one categorical variable. Gather data relevant to the question and use the variation in data to reason and respond to these questions (AC9M2ST01)

Australian Curriculum: Mathematics – Scope and sequence F–6
Consultation curriculum

		acquire data and record in various ways (objects, images, drawings, lists, tally marks and symbols) using digital tools where appropriate (AC9M1ST02)	acquire categorical data sets through surveys, observation or experiment using digital tools to assist where appropriate. Sort into relevant categories and display data for summary using lists and tables (AC9M2ST02)
		represent collected categorical data using one-to-one displays (including pictographs and tally charts) using digital tools where appropriate. Quantify and compare the data using total frequencies and discuss the findings (AC9M1ST03)	create different graphical representations of data sets using software to assist where appropriate. Compare the different representations, identify and describe common and distinctive features (AC9M2ST03)
Probability	discuss and explore the outcomes of games and familiar events involving chance (AC9MFP01)	identify outcomes of familiar events involving chance and describe them using everyday language such as 'will happen', 'won't happen' or 'might happen' (AC9M1P01)	identify practical activities and everyday events that involve chance. Describe outcomes in terms of their relative likelihood and recognise that while a chance event may occur, it may also not occur and there is no way of knowing which will be the case in advance (AC9M2P01)

Mathematics	Year 3	Year 4
	Achievement standard	
	By the end of Year 3 students apply an understanding of place value and the structure of numbers when partitioning, rearranging, regrouping and renaming numbers to at least 10 000 in different ways. They use addition and subtraction as inverse operations. Students establish and use single-digit addition and related subtraction facts to construct equivalent number sentences and to develop additive strategies for modelling and solving problems involving two-digit and three-digit numbers. They round numbers to make estimates for financial and other calculations. Students model situations and solve problems involving single-digit multiplication and division using diagrams, equal groups and arrays. They apply part-whole understanding to represent unit fractions and their multiples in different ways. Students identify, create and continue patterns formed by multiplying or dividing by two. They create and use algorithms to investigate the properties of odd and even numbers and to identify patterns and develop facts for single-digit multiplication of two, three, five and ten. Students use known measurements of familiar items to compare and make estimates and use familiar metric units when measuring attributes of objects and events. They identify angles as measures of turn. Students communicate estimates and measures of duration using formal units of time. They identify key features of objects and connect them to how the objects are used and classified. Students create two-dimensional representations of environments that show the positions of objects relative to each other. They identify and describe line symmetry in the environment. Students communicate with reasons, results and conclusions from guided statistical investigations involving categorical and discrete numerical data. Students record, represent and compare collected data using appropriate methods. Students identify all possible outcomes of chance events and report on variation observed when chance events are repeated.	By the end of Year 4, students use their understanding of the structure of place value to efficiently multiply natural numbers by multiples of 10, and to represent tenths and hundredths in decimal form. They model situations, including financial contexts, and use addition and multiplication facts to add and subtract four-digit numbers and multiply and divide numbers efficiently. Students develop and use rounding and estimation strategies to reason and determine whether results are reasonable. They identify patterns in the multiplication facts and use their knowledge of these patterns in efficient strategies for mental calculations. Students solve problems using the properties of odd and even numbers. They locate common fractions on a number line and use fraction notation and other representations to demonstrate equivalence within families of fractions. Students identify and explain emerging patterns in sequences involving multiples and generated by algorithms using computational approaches and digital tools. They use the properties of operations and the structure of numbers to find unknown values in equivalent number sentences involving addition and subtraction. Students use common scaled instruments to measure length, mass, capacity and temperature, using units that are appropriate for purpose. They measure and approximate the perimeter of shapes and enclosed boundaries and use square units to measure and approximate area. Students convert between units of time when solving problems involving duration. They compare angles relative to a right or straight angle and use formal angle names to communicate their results. Students apply spatial reasoning to model more complex shapes and objects with simpler ones. They create, use and interpret grid reference maps as two-dimensional representations of objects and spaces. Students identify rotational symmetry in plane shapes and create symmetrical patterns. They use surveys and other means to generate categorical data in statistical investigations and communicate their findings in the context of the data. Students create displays, including column graphs and many-to-one pictographs, to represent and show the spread and variability of a data set. They assess the suitability of displays for representing data and discuss the shape of data distributions and the variation in data. Students use experience and the results of experiments to order the likelihood of the outcomes of chance events and identify whether events are independent or dependent.

Strand	Content description *Students learn to:*	
Number	represent, read, write, rename and order natural numbers to at least 10 000 using naming and writing conventions for larger numbers and relate these representations to place value in the base 10 number system (AC9M3N01)	recognise, explain and extend the application of place value to tenths and hundredths and use the conventions of decimal notation to name, rename and represent decimal numbers (AC9M4N01)
	apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist in calculations when solving problems (AC9M3N02)	recognise the multiplicative relationship between the place value of digits and apply to solve problems involving multiplying or dividing natural numbers by multiples of ten (AC9M4N02)
	round natural numbers to the nearest multiple of five or ten to make estimates for financial transactions and to solve other practical problems (AC9M3N03)	use estimation and rounding to check and explain the reasonableness of solutions to problems (including purchases and the calculation of change to the nearest five cents) by recalling and applying number facts and rounding results of calculations where appropriate (AC9M4N03)
		apply the properties of odd and even numbers when solving problems (AC9M4N04)
	recognise and use different models to represent the unit fractions $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}$ and their multiples. Combine fractions with the same denominator to complete the whole using part-whole understanding (AC9M3N04)	recognise the relationships between families of fractions (halves, quarters and eighths; fifths and tenths; thirds, sixths and twelfths) including equivalence. Use different representations (including fraction notation) to designate parts of a whole (AC9M4N05)
		count by fractions (including quarters, halves, thirds and mixed numerals). Locate and represent these fractions on number lines (AC9M4N06)
	model situations and solve problems (including representing money in different ways) involving addition and subtraction of two-digit and three-digit numbers, applying knowledge of partitioning, place value and basic facts. Explain results in terms of the situation (AC9M3N05)	model situations (including financial contexts) and solve problems involving addition and subtraction of numbers to at least 10 000, by formulating expressions and choosing efficient strategies, including digital tools where appropriate. Justify choices and explain results in terms of the situation (AC9M4N07)
	model situations (including financial contexts) and solve problems involving multiplication and division using diagrams, equal groups and arrays. Represent the situation as a number sentence and solve using digital tools where appropriate. Explain the results in terms of the situation (AC9M3N06)	model situations (including financial contexts) and solve problems involving multiplication and division where there is no remainder, using diagrams, arrays and number sentences choosing efficient strategies and using digital tools where appropriate. Explain results in terms of the situation (AC9M4N08)
Algebra	identify, continue and create extended number sequences formed by doubling and halving using technology to assist where appropriate. Identify and describe emerging patterns (AC9M3A01)	continue and create extended number sequences involving multiples of 3, 4, 6, 7, 8, and 9 using technology to assist where appropriate. Identify and explain emerging patterns (AC9M4A01)
	recognise and explain the connection between addition and subtraction as inverse operations and apply to partition numbers when generating equivalent number sentences (AC9M3A02)	find unknown values in equivalent number sentences applying an understanding of associative and commutative properties of addition and the inverse property of addition and subtraction (AC9M4A02)
	recognise and explain patterns in basic addition facts up to 10 + 10 and related subtraction facts. Extend and apply these patterns to develop efficient mental strategies for computation with larger numbers (AC9M3A03)	recognise, recall and explain patterns in basic multiplication facts up to 10 x 10 and related division facts. Extend and apply these patterns to develop increasingly efficient mental strategies for computation with larger numbers (AC9M4A03)
	describe, follow and create algorithms involving a sequence of steps and decisions to investigate numbers including odd and even numbers and multiples of 2, 3, 5 and 10 using computational thinking to recognise, describe and explain emerging patterns (AC9M3A04)	describe, follow and create algorithms that generate a sequence of numbers resulting from performing multiplication and use computational thinking to recognise, describe and explain emerging patterns (AC9M4A04)
Measurement	measure, order and compare objects using familiar metric units of length, mass and capacity to solve practical problems (AC9M3M01)	use scaled instruments and appropriate units to measure and compare attributes of length, mass, capacity and temperature and solve practical problems (AC9M4M01)
	recognise which metric units are used to measure everyday items and use known measures and related units as a benchmark to make, improve and check the reasonableness of estimates (AC9M3M02)	recognise ways of measuring and use appropriate units to measure and approximate the perimeter of shapes and enclosed spaces (AC9M4M02)
		recognise and describe area as a measure of two-dimensional space and use square units to measure and approximate the area of regular and irregular shapes (AC9M4M03)
	communicate estimates and measures of duration using formal units including days, hours, minutes and seconds (AC9M3M03)	solve everyday problems involving the duration of time including situations involving references to 'am' and 'pm' and conversions between units of time (AC9M4M04)

	identify angles as measures of turn such as a right angle (quarter turn) and compare angle sizes in everyday situations (AC9M3M04)		estimate, compare and describe angles using angle names where appropriate (including acute, obtuse, straight angle, reflex and revolution) and their relationships to a right angle (AC9M4M05)
Space	analyse, classify and make models of objects, identifying key features and explaining why these features make them suited to their uses (AC9M3SP01)		use combinations of shapes and objects to make or approximate more complex shapes and objects in the environment (AC9M4SP01)
	create, use and interpret models of familiar environments positioning representations of key landmarks and objects relative to each other (AC9M3SP02)		create and interpret grid maps using grid references and directions to locate and describe positions and pathways (AC9M4SP02)
	identify line symmetry in the environment, using terms such as vertical, horizontal and diagonal to describe the lines (AC9M3SP03)		recognise rotational symmetry of shapes and create symmetrical patterns, and pictures using dynamic geometric software where appropriate (AC9M4SP03)
Statistics	acquire categorical or discrete numerical data by observing, collecting and accessing existing data sets. Record and represent it using appropriate methods (including frequency tables and spreadsheets) and use total frequencies to compare data (AC9M3ST01)		construct, interpret and compare many-to-one pictographs, column graphs and other displays or visualisations suited to the data set(s) using software to construct graphs where appropriate and identify and discuss the information that has been created (AC9M4ST01)
	interpret and compare various displays using software to construct graphs where appropriate. Interpret, describe and explain them in the context they represent (AC9M3ST02)		evaluate the effectiveness of different displays or visualisations in illustrating and comparing features of data distributions. Discuss and communicate the shape of the distribution and variation in the data (AC9M4ST02)
	use the statistical investigation process to conduct guided statistical investigations involving the collection of categorical or discrete numerical data with respect to contexts and problems of interest (AC9M3ST03)		plan and conduct statistical investigations, collecting and recording categorical data through survey responses and other means using digital tools (including spreadsheets) as appropriate. Interpret, compare and communicate findings within the context of the investigation (AC9M4ST03)
Probability	conduct chance experiments, involving repetitions of an activity, experiment or game. List and describe the set of all possible outcomes, recognising and recording variation in results using digital tools as appropriate (AC9M3P01)		use experience and experiments to order chance events based on their likelihoods of occurring (AC9M4P01)
			explore the relationships between outcomes in games and other chance situations and identify whether the chance of one outcome occurring will or will not be affected by the occurrence of other outcome(s) (AC9M4P02)

Mathematics	Year 5	Year 6
	Achievement standard	
	By the end of Year 5, students use natural numbers and arithmetic operations in expressions that model financial and other practical situations. They write natural numbers as products of factors and use to identify multiples and related rules for division. Students use place value to write, rename, compare and order decimals including decimals greater than one. They compare, order and represent fractions with the same or related denominators. Students connect common percentages to their fraction and decimal equivalents and use percentages to represent, describe and compare relative size. They apply knowledge of multiplication facts and efficient strategies to multiply large numbers by one-digit and two-digit numbers and divide by single-digit numbers, interpreting any remainder in the context of the problem. Students add and subtract fractions with the same denominator. They check the reasonableness of their results using estimation and interpret their findings in relation to the situation being modelled. Students identify, extend and create patterns that involve natural numbers, fractions and decimals. They apply properties to manipulate and identify equivalent number sentences and solve numerical equations. Students use a computational thinking approach to identify and explain patterns in the factors and multiples of numbers.	By the end of Year 6, students use integers in practical situations and to represent points on a number line and in the Cartesian plane. They use their knowledge of the properties of prime and composite numbers to solve problems and simplify calculations. Students connect fractions, decimals and percentages as different representations of the same rational number and order common fractions giving reasons. They use different representations of rational numbers when solving problems. Students apply knowledge of place value, multiplication and addition facts to operate with decimals. They use equivalence to solve problems involving the addition and subtraction of fractions with related denominators. Students use estimation and substitution strategies when appropriate to find approximate solutions to problems involving rational numbers and percentages. They model situations, including financial contexts, using number sentences that involve all four operations and the use of brackets with natural numbers and interpret them in context. Student use equivalent number sentences to find unknown values. They identify patterns of the same form in different contexts and distinguish between patterns growing additively and multiplicatively. Students identify and explain rules used to create and continue number sequences and apply computational thinking to identify and explain patterns.
	They consider the accuracy required when choosing metric units to solve practical problems involving perimeter and area and convert between 12-hour and 24-hour time. Students use appropriate spatial terms when constructing, measuring and comparing angles in degrees. They use grid coordinates to locate and move positions and create two-dimensional nets for objects. Students use their knowledge of the properties	They interpret and use timetables in practical applications. Students connect decimal representations to the metric system and convert between common units of length mass and capacity. They use the formula of a rectangle and the properties of angles formed when two lines intersect in the plane to solve practical problems. Students connect prisms to their parallel cross sections and use computational thinking to conjecture about the effects of combinations of transformations, creating tessellating patterns.

Australian Curriculum: Mathematics – Scope and sequence F–6
Consultation curriculum

	of, and the relationships between shapes and objects to develop and use algorithms to categorise them. They identify and describe differences and similarities between a shape and the image produced when transformations are applied and any rotational symmetries. Students plan and conduct statistical investigations that collect ordinal categorical and discrete numerical data and use dot plots and the mode, to discuss the distribution of data. They construct and interpret line graphs and identify and discuss the relationships represented. Students list the outcomes of chance events, estimate likelihoods and make comparisons between those with equally likely outcomes and those without.	They compare, analyse and report on the variation between data sets collected and represented as part of their statistical investigations and explain their choice of representation(s) in terms of context and purpose. Students critique arguments presented in the media based on statistics. They describe probabilities using familiar fractions, decimals and percentages. They apply computational thinking to conduct simulations that generate and record the outcomes from many trials of a chance experiment. Students use observed frequencies to determine the expected probabilities of the outcomes of chance events.
Strand	**Content description** *Students learn to:*	
Number	use place value understanding to interpret, write, name and rename numbers with more than two decimal places (including numbers greater than one). Compare, order, locate and represent these on a number line (AC9M5N01)	recognise everyday situations that use integers (including financial contexts). Locate and represent these numbers on a number line and as coordinates on the Cartesian plane (AC9M6N01)
	decompose natural numbers into products of factors and recognise multiples using divisibility rules to determine if one number is divisible by another (AC9M5N02)	identify and describe the properties of prime and composite numbers and use to solve problems and simplify calculations (AC9M6N02)
	use estimation strategies appropriate to the context (including financial contexts) when making decisions about approaches to solving problems and to check the reasonableness of solutions (AC9M5N03)	use estimation strategies appropriate to the context (including financial contexts) to approximate numerical solutions to problems involving rational numbers and percentages, including substituting easier values into calculations to obtain an approximate solution (AC9M6N03)
	apply knowledge of factors and multiples to compare and order fractions with the same and related denominators (including numbers greater than one) and represent them on number lines explaining any equivalences and the order (AC9M5N04)	apply knowledge of equivalence to compare, order, locate and represent common unit fractions and their multiples (including halves, thirds and quarters) on the same number line and justify their order (AC9M6N04)
	use percentages to describe, represent and compare relative size and recognise that 100% represents the complete whole. Connect familiar percentages to their decimal and fraction equivalents (AC9M5N05)	connect and use equivalent forms of rational numbers to solve problems that require finding a familiar fraction or percentage of a quantity (including percentage discounts of 10%, 25% and 50%). Choose efficient strategies using digital tools where appropriate (AC9M6N05)
	solve problems involving addition and subtraction of fractions with the same denominator, investigating different strategies, including using different representations (AC9M5N06)	solve problems involving addition and subtraction of fractions with the related denominators using knowledge of equivalent fractions (AC9M6N06)
	choose efficient strategies to represent and solve problems involving multiplication of large numbers by one-digit or two-digit numbers using basic facts, place value, properties of operations and digital tools where appropriate, explaining the reasonableness of the answer (AC9M5N07)	apply knowledge of place value to add and subtract decimals, using digital tools where appropriate, and use estimation and rounding to check the reasonableness of answers (AC9M6N07)
	choose efficient strategies to represent and solve division problems, using basic facts, place value, the inverse relationship between multiplication and division and digital tools where appropriate. Interpret any remainder according to the context and express results as a mixed fraction or decimal (AC9M5N08)	apply knowledge of place value and multiplication facts to multiply and divide decimals by natural numbers using efficient strategies and appropriate digital tools. Use estimation and rounding to check the reasonableness of answers (AC9M6N08)
	model situations (including financial contexts) formulating expressions using addition, subtraction, multiplication and/or division. Choose efficient strategies using the properties of operations and digital tools where appropriate. Justify choices and explain results in terms of the situation (AC9M5N09)	model situations (including financial contexts) by identifying and describing a mathematical problem and formulating expressions using combinations of all four operations and brackets as appropriate. Choose efficient strategies, using digital tools where appropriate. Justify choices and explain results in terms of the situation (AC9M6N09)
Algebra	continue and create extended number sequences with fractions, decimals and natural numbers resulting from addition and subtraction using technology to assist where appropriate. Recognise and explain emerging patterns (AC9M5A01)	continue and create extended number sequences involving natural numbers, fractions and decimals, using digital tools to assist where appropriate. Describe the rule used to create the sequence and explain emerging patterns (AC9M6A01)
		recognise and distinguish between patterns growing additively and multiplicatively and connect patterns in one context to a pattern of the same form in another context (AC9M6A02)
	find unknown values in equivalent number sentences involving multiplication and division applying an understanding of the associative, distributive, commutative and inverse properties, using factors and multiples. Identify and use equivalent number sentences involving multiplication and division to form numerical equations (AC9M5A02)	explore the use of brackets and order of operations to write number sentences. Construct equivalent number sentences involving brackets and combinations of the four operations and use the properties of numbers and operations to determine unknown values (AC9M6A03)

		use algorithms and digital tools to explore factors and multiples and apply computational thinking to recognise, interpret and explain emerging patterns (AC9M5A03)	use function machines and rules to generate sets of numbers and apply computational thinking to recognise, interpret and explain emerging patterns (AC9M6A04)
Measurement		recognise the relationship between the prefixes for metric units and choose to use smaller units or a combination of units to obtain a more accurate measure when measuring the length, mass and capacity of objects (AC9M5M01)	convert between common metric units of length, mass and capacity and other standard units of measurement relevant to the context of a problem. Use and convert decimal representations of metric measurements where appropriate (AC9M6M01)
		model situations and solve practical problems involving the perimeter of common shapes and the area of rectangles using appropriate metric units (AC9M5M02)	establish the formula for the area of a rectangle and use to solve practical problems (AC9M6M02)
		compare 12-hour and 24-hour time systems and solve practical problems involving the conversion between them (AC9M5M03)	interpret and use timetables and itineraries to plan activities and determine the duration of events and journeys (AC9M6M03)
		estimate, construct, measure and compare angles in degrees, using appropriate tools (including a protractor) using conventional language to describe angles (AC9M5M04)	recognise the relationships between angles on a straight line, angles at a point and vertically opposite angles. Use the results to find unknown angles and solve practical problems communicating reasoning (AC9M6M04)
Space		connect and construct objects from their nets and create nets for objects using spatial and geometric reasoning (AC9M5SP01)	compare the parallel cross sections of objects and recognise their relationship to prisms (AC9M6SP01)
		construct a grid coordinate system that uses coordinates to locate positions within a space. Use coordinates and directional language to describe position and movement (AC9M5SP02)	use the four quadrants of a Cartesian coordinate system to locate points in the plane. Investigate and describe changes to the coordinates when a point is moved to a different position in the plane (AC9M6SP02)
		describe and perform translations, reflections and rotations of shapes, using dynamic geometric software where appropriate. Recognise and describe what changes and what remains the same under the transformation and identify any rotational symmetries (AC9M5SP03)	recognise and use combinations of transformations to create tessellations and other geometric patterns using dynamic geometric software where appropriate (AC9M6SP03)
		use computational thinking to create algorithms involving decisions to sort and classify shapes and objects. Experiment with different shapes and objects, sorting into categories and recognising any emerging patterns (AC9M5SP04)	use computational thinking and reasoning to make conjectures about and experiment with transformations of shapes within the plane (AC9M6SP04)
Statistics		acquire, validate and represent ordinal and discrete numerical data in different ways, using software (including spreadsheets and graphs). Discuss and report on data distributions in terms of highest frequency (mode) and shape, in the context of the data (AC9M5ST01)	interpret and compare a range of displays or visualisations (including side-by-side column graphs) for two categorical variables (AC9M6ST01)
		construct, interpret and compare data represented as line graphs, using software to construct graphs and create information where appropriate. Discuss the relationships that are represented (AC9M5ST02)	identify statistically informed arguments presented in traditional and digital media, discuss and critique methods, data representations and conclusions (AC9M6ST02)
		plan and conduct statistical investigations by posing investigative questions or identifying a problem and collecting data relevant to the question or problem using surveys and digital tools. Select and use appropriate displays or visualisations, interpret and communicate findings or solutions within the context (AC9M5ST03)	plan and conduct statistical investigations by posing and refining investigative questions, collecting and recording sample sets of categorical or discrete numerical data using digital tools (including spreadsheets). Interpret and analyse the data and communicate findings within the context (AC9M6ST03)
Probability		list the possible outcomes of chance experiments involving equally likely outcomes and compare to those which are not equally likely (AC9M5P01)	recognise that probabilities lie on numerical scales (0 – 1, 0% – 100%) and use observation and experience to assign probabilities that events occur in a given context, using fractions, percentages and decimals to indicate their estimated likelihood (AC9M6P01)
		use experiments to observe and record the outcomes of repeated trials of chance events including those with and without equally likely outcomes. Use frequency to compare outcomes and estimate their likelihoods (AC9M5P02)	conduct repeated chance experiments and run simulations with a large number of trials using digital tools. Use computational thinking to compare observed frequencies across experiments with expected frequencies and explain emerging patterns (AC9M6P02)