Year 2

By the end of Year 2, students order and represent numbers to at least 1000, apply knowledge of place value to partition, rearrange and rename two- and three-digit numbers in terms of their parts, and regroup partitioned numbers to assist in calculations. They use mathematical modelling to solve practical additive and multiplicative problems, including money transactions, representing the situation and choosing calculation strategies. Students identify and represent part-whole relationships of halves, quarters and eighths in measurement contexts. They describe and continue patterns that increase and decrease additively by a constant amount and identify missing elements in the pattern. Students recall and demonstrate proficiency with addition and subtraction facts within 20 and multiplication facts for twos.

They use uniform informal units to measure and compare shapes and objects. Students determine the number of days between events using a calendar and read time on an analog clock to the hour, half hour and quarter hour. They compare and classify shapes, describing features using formal spatial terms. Students locate and identify positions of features in two-dimensional representations and move position by following directions and pathways.

They use a range of methods to collect, record, represent and interpret categorical data in response to questions.

AC9M2N01 recognise, represent and order numbers to at least 1000 using physical and virtual materials, numerals and number lines

AC9M2N02 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

AC9M2N03 recognise and describe one-half as one of 2 equal parts of a whole and connect halves, quarters and eighths through repeated halving

AC9M2N04 add and subtract one- and two-digit numbers, representing problems using number sentences, and solve using part-part-whole reasoning and a variety of calculation strategies

AC9M2N05
multiply and divide by one-digit numbers using repeated addition, equal grouping, arrays, and partitioning to support a variety of calculation strategies

AC9M2N06 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 situation

AC9M2A01 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

AC9M2A02 recall and demonstrate proficiency with addition facts to 20; extend and apply facts to develop related subtraction facts

AC9M2A03 recall and demonstrate proficiency with multiplication facts for twos; extend and apply facts to develop the related division facts using doubling and halving

AC9M2M01 measure and compare objects based on length, capacity and mass using appropriate uniform informal units and smaller units for accuracy when necessary

AC9M2M02 identify common uses and represent halves, quarters and eighths in relation to shapes, objects and events

AC9M2M03 identify the date and determine the number of days between events using calendars

AC9M2M04 recognise and read the time represented on an analog clock to the hour, half-hour and quarter-hour

AC9M2M05 identify, describe and demonstrate quarter, half, three-quarter and full measures of turn in everyday situations

AC9M2SP01 recognise, compare and classify shapes, referencing the number of sides and using spatial terms such as “opposite”, “parallel”, “curved” and “straight”

AC9M2SP02 locate positions in two dimensional representations of a familiar space; move positions by following directions and pathways

AC9M2ST01 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

AC9M2ST02 create different graphical representations of data using software where appropriate; compare the different representations, identify and describe common and distinctive features in response to questions

Year 3

By the end of Year 3, students order and represent natural numbers beyond 10 000. They partition, rearrange and regroup two- and three-digit numbers in different ways to assist in calculations. Students extend and use single-digit addition and related subtraction facts and apply additive strategies to model and solve problems involving two- and three-digit numbers. They use mathematical modelling to solve practical problems involving single-digit multiplication and division, recalling multiplication facts for twos, threes, fours, fives and tens, and using a range of strategies. Students represent unit fractions and their multiples in different ways. They make estimates and determine the reasonableness of financial and other calculations. Students find unknown values in number sentences involving addition and subtraction. They create algorithms to investigate numbers and explore simple patterns.

Students use familiar metric units when estimating, comparing and measuring the attributes of objects and events. They identify angles as measures of turn and compare them to right angles. Students estimate and compare measures of duration using formal units of time. They represent money values in different ways. Students make, compare and classify objects using key features. They interpret and create two-dimensional representations of familiar environments.

Students conduct guided statistical investigations involving categorical and discrete numerical data, and interpret their results in terms of the context. They record, represent and compare data they have collected. Students use practical activities, observation or experiment to identify and describe outcomes and the likelihood of everyday events explaining reasoning. They conduct repeated chance experiments and discuss variation in results.

AC9M3N01 recognise, represent and order natural numbers using naming and writing conventions for numerals beyond 10 000

AC9M3N02 recognise and represent unit fractions including ½, 1/3, ¼, 1/5 and 1/10 and their multiples in different ways; combine fractions with the same denominator to complete the whole

AC9M3N03 add and subtract two- and three-digit numbers using place value to partition, rearrange and regroup numbers to assist in calculations without a calculator

AC9M3N04 multiply and divide one- and two-digit numbers, representing problems using number sentences, diagrams and arrays, and using a variety of calculation strategies

AC9M3N05 estimate the quantity of objects in collections and make estimates when solving problems to determine the reasonableness of calculations

AC9M3N06 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

AC9M3N07 follow and create algorithms involving a sequence of steps and decisions to investigate numbers; describe any emerging patterns

AC9M3A01 recognise and explain the connection between addition and subtraction as inverse operations, apply to partition numbers and find unknown values in number sentences

AC9M3A02 extend and apply knowledge of addition and subtraction facts to 20 to develop efficient mental strategies for computation with larger numbers without a calculator

AC9M3A03 recall and demonstrate proficiency with multiplication facts for 3, 4, 5, and 10; extend and apply facts to develop the related division facts

AC9M3M01 identify which metric units are used to measure everyday items; use measurements of familiar items and known units to make estimates

AC9M3M02 measure and compare objects using familiar metric units of length, mass and capacity, and instruments with labelled markings

AC9M3M03 recognise and use the relationship between formal units of time including days, hours, minutes and seconds to estimate and compare the duration of events

AC9M3M04 describe the relationship between the hours and minutes on analog and digital clocks, and read the time to the nearest minute

AC9M3M05 identify angles as measures of turn and compare angles with right angles in everyday situations

AC9M3M06 recognise the relationships between dollars and cents and represent money values in different ways

AC9M3SP01 make, compare and classify objects, identifying key features and explaining why these features make them suited to their uses

AC9M3SP02 interpret and create two dimensional representations of familiar environments, locating key landmarks and objects relative to each other

AC9M3ST01 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

AC9M3ST02 create and compare different graphical representations of data sets including using software where appropriate; interpret the data in terms of the context

AC9M3ST03 conduct guided statistical investigations involving the collection, representation and interpretation of data for categorical and discrete numerical variables with respect to questions of interest

AC9M3P01 identify practical activities and everyday events involving chance; describe possible outcomes and events as ‘likely’ or ‘unlikely’ and identify some events as ‘certain’ or ‘impossible’ explaining reasoning

AC9M3P02 conduct repeated chance experiments; identify and describe possible outcomes, record the results, recognise and discuss the variation

Year 4

By the end of Year 4, students use their understanding of place value to represent tenths and hundredths in decimal form and to multiply natural numbers by multiples of 10. They use mathematical modelling to solve financial and other practical problems, formulating the problem using number sentences, solving the problem choosing efficient strategies and interpreting results in terms of the situation. Students use their proficiency with addition and multiplication facts to add and subtract, multiply and divide numbers efficiently. They choose rounding and estimation strategies to determine whether results of calculations are reasonable. Students use the properties of odd and even numbers. They recognise equivalent fractions and make connections between fraction and decimal notations. Students count and represent fractions on a number line. They find unknown values in numerical equations involving addition and subtraction. Students follow and create algorithms that generate sets of numbers and identify emerging patterns.

They use scaled instruments and appropriate units to measure length, mass, capacity and temperature. Students measure and approximate perimeters and areas. They convert between units of time when solving problems involving duration. Students compare angles relative to a right angle using angle names. They represent and approximate shapes and objects in the environment. Students create and interpret grid references. They identify line and rotational symmetry in plane shapes and create symmetrical patterns.

Students create many-to-one data displays, assess the suitability of displays for representing data and discuss the shape of distributions and variation in data. They use surveys and digital tools to generate categorical or discrete numerical data in statistical investigations and communicate their findings in context. Students order events or the outcomes of chance experiments in terms of likelihood and identify whether events are independent or dependent. They conduct repeated chance experiments and describe the variation in results.

AC9M4N01 recognise and extend the application of place value to tenths and hundredths and use the conventions of decimal notation to name and represent decimals

AC9M4N02 explain and use the properties of odd and even numbers

AC9M4N03 find equivalent representations of fractions using related denominators and make connections between fractions and decimal notation

AC9M4N04 count by fractions including mixed numerals; locate and represent these fractions as numbers on number lines

AC9M4N05 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

AC9M4N06 develop efficient strategies and use appropriate digital tools for solving problems involving addition and subtraction, and multiplication and division where there is no remainder

AC9M4N07 choose and use estimation and rounding to check and explain the reasonableness of calculations including the results of financial transactions

AC9M4N08 use mathematical modelling to solve practical problems involving 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

AC9M4N09 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

AC9M4A01 find unknown values in numerical equations involving addition and subtraction, using the properties of numbers and operations

AC9M4A02 recall and demonstrate proficiency with multiplication facts up to 10 x 10 and related division facts; extend and apply facts to develop efficient mental strategies for computation with larger numbers without a calculator

AC9M4M01 interpret unmarked and partial units when measuring and comparing attributes of length, mass, capacity, duration and temperature, using scaled and digital instruments and appropriate units

AC9M4M02	recognise ways of measuring and approximating the perimeter and area of shapes and enclosed spaces, using appropriate formal and informal units
AC9M4M03	solve problems involving the duration of time including situations involving “am” and “pm” and conversions between units of time
AC9M4M04	estimate and compare angles using angle names including acute, obtuse, straight angle, reflex and revolution, and recognise their relationship to a right angle
AC9M4SP01	represent and approximate composite shapes and objects in the environment, using combinations of familiar shapes and objects
AC9M4SP02	create and interpret grid reference systems using grid references and directions to locate and describe positions and pathways
AC9M4SP03	recognise line and rotational symmetry of shapes and create symmetrical patterns and pictures, using dynamic geometric software where appropriate
AC9M4ST01	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
AC9M4ST02	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
AC9M4ST03	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
AC9M4P01	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
AC9M4P02	conduct repeated chance experiments to observe relationships between outcomes; identify and describe the variation in results