Using Maths Aotearoa to support the implementation of the October 2025 New Zealand Maths Curriculum

While the curriculum statements are the knowledge students need to acquire, the mathematical processes are the ways in which the knowledge is taught. Activities within Maths Aoteroa provide the opportunities for: Investigating situations, representing situations, connecting situations, generalising findings, exploring and justifying findings.

Year 5

	Knowledge: The facts, concepts, principles and theories to teach
Maths Aotearoa Book 3A **Unit 2 Using the Number System** **Chapter 6 Place value and larger numbers** • Read, write numbers to 100 millions • Round numbers • Estimate with larger numbers • Read and say larger numbers in te reo Maori • **Maths Aotearoa Book 3B** **Unit 3 Extending Multiplicative thinking** **Chapter 8 Using Multiples and Factors** • Use terminology multiples and factors • Recognise multiples and the closest multiple • Identify factors of a given number ***Negative numbers in a context, counting activities forwards and backwards through zero - See Book 3A Chapter 14 (Algebra)***	**Number Structures** • The base 10 number system extends to millions (1,000,000). • Factors are whole numbers that divide another number exactly. • Factor pairs are two whole numbers that multiply together to give another whole number (e.g. 3 and 4 are a factor pair of 12). • Rounding can support predicting or estimating the result of a calculation. • Rounding is based on identifying the nearest place value or unit (ten, hundred, thousand) for a given number; a number line supports this. ***This content is to be taught across Years 4 to 6.*** • Negative numbers are to the left of 0 on a horizontal number line and below 0 on a vertical number line. • Negative numbers are represented symbolically with a negative sign (−) and named 'negative' along with the numeral (e.g. -4 is named negative four). • Zero is neither positive nor negative. • Negative numbers arise in a range of situations (e.g. debt, temperature). ***This content is to be taught across Years 5 and 6.***

Maths Aotearoa Book 3B **Unit 2 Addition & Subtraction** **Chapter 5 Addition & Subtraction Strategies** • Reliably and efficiently add and subtract multi-digit whole numbers • Use a mental method when the numbers lend themselves to using a mental method (e.g =/- 199 **Unit 3: Extending Multiplicative Thinking** **Chapter 6 Extending Multiplication** • Use expanded numerals and the distributive property of multiplication to multiply a multi digit number by a single digit *(See 4A Chapter 2 Page 13 for how this extends to double digit by double digit)* • Use a standard written recording for multi digit multiplication **Chapter 7 Extending Division** • Read and interpret division questions in both recorded formats • Recognise division as the inverse of multiplication • Use the denominator of a fraction as a divisor • Explore the division of larger numbers by a single digit **Chapter 8 Using Multiples and Factors** • Use a standard written form for division of a multi digit number by a single digit number.	**Operations** • Addition and subtraction can be carried out mentally, using known facts, place value and partitioning, or column methods. • Standard written algorithms (e.g. column addition, column subtraction) rely on place value, regrouping, and renaming. ***This content is to be taught across Years 4 to 6.*** • Division may result in a whole number quotient or a quotient with a remainder, represented as a whole number. • Division can be represented as grouping, sharing, or an area model and larger numbers can be divided using a standard written algorithm, where appropriate. • Standard written algorithms for multiplication and division rely on place value, regrouping, and renaming.

Maths Aotearoa Book 3B **Unit 3: Extending Multiplicative Thinking** **Chapter 9 Fractions** • Use correct fraction terminology *(denominator, numerator)* • Recognise patterns in fraction sequences • Recognise equivalent fractions • Understand ratio as comparing fraction parts of the whole **Unit 4 Decimals & Percentages** **Chapter 10 Into the Hundredths** • Read, write and represent a two place decimal number • Give the number one tenth or one hundredth more or less than a given number • Compare and order up to two place decimal number **Chapter 11** Pages 84 - 86 • Rounding decimals • Adding and subtracing two place decimals **Chapter 13 Introducing Percentages** • Represent hundredths as a fraction, decimal or percentage • Find common percentages of whole numbers ***Add in finding a non unit fraction of a multiple less than 100***	**Rational Numbers** • Hundredths can be created by dividing whole numbers by 100 and can be expressed as fractions or decimals. • Equivalent fractions can be generated using common factors. • Percentages are decimal fractions with denominators of 100; they are represented using the percent (%) symbol. • Fractions should have the same denominator before using them in addition or subtraction. ***This content is to be taught across Years 5 and 6.*** • Multiplication, division, fractions, decimals, and percentages can be used to solve problems involving relative quantities and measures. ***This content is to be taught across Years 5 and 6.***
Maths Aotearoa Book 3A	**Financial Mathematics** Money uses our decimal place-value system to two decimal places. ***This content is to be taught across Years 5 and 6.***

Maths Aotearoa Book 3A **Unit 5 Beginning Algebra** **Chapter 12 Using a Calculator** • Use of brackets in a mathematical equation • Use a calculator efficiently including estimation and checking reasonableness of the answer • Use the memory function **Chapter 13 Finding and Following Rules** • Use a table to collect information to identify a rule • Create rules for simple word problems • Follow the rules given in a table **Chapter 14 Number Patterns** • Introduce the idea of negative numbers • Identify and follow the rule to continue a number sequence • Create a sequence and write the rule **Chapter 15 The Four Operations** • Write an equation for a result unknown situation • Write an equation for a specific additive comparison situation • Understand why the subtraction function is used to calculate the unknown in an addition comparison situation. • Use a letter instead of an empty box in an equation • Generalise the properties of addition and subtraction • Focus on relationships between the parts of an equation • Understand and use equality	**Algebra** **Equations and relationships** • The relative size of expressions involving numbers can be communicated using 'greater than' (>), 'less than' (<), and equals (=). • Growing patterns can increase or decrease by the addition or subtraction of a constant (arithmetically) or multiplication or division by a constant (geometrically). ***This content is to be taught across Years 4 and 5.***

Maths Aotearoa Book 3A **Unit 8: Chapter 21 Investigating Angles** • Use a protractor to measure angles • Know a right angle is 90º • Begin to use language of angles to describe more or less than 90º, (acute or obtuse) more than 180º (reflex) **Unit 9: Measurement** **Chapter 24 Measuring Mass** • Know how many grams in a kilogram • Record grams as a fraction of a kilogram in decimal format • Estimate mass using a benchmark • Read different scales • Weigh accurately to the closest 5g • Solve problems involving conversion between units of mass **Chapter 25 Measuring Lengths** • Record centimetres as a fraction of a metre • Measure accurately to the closest millimetre • Record millimetres as a fraction of a centimetre • Know perimeter as distance around a closed shape **Chapter 26 Measuring Areas** • Know area as the surface of a closed shape • Know standard units for measuring areas, cm^2 m^2 km^2 • Devise the rule for finding the area of a rectangle based on knowledge of arrays • Understand the area of a shape is not dependent on it's perimeter • Solve problems involving perimeters and areas **Unit 10: Time** **Chapter 27 Telling the Time** • Use a.m. and p.m. to be more specific in describing points in time **Chapter 28 Measuring Time** • Know larger units of time and meaning of prefixes ((Decade, Century) • Solve simple problems involving duration of time	**Measuring** • Different measurement tools and scales use different-sized units; the unit must be recorded with the measurement amount. **This content is to be taught across Years 4 and 5.** • Measurements can be communicated using mixed or decimal units. • There are 1000 millimetres in a metre, 10 millimetres in a centimetre, 100 centimetres in a metre, and 1000 metres in a kilometre • Volume is a measure of regions in three-dimensional space. • The areas of rectangles (including squares) can be calculated by multiplication of side lengths. **This content is to be taught across Years 4 and 5.** • Angle classification can aid the estimation of angle size • Angles are classified with reference to the benchmark angles of 90°, 180°, and 360°. - Acute angles are less than 90°. - Right angles are exactly 90°. - Obtuse angles are more than 90° and less than 180°. - Reflex angles are more than 180° and less than 360°. • A point in time is typically measured in hours and minutes past midnight. • Clocks relate seconds to minutes and minutes to hours according to a system based on 60. ***This content is to be taught across Years 4 and 5.***

Maths Aotearoa Book 3A **Unit 6 Gemetric Shapes** **Chapter 17 Exploring Cubes and Cuboids** • Describe the properties of cubes and cuboids • Recognise and draw a net for a cube or cuboid • Draw cubes and cuboids using translation • Draw cubes and cuboids using isometric paper **Unit 7 Transformations** **Chapter 18 Reflective symmetry** • Recognise reflective symmetry in shapes • Create shapes with reflective symmetry **Maths Aotearoa Book 3B** **Unit 6 Geometric Properties** **Chapter 17 Parallel and Perpendicular lines** • Use language parallel and perpendicular in meaningful contexts • Introduce parallelogram and rhombus • Extend the description of properties to identify specific quadrilaterals **Chapter 18 Prisms and Pyramids** • Describe the attributes of prisms and pyramids using correct geometric language • Explore building pyramids and prisms (e.g. using polydron) • Design nets for specific prisms ***Alpha numeric grid reference system is not found in Maths Aotearoa textbooks (see supporting workbooks)***	**Geometry** **Shape** Parallel lines are always the same distance apart and never meet. Perpendicular lines intersect at right angles (90°). A prism is a 3D shape with two identical, parallel ends and flat faces. **Spatial reasoning** A net is a 2D representation of the surfaces of a 3D unfolded shape. A reflection is when a shape is flipped over a line, creating a mirror image. A translation is when a shape is slid from one place to another without being turned. A rotation is when a shape is turned around a fixed point. **This content is to be taught across Years 4 to 6.** **Pathways** An alphanumeric grid reference is a system that divides a map into labelled rows (letters) and columns (numbers), so that each square can be identified by combining a letter and a number (e.g. A1, B2). ***This content is to be taught across Years 4 to 6.***

Maths Aotearoa Book 3A **Unit 12 Statistics** **Chapter 30 Collecting and Displaying Data** (pages 206 - 207) • Sorting bivariate data with data cards • The curriculum moves students into doing things with data which require students to be able to use digital tools for statistics. Maths Aotearoa provides a background to using the digital tools - e.g spreadsheets **Maths Aotearoa Book 3B** **Chapter 30 Using Computers for Statistics** • Enter and sort data on a spreadsheet • Further explore using spreadsheets • Use information in a spreadsheet to answer numeric questions • Create simple formulae within a spreadsheet	**Statistics** **Developing knowledge from data** • Bivariate data is data in a set that has two variables for each subject (e.g. dislikes and gender for each student). **Visualisation of data** • Continuous numerical data can be organised in a table by grouping data into specific ranges of values. • Paired categorical data can be visualised with a clustered bar graph; one variable is represented on the horizontal axis, the other variable is shown by coloured bars clustered side-by-side, and the colours are explained in a key. **Interpretation of data** • Interpreting a data visualisation includes describing its variables and their units, the context for the data, and the visualisation's key features: - its shape (e.g. the number of peaks) - its middle group(s) (where the middle of the data lies) - its spread (how spread the data is from the minimum (lowest) value to the maximum (highest) value). ***This content is to be taught across Years 4 to 6***.

Maths Aotearoa Book 2B **Unit 14 Probability** **Chapter 30 Probability** • Explore chance based investigative activities • Collect and record data to answer chance based investigative activities • Consider the likelihood of an outcome • Consider situations as fair or unfair • Use the language of chance in a variety of situations **Maths Aotearoa Book 3A** **Unit 11 Probability** **Chapter 29 What Chance?** • From investigative activities/games identify an even chance • Collect and record data to answer chance based investigative questions • Make predictions and draw conclusions based on the data available • Compare findings with those of others • Compare experimental results with expected outcomes	**Probability** **Experimental probability** • Situations that involve chance, uncertainty, and randomness are called chance-based situations. Probability can be used to describe such situations. • A trial is a single run of a chance-based situation that results in one of a set of possible outcomes. • The possible outcomes for a chance-based situation can be arranged into events. • The probability of an outcome is the chance of it occurring. • Probabilities are associated with values between 0 and 1, where: - 0 is impossible - between 0 and 0.5 or ½ ranges from very unlikely to unlikely - 0.5 or 12 is equally likely - between 0.5 or ½ and 1 range from likely to very likely - 1 is certain. • Likelihood can be visualised using a number line from 0 to 1.