## Scope and Sequence: Australian Curriculum v9 Mathematics by Haese Mathematics (1-6)

Last updated: 18 December 2023
This document summarises how our current Mathematics for Australia books align with version 9 of the Australian Curriculum. The relevant edition number is written in brackets in each column heading
Green text indicates where book material does not align with version 9 of the Australian Curriculum.

| Content description | Mathematics for Australia 1 (1st edition) | Mathematics for Australia 2 (1st edition) | Mathematics for Australia 3 (2nd edition) | Mathematics for Australia 4 (2nd edition) | Mathematics for Australia 5 (2nd edition) | Mathematics for Australia 6 (2nd edition) |
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| Number |  |  |  |  |  |  |
| Year 1 <br> - Recognise, represent and order numbers to at least 120 using physical and virtual materials, numerals, number lines and charts. (AC9M1N01) | Chapter 1: Number | Chapter 1: Number | Chapter 1: Number | Chapter 11: Decimal numbers | 11A: Decimal numbers <br> 11B: Decimal numbers on a number line 11C: Ordering decimal numbers | 1B: Number lines <br> 13A: The number line <br> 15C: Coordinates <br> 15D: Positive and negative coordinates |
| Year 2 <br> - Recognise, represent and order numbers to at least 1000 using physical and virtual materials, numerals and number lines. (AC9M2NO1) |  |  |  |  |  |  |
| Year 3 <br> - Recognise, represent and order natural numbers using naming and writing conventions for numerals beyond 10000 . (AC9M3NO1) |  |  |  |  |  |  |
| Year 4 <br> - Recognise and extend the application of place value to tent and hundredths and use the conventions of decimal notation to name and represent decimals. (AC9M4NO1) <br> Year 5 |  |  |  |  |  |  |
| Year 5 <br> - Interpret, compare and order numbers with more than 2 decimal places, including numbers greater than one, using place value understanding; represent these on a number line. (AC9M5N01) |  |  |  |  |  |  |
| Year 6 <br> - Recognise situations, including financial contexts, that use integers; locate and represent integers on a number line and as coordinates on the Cartesian plane. (AC9M6NO1) |  |  |  |  |  |  |
| Partition one- and two-digit numbers in different ways using physical and virtual materials, including partitioning two-digit numbers into tens and ones. (AC9M1N02) <br> 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. (AC9M2N02) | Chapter 1: Number | Chapter 1: Number |  |  |  |  |
|  |  |  |  |  |  |  |
| Year 4 <br> - Explain and use the properties of odd and even numbers. (AC9M4NO2) |  |  |  | Chapter 7: Division | 4B: Multiples <br> 5F: Factors | 4B: Square numbers 4 H : Prime and composite numbers |
| Year 5 <br> - Express natural numbers as products of their factors, recognise multiples and determine if one number is divisible by another. (AC9M5N02) |  |  |  |  | From Mathematics for Australia 6 (2nd edition) <br> 4E: Divisibility |  |
| Year 6 <br> - Identify and describe the properties of prime, composite and square numbers and use these properties to solve problems and simplify calculations. (AC9M6N02) |  |  |  |  | 4F: Divisibility tests |  |


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| Year 1 | Quantify sets of objects, to at least 120 , by partitioning collections into equal groups using number knowledge and skip counting. (AC9M1N03) | Chapter 1: Number |  |  |  |  |  |
| Year 2 <br> Year 3 <br> Year 4 | Recognise and describe one-half as one of 2 equal parts of a whole and connect halves, quarters and eighths through repeated halving. (AC9M2NO3) <br> Recognise and represent unit fractions including $1 / 2,1 / 3,1 / 4$, $1 / 5$ and $1 / 10$ and their multiples in different ways; combine fractions with the same denominator to complete the whole. (AC9M3N02) <br> Find equivalent representations of fractions using related denominators and make connections between fractions and decimal notation. (AC9M4NO3) |  | Chapter 6: Division and fractions | Chapter 6: Division and fractions <br> From Mathematics for Australia <br> 4 (2nd edition) <br> Chapter 8: Fractions | Chapter 8: Fractions <br> Chapter 11: Decimal numbers |  |  |
| Year 1 <br> Year 2 <br> Year 3 | Add and subtract numbers within 20, using physical and virtual materials, part-part-whole knowledge to 10 and a variety of calculation strategies. (AC9M1N04) <br> Add and subtract one- and two-digit numbers, representing problems using number sentences, and solve using part-partwhole reasoning and a variety of calculation strategies. (AC9M2N04) <br> Add and subtract two- and three-digit numbers using place value to partition, rearrange and regroup numbers to assist in calculations without a calculator. (AC9M3NO3) | Chapter 2: Addition Chapter 3: Subtraction | Chapter 2: Addition Chapter 3: Subtraction | Chapter 2: Addition <br> Chapter 3: Subtraction <br> From Mathematics for Australia <br> 4 (2nd edition) <br> Chapter 2: Addition <br> Chapter 3: Subtraction |  |  |  |
| Year 4 <br> Year 5 <br> - <br> Year 6 | Count by fractions including mixed numerals; locate and represent these fractions as numbers on number lines. (AC9M4N04) <br> Compare and order fractions with the same and related denominators including mixed numerals, applying knowledge of factors and multiples; represent these fractions on a number line. (AC9M5NO3) <br> Apply knowledge of equivalence to compare, order and represent common fractions including halves, thirds and quarters on the same number line and justify their order. (AC9M6N03) |  |  |  | Chapter 8: Fractions | 10C: Fractions on a number line <br> 10D: Equal fractions <br> 10E: Finding equal fractions <br> 10F: Lowest terms <br> 10H: Proper and improper fractions | 6D: Fractions on a number line 6E: Equal fractions 6G: Comparing fractions |
| Year 5 | Recognise that $100 \%$ represents the complete whole and use percentages to describe, represent and compare relative size; connect familiar percentages to their decimal and fraction equivalents. (AC9M5NO4) |  |  |  |  | From Mathematics for Australia <br> 6 (2nd edition) <br> 12A: Percentage <br> 12B: Converting percentages <br> into fractions <br> 12C: Converting fractions into percentages <br> 12D: Converting percentages into decimals <br> 12E: Converting decimals into percentages |  |



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| Year 3 <br> - Estimate the quantity of objects in collections and make estimates when solving problems to determine the reasonableness of calculations. (AC9M3N05) |  |  |  |  | 6D: Estimation problems <br> 131: Estimation |  |
| Year 4 <br> - Choose and use estimation and rounding to check and explain the reasonableness of calculations including the results of financial transactions. (AC9M4NO7) |  |  |  |  |  |  |
| Year 5 <br> - Check and explain the reasonableness of solutions to problems including financial contexts using estimation strategies appropriate to the context. (AC9M5N08) <br> Year 6 <br> - Approximate numerical solutions to problems involving rational numbers and percentages, including financial contexts, using appropriate estimation strategies. (AC9M6N08) |  |  |  |  |  |  |
| Year 1 <br> - Use mathematical modelling to solve practical problems involving additive situations including simple money transactions; represent the situations with diagrams, physical and virtual materials, and use calculation strategies to solve the problem. (AC9M1N05) | Chapter 2: Addition Chapter 3: Subtraction Chapter 7: Data handling Chapter 11: Money | Chapter 2: Addition <br> Chapter 3: Subtraction <br> Chapter 5: Multiplication <br> Chapter 7: Data handling <br> Chapter 11: Money | Chapter 2: Addition <br> Chapter 3: Subtraction <br> Chapter 5: Multiplication <br> Chapter 7: Data handling <br> Chapter 13: Mass <br> Chapter 14: Money | Chapter 2: Addition <br> Chapter 3: Subtraction <br> Chapter 6: Multiplication <br> Chapter 7: Division <br> Chapter 10: Time <br> Chapter 17: Mass | 2C: Addition problems <br> 3C: Subtraction problems <br> 4F: Multiplication problems | 2A: Addition <br> 2B: Subtraction <br> 2D: Column multiplication <br> 2E: Division <br> 2F: Problems with multiple operations |
| Year 2 <br> - 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. (AC9M2N06) |  |  |  | Chapter 19: Money | 5E: Division problems <br> 11D: Adding decimal numbers <br> 11E: Subtracting decimal numbers <br> 11H: Multiplying decimals by a | 6H: Adding and subtracting fractions <br> 6J: A fraction of a quantity <br> 7G: Adding and subtracting |
| Year 3 <br> - 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. (AC9M3N06) |  |  |  |  | whole number <br> 13C: Adding money <br> 13D: Subtracting money <br> 13E: Counting up change <br> 13F: Multiplying with money <br> 13G: Dividing money | decimal numbers <br> 7H: Multiplying by powers of 10 <br> 71: Dividing by powers of 10 <br> 7J: Multiplying decimals by a whole number <br> 7K: Dividing decimals by a whole number |
| Year 4 <br> - 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. (AC9M4NO8) |  |  |  |  | 13J: Budgets <br> 19B: Problem solving | 12 H : Finding a percentage of a quantity <br> 12I: Discount <br> 13D: Addition and subtraction with negative numbers |
| Year 5 <br> - Use mathematical modelling to solve practical problems involving additive and multiplicative situations including financial contexts; formulate the problems, choosing operations and efficient calculation strategies, using digital tools where appropriate; interpret and communicate solutions in terms of the situation. (AC9M5NO9) |  |  |  |  |  | 13E: Adding and subtracting negative numbers 13F: Multiplying negative numbers 13G: Diving negative numbers |
| Year 6 <br> - Use mathematical modelling to solve practical problems involving natural and rational numbers and percentages, including in financial contexts; formulate the problems, choosing operations and efficient calculation strategies, and using digital tools where appropriate; interpret and communicate solutions in terms of the situation, justifying the choices made. (AC9M6NO9) |  |  |  |  |  |  |



## Content description

Year 1

- Recognise, continue and create repeating patterns with numbers, symbols, shapes and objects, identifying the repeating unit. (AC9M1A02)
Year 2
- Recall and demonstrate proficiency with addition facts to 20 extend and apply facts to develop related subtraction facts. (AC9M2A02)
Year 3
Extend and apply knowledge of addition and subtraction facts to 20 to develop efficient mental strategies for computation with larger numbers without a calculator. (AC9M3A02)

Year 2

- Recall and demonstrate proficiency with multiplication facts for twos; extend and apply facts to develop the related division facts using doubling and halving. (AC9M2AO3)
ear 3
- Recall and demonstrate proficiency with multiplication facts for 3, 4, 5 and 10 ; extend and apply facts to develop the related division facts. (AC9M3A03)
Year 4
- Recall and demonstrate proficiency with multiplication facts up to $10 \times 10$ and related division facts; extend and apply facts to develop efficient mental strategies for computation with larger numbers without a calculator. (AC9M4A02)

Create and use algorithms involving a sequence of steps and decisions that use rules to generate sets of numbers; identify, interpret and explain emerging patterns. (AC9M6A03)

## Measurement

Chapter 1: Number
Chapter 2: Addition Chapter 3: Subtraction

Mathematics for Australia 3 (2nd edition)

Mathematics for Australia 4 Mathematics
(2nd edition)
(2ndedition)

## Chapter 2: Addition

## Chapter 3: Subtraction

## Chapter 3: Subtraction

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## Chapter 5: Multiplication

 Chapter 6: Division and fractions Chapter 6: Division and fractionsMathematics for Australia 6 Mathematics
(2nd edition)

## 14B: Finding a rule for a

sequence

Year 3 Identify which metric units are used to measure everyday items; use measurements of familiar items and known units to make estimates. (AC9M3M01)
Chapter 11: Length
Chapter 12: Capacity
Chapter 13: Mass



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| Space |  |  |  |  |  |  |
| Year 1 <br> - Make, compare and classify familiar shapes; recognise familiar shapes and objects in the environment, identifying the similarities and differences between them. (AC9M1SP01) | Chapter 4: Shape | Chapter 4: Shape | Chapter 4: Shape | Chapter 13: Shape | 9D: Constructing solids | 5E: Solids |
| Year 2 <br> - Recognise, compare and classify shapes, referencing the number of sides and using spatial terms such as "opposite", "parallel", "curved" and "straight". (AC9M2SP01) |  |  |  |  |  |  |
| Year 3 <br> - Make, compare and classify objects, identifying key features and explaining why these features make them suited to their uses. (AC9M3SP01) |  |  |  |  |  |  |
| Year 4 <br> - Represent and approximate composite shapes and objects in the environment, using combinations of familiar shapes and objects. (AC9M4SP01) |  |  |  |  |  |  |
| Year 5 <br> - Connect objects to their nets and build objects from their nets using spatial and geometric reasoning. (AC9M5SP01) <br> Year 6 <br> - Compare the parallel cross-sections of objects and recognise their relationships to right prisms. (AC9M6SP01) |  |  |  |  |  |  |
| Year 1 <br> - Give and follow directions to move people and objects to different locations within a space. (AC9M1SP02) | Chapter 12: Location and position | Chapter 12: Location and position | Chapter 16: Location and position | From Mathematics for Australia <br> 5 (2nd edition) <br> 25B: Grid references | 25C: Finding points | 15D: Positive and negative coordinates <br> 15E: Compass points |
| Year 2 <br> - Locate positions in two-dimensional representations of a familiar space; move positions by following directions and pathways. (AC9M2SPO2) |  |  |  |  |  |  |
| Year 3 <br> - Interpret and create two-dimensional representations of familiar environments, locating key landmarks and objects relative to each other. (AC9M3SP02) |  |  |  |  |  |  |
| Year 4 <br> - Create and interpret grid reference systems using grid references and directions to locate and describe positions and pathways. (AC9M4SP02) |  |  |  |  |  |  |
| Year 5 <br> - 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) |  |  |  |  |  |  |
| Year 6 <br> - Locate points in the 4 quadrants of a Cartesian plane; describe changes to the coordinates when a point is moved to a different position in the plane. (AC9M6SP02) |  |  |  |  |  |  |


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| Year 4 <br> - Recognise line and rotational symmetry of shapes and create symmetrical patterns and pictures, using dynamic geometric software where appropriate. (AC9M4SP03) <br> Year 5 <br> - Describe and perform translations, reflections and rotations of shapes, using dynamic geometric software where appropriate; recognise what changes and what remains the same, and identify any symmetries. (AC9M5SP03) <br> Year 6 <br> - Recognise and use combinations of transformations to create tessellations and other geometric patterns, using dynamic geometric software where appropriate. (AC9M6SP03) |  |  |  | Chapter 20: Line symmetry <br> Rotational symmetry is introduced in Mathematics for Australia 5 (2nd edition) | 24A: Reflections <br> 24B: Line symmetry <br> 24C: Translations <br> 24D: Rotations | 18D: Combinations of transformations |
| Statistics |  |  |  |  |  |  |
| Year 1 <br> - Acquire and record data for categorical variables in various ways including using digital tools, objects, images, drawings, lists, tally marks and symbols. (AC9M1ST01) <br> Year 2 <br> - 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. | Chapter 7: Data handling | Chapter 7: Data handling | Chapter 7: Data handling <br> Discrete numerical variables are introduced in Mathematics for Australia 4 (2nd edition) | Chapter 4: Statistics Chapter 5: Probability | 23A: Categorical data <br> 23B: Dot plots <br> 23C: Pictographs <br> 23D: Column graphs <br> 23E: Numerical data <br> 23F: Collecting data | 17A: Categorical data <br> 17B: Dot plots <br> 17C: Pictographs <br> 17D: Column graphs <br> 17E: Pie charts <br> 17F: Comparing categorical data <br> 17G: Numerical data <br> 17H: Measuring the centre of a <br> data set |
| Year 3 <br> - 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. (AC9M3ST01) |  |  |  |  |  |  |
| Year 4 <br> - 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. (AC9M4ST01) |  |  |  |  |  |  |
| Year 5 <br> - Acquire, validate and represent data for nominal and ordinal categorical and discrete numerical variables, to address a question of interest or purpose using software including spreadsheets; discuss and report on data distributions in terms of highest frequency (mode) and shape, in the context of the data. (AC9M5ST01) |  |  |  |  |  |  |
| Year 6 <br> - Interpret and compare data sets for ordinal and nominal categorical, discrete and continuous numerical variables using comparative displays or visualisations and digital tools; compare distributions in terms of mode, range and shape. (AC9M6ST01) |  |  |  |  |  |  |


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| Year 1 <br> - Represent collected data for a categorical variable using one-to-one displays and digital tools where appropriate; compare the data using frequencies and discuss the findings. (AC9M1ST02) | Chapter 7: Data handling | Chapter 7: Data handling | Chapter 7: Data handling | Chapter 4: Statistics |  |  |
| Year 2 <br> - 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. (AC9M2ST02) |  |  |  |  |  |  |
| Year 3 <br> - Create and compare different graphical representations of data sets including using software where appropriate; interpret the data in terms of the context. (AC9M3ST02) |  |  |  |  |  |  |
| 4 <br> - 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. (AC9M4ST02) |  |  |  |  |  |  |
| Year 5 <br> - Interpret line graphs representing change over time; discuss the relationships that are represented and conclusions that can be made. (AC9M5ST02) |  |  |  |  | Line graphs are introduced in Mathematics for Australia 7 (2nd edition) |  |
| Year 6 <br> - Identify statistically informed arguments presented in traditional and digital media; discuss and critique methods, data representations and conclusions. (AC9M6ST02) |  |  |  |  |  | 17F: Comparing categorical data |
| Year 3 <br> - Conduct guided statistical investigations involving the collection, representation and interpretation of data for categorical and discrete numerical variables with respect to questions of interest. (AC9M3ST03) |  |  | Chapter 7: Data handling <br> Discrete numerical variables are introduced in Mathematics for Australia 4 (2nd edition) | Chapter 4: Statistics Chapter 5: Probability | 23F: Collecting data | 17H: Measuring the centre of a data set |
| Year 4 <br> - 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. (AC9M4ST03) |  |  |  |  |  |  |
| Year 5 <br> - Plan and conduct statistical investigations by posing questions or identifying a problem and collecting relevant data; choose appropriate displays and interpret the data; communicate findings within the context of the investigation. (AC9M5ST03) |  |  |  |  |  |  |
| Year 6 <br> - Plan and conduct statistical investigations by posing and refining questions or identifying a problem and collecting relevant data; analyse and interpret the data and communicate findings within the context of the investigation. (AC9M6ST03) |  |  |  |  |  |  |


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| Probability |  |  |  |  |  |  |
| Year 3 <br> - 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. (AC9M3P01) |  |  | Chapter 8: Chance | Chapter 5: Probability | 22C: Outcomes <br> 22D: Calculating probabilities | 16B: Using numbers to describe probabilities <br> 16D: Calculating probabilities <br> 16E: Complementary events |
| Year 4 <br> - 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. (AC9M4P01) |  |  |  |  |  |  |
| Year 5 <br> - List the possible outcomes of chance experiments involving equally likely outcomes and compare to those which are not equally likely. (AC9M5P01) <br> Year 6 <br> - Recognise that probabilities lie on numerical scales of $0-1$ or $0 \%-100 \%$ and use estimation to assign probabilities that events occur in a given context, using common fractions, percentages and decimals. (AC9M6P01) |  |  |  |  |  |  |
| Year 3 <br> - Conduct repeated chance experiments; identify and describe possible outcomes, record the results, recognise and discuss the variation. (AC9M3P02) |  |  | Chapter 8: Chance | Chapter 5: Probability |  | 16D: Calculating probabilities |
| Year 4 <br> - Conduct repeated chance experiments to observe relationships between outcomes; identify and describe the variation in results. (AC9M4P02) |  |  |  |  |  |  |
| Year 5 <br> - Conduct repeated chance experiments including those with and without equally likely outcomes, observe and record the results; use frequency to compare outcomes and estimate their likelihoods. (AC9M5P02) |  |  |  |  |  |  |
| Year 6 <br> - Conduct repeated chance experiments and run simulations with an increasing number of trials using digital tools; compare observations with expected results and discuss the effect on variation of increasing the number of trials. (AC9M6P02) |  |  |  |  |  |  |

