# Mathematics Stage 4: Sample scope and sequence (Core)

The Core–Paths structure is designed to encourage aspiration in students and provide the flexibility needed to enable teachers to create pathways for students working towards Stage 6. The structure is intended to extend students as far along the continuum of learning as possible and provide solid foundations for the highest levels of student achievement. The structure allows for a diverse range of endpoints up to the end of Stage 5.

This scope and sequence has been developed to focus on Stage 4 Core content with some Stage 3 outcomes revisited.

Students should not be locked into a definitive pathway in Stage 4. Teachers are best placed to make programming decisions about pathways towards Stage 6 courses in the middle of students’ Stage 5 learning.

In Mathematics 7–10 there is one overarching **Working mathematically outcome.**

A student develops understanding and fluency in mathematics through: exploring and connecting mathematical concepts; choosing and applying mathematical techniques to solve problems; and communicating their thinking and reasoning coherently and clearly.

## Year 7 – Term 1

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| Weeks 1–5 | Weeks 6–10 |
| **Unit:** Number relations (Stage 3 content)**Focus area(s):** Additive relations (Stage 3) and Multiplicative relations (Stage 3)selects and applies appropriate strategies to solve addition and subtraction problems selects and applies appropriate strategies to solve multiplication and division problems | **Unit:** Computation with integers**Focus area(s):** Computation with integerscompares, orders and calculates with integers to solve problems |
| Outcomes: MA3-AR-01, MA3-MR-01Life Skills outcomes: MALS-ADS-01, MALS-MDI-01 | Outcomes: MA4-INT-C-01Life Skills outcomes: MALS-LAN-01, MALS-COU-01, MALS-REP-01,MALS-COM-01, MALS-ADS-01, MALS-MDI-01 |

## Year 7 – Term 2

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| Weeks 1–3 | Weeks 4–10 |
| **Unit:** Fluency with common fractions and percentages (Stage 3 content)**Focus area(s):** Represents numbers (Stage 3) and Representing quantity fractions (Stage 3)determines percentages of quantities and finds equivalent fractions and decimals for benchmark percentage values compares and orders fractions (denominators of 2, 3, 4, 5, 6, 8 and 10)determines $\frac{1}{2},\frac{1}{4}, \frac{1}{5}$ and $\frac{1}{10}$ of measures and quantities | **Unit:** Understanding fractions and decimals**Focus area(s):** Fractions, decimals and percentagesrepresents fractions and decimals**Note:** exclude study of percentages at this point of learning. |
| Outcomes: MA3-RN-03, MA3-RQF-01, MA3-RQF-02Life Skills outcomes: MALS-REP-01, MALS-FRC-01 | Outcomes: MA4-FRC-C-01Life Skills outcomes: MALS-FRC-01, MALS-DEP-01 |

## Year 7 – Term 3

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| Weeks 1–6 | Weeks 7–10 |
| **Unit:** Algebraic techniques**Focus area(s):** Algebraic techniquesgeneralises number properties to operate with algebraic expressions | **Unit:** Operating with fractions(revising and consolidating knowledge from Term 2)**Focus area(s):** Fractions, decimals and percentagesoperates with fractions to solve problem**Note:** exclude study of percentages and decimals at this point of learning. |
| Outcomes: MA4-ALG-C-01Life Skills outcomes: MALS-PAT-01 | Outcomes: MA4-FRC-C-01Life Skills outcomes: MALS-FRC-01 |

## Year 7 – Term 4

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| Weeks 1–5 | Weeks 6–10 |
| **Unit:** Operating with decimals(revising and consolidating knowledge from Term 2)**Focus area(s):** Fractions, decimals and percentages operates with decimals to solve problems**Note:** exclude study of percentages at this point of learning. Fractions already studied. | **Unit:** Equations**Focus area(s):** Equationssolves linear equations of up to 2 steps and quadratic equations of the form $ax^{2}=c$ |
| Outcomes: MA4-FRC-C-01Life Skills outcomes: MALS-DEP-01 | Outcomes: MA4-EQU-C-01Life Skills outcomes: MALS-ADS-01, MALS-MDI-01 |

## Year 8 – Term 1

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| Weeks 1–5 | Weeks 6–7 | Weeks 8–10 |
| **Unit:** Indices**Focus area(s):** Indicesoperates with primes and roots, positive-integer and zero indices involving numerical bases and establishes the relevant index laws | **Unit:** Units of length (Stage 3 content)**Focus area(s):** Geometric measure (Stage 3) selects and uses the appropriate unit and device to measure lengths and distances (including perimeters) | **Unit:** Perimeter of plane shapes**Focus area(s):** Lengthapplies knowledge of the perimeter of plane shapes (excluding circles) to solve problems**Note:** exclude study of circles at this point of learning. |
| Outcomes: MA4-IND-C-01Life Skills outcomes: Review and consolidate prior Life Skills outcomes (Year 7) | Outcomes: MA3-GM-02Life Skills outcomes: MALS-GEO-01 | Outcomes: MA4-LEN-C-01Life Skills outcomes: MALS-LEN-01 |

## Year 8 – Term 2

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| Weeks 1–3 | Weeks 4–10 |
| **Unit:** Units of area (Stage 3 content) **Focus area(s):** Two-dimensional spatial structure (Stage 3)selects and uses the appropriate unit to calculate areas, including areas of rectanglescombines, splits and rearranges shapes to determine the area of parallelograms and triangles | **Unit:** Areas of triangles and quadrilaterals**Focus area(s):** Area applies knowledge of area and composite area involving triangles, quadrilaterals (excluding circles) to solve problems **Note:** exclude study of circles at this point of learning. |
| Outcomes: MA3-2DS-02, MA3-2DS-03Life Skills outcomes: MALS-GEO-01 | Outcomes: MA4-ARE-C-01Life Skills outcomes: MALS-ARE-01 |

## Year 8 – Term 3

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| Weeks 1–3 | Weeks 4–10 |
| **Unit:** Estimating, measuring, comparing, types of angles (Stage 3 content)**Focus area(s):** Geometric measure (Stage 3)measures and constructs angles, and identifies the relationships between angles on a straight line and angles at a point | **Unit:** Angle relationships**Focus area(s):** Angle relationshipsapplies angle relationships to solve problems, including those related to transversals on sets of parallel lines |
| Outcomes: MA3-GM-03Life Skills outcomes: MALS-GEO-01 | Outcomes: MA4-ANG-C-01Life Skills outcomes: Review and consolidate prior Life Skills outcomes |

## Year 8 – Term 4

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| Weeks 1–2 | Weeks 3–10 |
| **Unit:** Displaying data (Stage 3 content)**Focus area(s):** Data (Stage 3)constructs graphs using many-to-one scales | **Unit:** Data classification and visualisation**Focus area(s):** Data classification and visualisationclassifies and displays data using a variety of graphical representations |
| Outcomes: MA3-DATA-01Life Skills outcomes: MALS-DAT-01 | Outcomes: MA4-DAT-C-01Life Skills outcomes: MALS-DAT-01 |