# 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 is one example for sequencing Stage 4 Core.

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:** Computation with integers  **Focus area(s):** Computation with integers  compares, orders and calculates with integers to solve problems | **Unit:** Understanding fractions and decimals  **Focus area(s):** Fractions, decimals and percentages  represents and operates with fractions, decimals and percentages to solve problems  **Note:** exclude study of percentages at this point of learning. |
| Outcomes: MA4-INT-C-01  Life Skills outcomes: MALS-LAN-01, MALS-COU-01, MALS-REP-01,  MALS-COM-01, MALS-ADS-01, MALS-MDI-01 | Outcomes: MA4-FRC-C-01  Life Skills outcomes: MALS-FRC-01, MALS-DEP-01 |

## Year 7 – Term 2

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| Weeks 1–5 | Weeks 6–10 |
| **Unit:** Algebraic techniques  **Focus area(s):** Algebraic techniques  generalises number properties to operate with algebraic expressions including expansion and factorisation | **Unit:** Understanding percentages  **Focus area(s):** Fractions, decimals and percentages  represents and operates with fractions, decimals and percentages to solve problems |
| Outcomes: MA4-ALG-C-01  Life Skills outcomes: MALS-PAT-01 | Outcomes: MA4-FRC-C-01  Life Skills outcomes: MALS-FRC-01, MALS-DEP-01 |

## Year 7 – Term 3

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| Weeks 1–5 | Weeks 6–7 | Weeks 8–10 |
| **Unit:** Equations  **Focus area(s):** Equations  solves linear equations of up to 2 steps and quadratic equations of the form | **Unit:** Indices  **Focus area(s):** Indices  operates with primes and roots, positive-integer and zero indices involving numerical bases and establishes the relevant index laws | **Unit:** Perimeter of plane shapes  **Focus area(s):** Length  applies knowledge of the perimeter of plane shapes and the circumference of circles to solve problems  **Note:** exclude study of circles at this point of learning. |
| Outcomes: MA4-EQU-C-01  Life Skills outcomes: MALS-ADS-01, MALS-MDI-01 | Outcomes: MA4-IND-C-01  Life Skills outcomes: Review and consolidate prior Life Skills outcomes | Outcomes: MA4-LEN-C-01  Life Skills outcomes: MALS-LEN-01 |

## Year 7 – Term 4

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| Weeks 1–4 | Weeks 5–7 | Weeks 8–10 |
| **Unit:** Areas of triangles and quadrilaterals  **Focus area(s):** Area  applies knowledge of area and composite area involving triangles, quadrilaterals and circles to solve problems  **Note:** exclude study of circles at this point of learning. | **Unit:** Angle relationships  **Focus area(s):** Angle relationships  applies angle relationships to solve problems, including those related to transversals on sets of parallel lines | **Unit:** Data classification and visualisation  **Focus area(s):** Data classification and visualisation  classifies and displays data using a variety of graphical representations |
| Outcomes: MA4-ARE-C-01  Life Skills outcomes: MALS-ARE-01 | Outcomes: MA4-ANG-C-01  Life Skills outcomes: Review and consolidate prior Life Skills outcomes | Outcomes: MA4-DAT-C-01  Life Skills outcomes: MALS-DAT-01 |

## Year 8 – Term 1

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| Weeks 1–4 | Weeks 5–7 | Weeks 8–10 |
| **Unit:** Operating with integers, fractions, decimals and percentages (Year 7 review)  **Focus area(s):** Computation with integers, and Fractions, decimals and percentages  compares, orders and calculates with integers to solve problems | **Unit:** Pythagoras’ theorem  **Focus area(s):** Right-angled triangles (Pythagoras’ theorem)  applies Pythagoras’ theorem to solve problems in various contexts | **Unit:** Circles – measurement  **Focus area(s):** Length and Area  applies knowledge of the perimeter of plane shapes and the circumference of circles to solve problems  applies knowledge of area and composite area involving triangles, quadrilaterals and circles to solve problems |
| Outcomes: MA4-INT-C-01, MA4-FRC-C-01  Life Skills outcomes: MALS-LAN-01, MALS-COU-01, MALS-REP-01, MALS-COM-01, MALS-ADS-01, MALS-MDI-01, MALS-FRC-01, MALS-DEP-01 | Outcomes: MA4-PYT-C-01  Life Skills outcomes: Review and consolidate prior Life Skills outcomes | Outcomes: MA4-LEN-C-01, MA4-ARE-C-01  Life Skills outcomes: MALS-LEN-01,  MALS-ARE-01 |

## Year 8 – Term 2

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| Weeks 1–4 | Weeks 5–10 |
| **Unit:** Volume  **Focus area(s):** Volume  applies knowledge of volume and capacity to solve problems involving right prisms and cylinders | **Unit:** Ratios and rates  **Focus area(s):** Ratios and rates  solves problems involving ratios and rates, and analyses distance–time graphs |
| Outcomes: MA4-VOL-C-01  Life Skills outcomes: MALS-VOL-01 | Outcomes: MA4-RAT-C-01  Life Skills outcomes: MALS-ADS-01, MALS-MDI-01 |

## Year 8 – Term 3

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| Weeks 1–5 | Weeks 6–10 |
| **Unit:** Properties of geometrical figures  **Focus area(s):** Properties of geometrical figures  identifies and applies the properties of triangles and quadrilaterals to solve problems | **Unit:** Data analysis  **Focus area(s):** Data analysis  classifies and displays data using a variety of graphical representations |
| Outcomes: MA4-GEO-C-01  Life Skills outcomes: MALS-GEO-01 | Outcomes: MA4-DAT-C-01  Life Skills outcomes: MALS-DAT-01 |

## Year 8 – Term 4

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| Weeks 1–6 | Weeks 7–10 |
| **Unit:** Linear relationships  **Focus area(s):** Linear relationships  creates and displays number patterns and finds graphical solutions to problems involving linear relationships | **Unit:** Probability  **Focus area(s):** Probability  solves problems involving the probabilities of simple chance experiments |
| Outcomes: MA4-LIN-C-01  Life Skills outcomes: MALS-POS-01 | Outcomes: MA4-PRO-C-01  Life Skills outcomes: MALS-PRO-01 |