

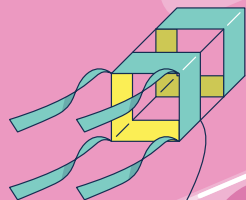
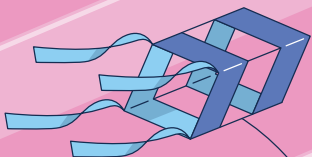


Maths Trek

NSW Syllabus Alignment Guide

Stage 2 – Stage 3

Australian Curriculum Edition



NSW Syllabus Edition Coming Soon

Our NSW Syllabus Edition of Maths Trek Years 3–6 will be ready for use in 2026. In the meantime, schools can use the Australian Curriculum Edition of Maths Trek. This *Alignment Guide* shows how the Australian Curriculum Edition aligns to Stages 2 and 3.

Note: Our NSW Syllabus Edition for K–2 is ready for use in 2025.

Maths Trek Years 3–6 are written for the Australian Curriculum v9. Refer to the tables to see how the Maths Trek topics and investigations align with the NSW Mathematics Syllabus for Stage 2A to Stage 3B.

Stage 2A Syllabus Alignment Guide

Maths Trek 3

Working mathematically

Outcome MAO-WM-01 is comprehensively covered in the Maths Trek program. Students develop mathematical understanding, fluency, reasoning and problem-solving skills as they work through the sequence of topics, revision, investigations, problem-solving strategies and practice problems.

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 MAO-WM-01



Strand	Mathematical concept	Outcomes	Content	Topics and investigations
Number and algebra	Representing numbers using place value A	A student: <ul style="list-style-type: none"> applies an understanding of place value and the role of zero to represent numbers to at least tens of thousands MA2-RN-01 represents and compares decimals up to 2 decimal places using place value MA2-RN-02 	<ul style="list-style-type: none"> Whole numbers: Read, represent and order numbers to thousands Whole numbers: Apply place value to partition and regroup numbers up to 4 digits 	1.3 Regrouping numbers 2.3 Place value to thousands 3.1 Expanded notation 3.2 Counting on and back by 1, 10, 100 3.3 Comparing numbers to 10 000 4.1 Ordering numbers to 10 000
	Additive relations A	A student: <ul style="list-style-type: none"> selects and uses mental and written strategies for addition and subtraction involving 2- and 3-digit numbers MA2-AR-01 completes number sentences involving addition and subtraction by finding missing values MA2-AR-02 	<ul style="list-style-type: none"> Use the principle of equality Recognise and explain the connection between addition and subtraction Select strategies flexibly to solve addition and subtraction problems of up to 3 digits Represent money values in multiple ways 	1.2 Fact families for addition and subtraction 2.1 Addition with partitioning 2.2 Subtraction with partitioning 10.3 Addition with modelling 11.1 Subtraction with modelling 11.3 Equivalent number sentences 14.1 Addition 14.2 Subtraction 14.3 Modelling to solve problems 19.2 Addition to three digits
				10.2 Place value to ten thousands 28.1 Japanese numeral system 32.1 Comparing and ordering numbers to 10 000 Inv: What's in a thousand words? 20.1 Rounding to tens and hundreds 20.2 Subtraction to three digits 21.1 Equivalent values of money 21.2 Dollars and cents 21.3 Inverse operations 23.1 Estimation strategies 28.2 Addition and subtraction Inv: What's in a thousand words? Inv: Big spender Inv: Trash or treasure

Stage 2A Syllabus Alignment Guide

Maths Trek 3

Strand	Mathematical concept	Outcomes	Content	Topics and investigations
Number and algebra	Multiplicative relations A	A student: <ul style="list-style-type: none"> represents and uses the structure of multiplicative relations to 10×10 to solve problems MA2-MR-01 completes number sentences involving multiplication and division by finding missing values MA2-MR-02 	<ul style="list-style-type: none"> Generate and describe patterns Use arrays to establish multiplication facts from multiples of 2 and 4, 5 and 10 Recall multiplication facts of 2 and 4, 5 and 10 and related division facts Represent and solve problems involving multiplication fact families 	16.1 Number patterns 16.2 Multiples 2, 3, 4, 5, 10 16.3 Multiples and repeated addition 17.1 Multiplication facts 3, 4 17.2 Multiplication facts 5, 10 20.3 Multiplication problem-solving 24.1 Division facts 3, 4 24.2 Division facts 5, 10 24.3 Division problem-solving Inv: Picture perfect patterns
	Partitioned fractions A	A student: <ul style="list-style-type: none"> represents and compares halves, quarters, thirds and fifths as lengths on a number line and their related fractions formed by halving (eighths, sixths and tenths) MA2-PF-01 	<ul style="list-style-type: none"> Create fractional parts of a length using techniques other than repeated halving Model and represent unit fractions, and their multiples, to a complete whole on a number line 	29.3 Fractions as part of a whole 30.2 Fractions on a number line 30.3 Fractions as division Inv: Fraction action
Measurement and space	Geometric measure A	A student: <ul style="list-style-type: none"> uses grid maps and directional language to locate positions and follow routes MA2-GM-01 measures and estimates lengths in metres, centimetres and millimetres MA2-GM-02 identifies angles and classifies them by comparing to a right angle MA2-GM-03 	<ul style="list-style-type: none"> Position: Interpret movement on a map Position: Locate positions on grid maps Length: Measure and compare objects using metres, centimetres and millimetres Angles: Identify angles as measures of turn 	8.1 Measuring with metres 8.2 Measuring with centimetres 8.3 Measuring with metres and centimetres 25.2 Angles 32.2 Right angles 32.3 Maps and plans Inv: How do I measure up? Inv: Kakadu crossing Inv: Top team

Stage 2A Syllabus Alignment Guide

Maths Trek 3

Strand	Mathematical concept	Outcomes	Content	Topics and investigations
Measurement and space	Two-dimensional spatial structure A	A student: <ul style="list-style-type: none"> compares two-dimensional shapes and describes their features MA2-2DS-01 performs transformations by combining and splitting two-dimensional shapes MA2-2DS-02 estimates, measures and compares areas using square centimetres and square metres MA2-2DS-03 	<ul style="list-style-type: none"> 2D shapes: Compare and describe features of two-dimensional shapes 2D shapes: Transform shapes by reflecting, translating and rotating Area: Use square centimetres to measure and estimate the areas of rectangles Area: Use square metres to measure and estimate the areas of rectangles 	
	Three-dimensional spatial structure A	A student: <ul style="list-style-type: none"> makes and sketches models and nets of three-dimensional objects including prisms and pyramids MA2-3DS-01 estimates, measures and compares capacities (internal volumes) using litres, millilitres and volumes using cubic centimetres MA2-3DS-02 	<ul style="list-style-type: none"> 3D objects: Make models of three-dimensional objects to compare and describe key features Volume: Measure and order containers using litres Volume: Compare objects using familiar metric units of volume 	15.2 Measuring with litres 26.2 Pyramids and prisms 26.3 Cylinders, cones, spheres Inv: Cube conundrum
	Non-spatial measure A	A student: <ul style="list-style-type: none"> estimates, measures and compares the masses of objects using kilograms and grams MA2-NSM-01 represents and interprets analog and digital time in hours, minutes and seconds MA2-NSM-02 	<ul style="list-style-type: none"> Mass: Compare objects using the kilogram Time: Represent and read analog time 	7.1 Time past the hour 12.1 Measuring with kilograms 12.2 Measuring with grams 12.3 Measuring with kilograms and grams 15.1 Time to the hour 19.3 Time to and past the hour 23.3 Time to the nearest minute 29.1 Seconds, minutes, hours, days 29.2 Duration of time

Stage 2A Syllabus Alignment Guide

Maths Trek 3

Strand	Mathematical concept	Outcomes	Content	Topics and investigations
○ Statistics and probability	Data A	A student: <ul style="list-style-type: none"> collects discrete data and constructs graphs using a given scale MA2-DATA-01 interprets data in tables, dot plots and column graphs MA2-DATA-02 	<ul style="list-style-type: none"> Collect discrete data Organise and display data using tables and graphs Interpret and compare data 	6.1 Collecting and organising data 7.2 Column graphs 7.3 Interpreting graphs 10.1 Picture graphs 11.2 Comparing tables and graphs 28.3 Column graphs Inv: How do I measure up?
	Chance A	A student: <ul style="list-style-type: none"> records and compares the results of chance experiments MA2-CHAN-01 	<ul style="list-style-type: none"> Identify possible outcomes from chance experiments 	6.2 Predicting possible outcomes 6.3 Predicting possible outcomes with spinners

Stage 2B Syllabus Alignment Guide

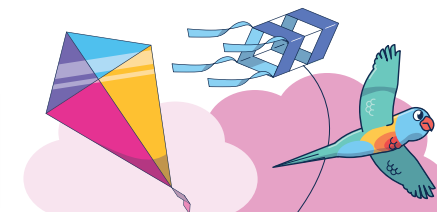
Maths Trek 4

Working mathematically

Outcome MAO-WM-01 is comprehensively covered in the Maths Trek program. Students develop mathematical understanding, fluency, reasoning and problem-solving skills as they work through the sequence of topics, revision, investigations, problem-solving strategies and practice problems.

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 MAO-WM-01



Strand	Mathematical concept	Outcomes	Content	Topics and investigations	
Number and algebra	Representing numbers using place value B	A student: <ul style="list-style-type: none"> applies an understanding of place value and the role of zero to represent numbers to at least tens of thousands MA2-RN-01 represents and compares decimals up to 2 decimal places using place value MA2-RN-02 	<ul style="list-style-type: none"> Whole numbers: Order numbers in the thousands Whole numbers: Apply place value to partition, regroup and rename numbers up to 6 digits Whole numbers: Recognise and represent numbers that are 10, 100 or 1000 times as large Decimals: Extend the application of the place value system from whole numbers to tenths and hundredths Decimals: Make connections between fractions and decimal notation 	1.2 Place value to hundred thousands 3.1 Place value and expanded notation 8.2 Rounding to ten thousands 11.1 Place value to tenths 11.2 Tenths on a number line 16.2 Multiplying and dividing by 10, 100, 1000 16.3 Rounding using a target digit strategy 24.2 Place value to hundredths 24.3 Hundredths on a number line 26.1 Place value and expanded notation	Inv: Lengthy leaps
	Additive relations B	A student: <ul style="list-style-type: none"> selects and uses mental and written strategies for addition and subtraction involving 2- and 3-digit numbers MA2-AR-01 completes number sentences involving addition and subtraction by finding missing values MA2-AR-02 	<ul style="list-style-type: none"> Partition, rearrange and regroup numbers to at least 1000 to solve additive problems Apply addition and subtraction to familiar contexts, including money and budgeting Complete number sentences involving additive relations to find unknown quantities 	1.3 Addition 2.1 Subtraction 6.1 Modelling to solve problems 6.2 Calculating with money 6.3 Budgets 15.1 Equivalent number sentences 15.2 Addition 15.3 Subtraction 17.1 Estimation strategies 19.1 Addition 19.2 Subtraction	23.1 Turnarounds and friendly pairs 26.3 Inverse operations 28.1 Addition and subtraction Inv: Time of my life Inv: Puzzling perimeters

Stage 2B Syllabus Alignment Guide

Maths Trek 4

Strand	Mathematical concept	Outcomes	Content	Topics and investigations	
Number and algebra	Multiplicative relations B	A student: <ul style="list-style-type: none"> represents and uses the structure of multiplicative relations to 10×10 to solve problems MA2-MR-01 completes number sentences involving multiplication and division by finding missing values MA2-MR-02 	<ul style="list-style-type: none"> Investigate number sequences involving related multiples Use known number facts and strategies Use the structure of the area model to represent multiplication and division Use number properties to find related multiplication facts Operate with multiples of 10 Represent and solve word problems with number sentences involving multiplication or division 	3.2 Multiplication facts 2, 3, 5, 10 3.3 Multiplication facts 4, 6, 8, 9 4.1 Multiples using algorithms 4.3 Multiplication using the area model 8.3 Multiplication using the area model 10.1 Factors 15.1 Equivalent number sentences 25.1 Division facts 2, 3, 5, 10 25.2 Division facts 4, 6, 8, 9 25.3 Division 26.2 Multiplication 26.3 Inverse operations 28.2 Division	Inv: Time of my life Inv: Super sports stadium
	Partitioned fractions B	A student: <ul style="list-style-type: none"> represents and compares halves, quarters, thirds and fifths as lengths on a number line and their related fractions formed by halving (eighths, sixths and tenths) MA2-PF-01 	<ul style="list-style-type: none"> Model equivalent fractions as lengths Represent fractional quantities equal to and greater than one 	20.3 Fractions on a number line 21.1 Equivalent fractions 23.3 Fractions as division 28.3 Mixed numerals 29.1 Mixed numerals and improper fractions	Inv: Ripper rides Inv: Fraction fun
Measurement and space	Geometric measure B	A student: <ul style="list-style-type: none"> uses grid maps and directional language to locate positions and follow routes MA2-GM-01 measures and estimates lengths in metres, centimetres and millimetres MA2-GM-02 identifies angles and classifies them by comparing to a right angle MA2-GM-03 	<ul style="list-style-type: none"> Position: Create and interpret grid maps Position: Use directional language and describe routes with grid maps Length: Use scaled instruments to measure and compare lengths Angles: Compare angles to a right angle 	11.3 Measuring perimeter 12.1 Calculating perimeter 17.2 Grid references 17.3 Maps, pathways and directions 21.2 Angles 29.2 Measuring with millimetres 29.3 Millimetres, centimetres and metres	Inv: It's only natural Inv: Heritage hunt Inv: Lengthy leaps Inv: Puzzling perimeters Inv: Angle art

Stage 2B Syllabus Alignment Guide

Maths Trek 4

Strand	Mathematical concept	Outcomes	Content	Topics and investigations	
Measurement and space	Two-dimensional spatial structure B	A student: <ul style="list-style-type: none"> compares two-dimensional shapes and describes their features MA2-2DS-01 performs transformations by combining and splitting two-dimensional shapes MA2-2DS-02 estimates, measures and compares areas using square centimetres and square metres MA2-2DS-03 	<ul style="list-style-type: none"> 2D shapes: Create two-dimensional shapes that result from combining and splitting common shapes 2D shapes: Create symmetrical patterns and shapes Area: Measure the areas of shapes using the grid structure Area: Compare surfaces using familiar metric units of area 	10.2 Line symmetry 10.3 Symmetrical patterns 12.2 Area 12.3 Area of irregular shapes 21.3 Tessellation 30.1 Quadrilaterals 30.2 Combining shapes	Inv: It's only natural Inv: Ripper rides Inv: Angle art
	Three-dimensional spatial structure B	A student: <ul style="list-style-type: none"> makes and sketches models and nets of three-dimensional objects including prisms and pyramids MA2-3DS-01 estimates, measures and compares capacities (internal volumes) using litres, millilitres and volumes using cubic centimetres MA2-3DS-02 	<ul style="list-style-type: none"> 3D objects: Connect three-dimensional objects and two-dimensional representations Volume: Use scaled instruments to measure and compare capacities (internal volumes) 	7.2 Measuring with litres and millilitres 7.3 Converting litres and millilitres 14.3 Combining objects	Inv: Plenty of pikelets
	Non-spatial measure B	A student: <ul style="list-style-type: none"> estimates, measures and compares the masses of objects using kilograms and grams MA2-NSM-01 represents and interprets analog and digital time in hours, minutes and seconds MA2-NSM-02 	<ul style="list-style-type: none"> Mass: Use scaled instruments to measure and compare masses Time: Represent and interpret digital time displays Time: Use am and pm notation 	7.1 Reading graduated scales 8.1 Measuring with kilograms and grams 30.3 Converting units of time 32.1 Time (am and pm) 32.2 Reading and interpreting timetables 32.3 Time to the nearest minute	Inv: Plenty of pikelets Inv: Movie marathon

Stage 2B Syllabus Alignment Guide

Maths Trek 4

Strand	Mathematical concept	Outcomes	Content	Topics and investigations
Statistics and probability	Data B	A student: <ul style="list-style-type: none"> collects discrete data and constructs graphs using a given scale MA2-DATA-01 interprets data in tables, dot plots and column graphs MA2-DATA-02 	<ul style="list-style-type: none"> Select and trial methods for data collection Construct and interpret data displays with many-to-one scales 	4.2 Collecting and organising data 16.1 Picture graphs 19.3 Column graphs 20.2 Comparing graphs Inv: Movie marathon Inv: Lengthy leaps
	Chance B	A student: <ul style="list-style-type: none"> records and compares the results of chance experiments MA2-CHAN-01 	<ul style="list-style-type: none"> Describe the likelihood of outcomes of chance events Identify when events are affected by previous events 	14.1 Describing possible outcomes 14.2 Dependent and independent events 24.1 Predicting possible outcomes

Stage 3A Syllabus Alignment Guide

Maths Trek 5

Working mathematically

Outcome MAO-WM-01 is comprehensively covered in the Maths Trek program. Students develop mathematical understanding, fluency, reasoning and problem-solving skills as they work through the sequence of topics, revision, investigations, problem-solving strategies and practice problems.

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 MAO-WM-01



Strand	Mathematical concept	Outcomes	Content	Topics and investigations
Number and algebra	Represents numbers A	A student: <ul style="list-style-type: none"> applies an understanding of place value and the role of zero to represent the properties of numbers MA3-RN-01 compares and orders decimals up to 3 decimal places MA3-RN-02 determines percentages of quantities, and finds equivalent fractions and decimals for benchmark percentage values MA3-RN-03 	<ul style="list-style-type: none"> Whole numbers: Recognise, represent and order numbers in the millions Whole numbers: Apply place value to partition, regroup and rename numbers to 1 billion Decimals and percentages: Recognise that the place value system can be extended beyond hundredths Decimals and percentages: Compare, order and represent decimals 	<ul style="list-style-type: none"> 1.2 Place value to millions 2.3 Rounding to ten thousands 7.2 Place value to thousandths 7.3 Percentages 10.1 Place value beyond millions 21.2 Comparing decimals 21.3 Percentages 25.3 Choosing units of measurement 28.1 Place value and expanded notation 28.2 Rounding using a target digit strategy
	Additive relations A	A student: <ul style="list-style-type: none"> selects and applies appropriate strategies to solve addition and subtraction problems MA3-AR-01 	<ul style="list-style-type: none"> Apply efficient mental and written strategies to solve addition and subtraction problems Use estimation and place value understanding to determine the reasonableness of solutions 	<ul style="list-style-type: none"> 2.1 Addition 2.2 Subtraction 3.1 Estimation strategies 14.2 Addition 14.3 Turnarounds and friendly pairs 15.1 Subtraction with zeros 28.3 Estimation strategies

Stage 3A Syllabus Alignment Guide

Maths Trek 5

Strand	Mathematical concept	Outcomes	Content	Topics and investigations
Number and algebra	Multiplicative relations A	A student: <ul style="list-style-type: none"> selects and applies appropriate strategies to solve multiplication and division problems MA3-MR-01 constructs and completes number sentences involving multiplicative relations, applying the order of operations to calculations MA3-MR-02 	<ul style="list-style-type: none"> Determine products and factors Use partitioning and place value to multiply 2-, 3- and 4-digit numbers by one-digit numbers Select and apply mental and written strategies to multiply 2- and 3-digit numbers by 2-digit numbers Represent and solve division problems with whole number remainders Select and apply strategies to divide a number with 3 or more digits by a one-digit divisor Use estimation and rounding to check the reasonableness of answers to calculations 	1.3 Fact families for multiplication and division 3.1 Estimation strategies 6.3 Multiplication using the area model 7.1 Multiplication using split and multiply 10.2 Multiplication – 3 digits x 1 digit 15.2 Inverse operations 15.3 Division 16.3 Division 17.1 Factors 17.3 Division with remainders 24.1 Division with remainders 24.2 Multiplication – 4 digits x 1 digit 24.3 Multiplication by tens and hundreds
	Representing quantity fractions A	A student: <ul style="list-style-type: none"> compares and orders fractions with denominators of 2, 3, 4, 5, 6, 8 and 10 MA3-RQF-01 determines $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$ of measures and quantities MA3-RQF-02 	<ul style="list-style-type: none"> Recognise the role of the number 1 as representing the whole Compare and order common unit fractions Solve problems involving addition and subtraction of fractions with the same denominator 	19.3 Comparing and ordering fractions 20.1 Adding and subtracting fractions 20.2 Equivalent fractions 20.3 Adding and subtracting fractions

25.1 Multiplication using the area model
25.2 Multiplication – 3 digits x 2 digits
28.3 Estimation strategies
Inv: Factor frenzy
Inv: Down the drain
Inv: Twinkle twinkle
Inv: Never a cross word

Inv: Dynamic dominoes

Stage 3A Syllabus Alignment Guide

Maths Trek 5

Strand	Mathematical concept	Outcomes	Content	Topics and investigations	
Measurement and space	Geometric measure A	A student: <ul style="list-style-type: none"> locates and describes points on a coordinate plane MA3-GM-01 selects and uses the appropriate unit and device to measure lengths and distances including perimeters MA3-GM-02 measures and constructs angles, and identifies the relationships between angles on a straight line and angles at a point MA3-GM-03 	<ul style="list-style-type: none"> Position: Explore the Cartesian coordinate system Length: Use metres and kilometres for length and distances Length: Measure lengths to find perimeters Angles: Estimate, measure and compare angles using degrees Angles: Use a protractor to measure and identify types of angles 	4.3 Coordinates and directions 10.3 Calculating perimeter 11.2 Perimeter of rectangles 14.1 Measuring with kilometres 19.1 Coordinates to locate position 23.1 Classifying angles 23.2 Measuring angles 0° to 180° 32.3 Measuring angles 0° to 360°	Inv: Race around Australia Inv: Radical renovation Inv: Score a duck Inv: Twinkle twinkle
	Two-dimensional spatial structure A	A student: <ul style="list-style-type: none"> investigates and classifies two-dimensional shapes, including triangles and quadrilaterals based on their properties MA3-2DS-01 selects and uses the appropriate unit to calculate areas, including areas of rectangles MA3-2DS-02 combines, splits and rearranges shapes to determine the area of parallelograms and triangles MA3-2DS-03 	<ul style="list-style-type: none"> 2D shapes: Classify two-dimensional shapes and describe their properties Area: Use hectares and square kilometres as units of measurement for area Area: Calculate the areas of rectangles using familiar metric units 	11.3 Area of rectangles	Inv: Radical renovation

Stage 3A Syllabus Alignment Guide

Maths Trek 5

Strand	Mathematical concept	Outcomes	Content	Topics and investigations	
Measurement and space	Three-dimensional spatial structure A	A student: <ul style="list-style-type: none"> visualises, sketches and constructs three-dimensional objects, including prisms and pyramids, making connections to two-dimensional representations MA3-3DS-01 selects and uses the appropriate unit to estimate, measure and calculate volumes and capacities MA3-3DS-02 	<ul style="list-style-type: none"> 3D objects: Compare, describe and name prisms and pyramids 3D objects: Connect three-dimensional objects with two-dimensional representations Volume: Choose appropriate units of measurement for capacity Volume: Use displacement to investigate volumes of irregular solids Volume: Connect decimal representations to the metric system 	25.3 Choosing units of measurement 26.1 Measuring with litres and millilitres 32.2 Nets of objects	Inv: Down the drain Inv: Baffling blocks
	Non-spatial measure A	A student: <ul style="list-style-type: none"> selects and uses the appropriate unit and device to measure the masses of objects MA3-NSM-01 measures and compares duration, using 12- and 24-hour time and am and pm notation MA3-NSM-02 	<ul style="list-style-type: none"> Mass: Choose appropriate units of measurement for mass Mass: Connect decimal representations to the metric system Time: Compare 12- and 24-hour time systems and convert between them 	3.2 24-hour time 3.3 Reading timetables 4.1 Australian time zones 8.1 Measuring mass 25.3 Choosing units of measurement	Inv: Race around Australia Inv: Breakfast club Inv: Finals fever
Statistics and probability	Data A	A student: <ul style="list-style-type: none"> constructs graphs using many-to-one scales MA3-DATA-01 interprets data displays, including timelines and line graphs MA3-DATA-02 	<ul style="list-style-type: none"> Collect categorical and discrete numerical data by observation or survey Choose and use appropriate tables and graphs Describe and interpret different datasets in context 	6.1 Line graphs 6.2 Categorical and numerical data 8.2 Dot plots 8.3 Column graphs 26.2 Ordinal data 26.3 The mode	Inv: Breakfast club Inv: Down the drain
	Chance A	A student: <ul style="list-style-type: none"> conducts chance experiments and quantifies the probability MA3-CHAN-01 	<ul style="list-style-type: none"> List outcomes of chance experiments involving equally likely outcomes and represent probabilities 	30.1 Measures of probability 30.2 Comparing probability	Inv: Score a duck

Stage 3B Syllabus Alignment Guide

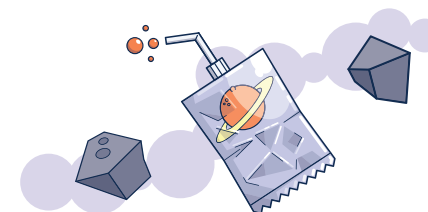
Maths Trek 6

Working mathematically

Outcome MAO-WM-01 is comprehensively covered in the Maths Trek program. Students develop mathematical understanding, fluency, reasoning and problem-solving skills as they work through the sequence of topics, revision, investigations, problem-solving strategies and practice problems.

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 MAO-WM-01



Strand	Mathematical concept	Outcomes	Content	Topics and investigations
Number and algebra	Represents numbers B	A student: <ul style="list-style-type: none"> applies an understanding of place value and the role of zero to represent the properties of numbers MA3-RN-01 compares and orders decimals up to 3 decimal places MA3-RN-02 determines percentages of quantities, and finds equivalent fractions and decimals for benchmark percentage values MA3-RN-03 	<ul style="list-style-type: none"> Whole numbers: Locate and represent integers on a number line Decimals and percentages: Make connections between benchmark fractions, decimals and percentages Decimals and percentages: Determine percentage discounts of 10%, 25% and 50% 	1.2 Positive and negative numbers 6.2 Renaming fractions as percentages 15.3 Rounding decimals 20.1 Renaming fractions as percentages 20.2 Discount 28.3 Percentages 32.1 Positive and negative numbers
	Additive relations B	A student: <ul style="list-style-type: none"> selects and applies appropriate strategies to solve addition and subtraction problems MA3-AR-01 	<ul style="list-style-type: none"> Choose and use efficient strategies to solve addition and subtraction problems Applies known strategies to add and subtract decimals 	6.3 Multi-step problems – add and subtract 7.1 Estimation strategies 16.1 Decimal addition to tenths 16.2 Decimal subtraction to tenths 16.3 Decimal addition to hundredths 17.1 Decimal subtraction to hundredths 20.3 Multi-step problems 25.1 Decimal addition to thousandths 25.2 Decimal subtraction to thousandths Inv: Record breaker

Stage 3B Syllabus Alignment Guide

Maths Trek 6

Strand	Mathematical concept	Outcomes	Content	Topics and investigations
Number and algebra	Multiplicative relations B	A student: <ul style="list-style-type: none"> selects and applies appropriate strategies to solve multiplication and division problems MA3-MR-01 constructs and completes number sentences involving multiplicative relations, applying the order of operations to calculations MA3-MR-02 	<ul style="list-style-type: none"> Select and apply strategies to solve problems involving multiplication and division with whole numbers Multiply and divide decimals by powers of 10 Use equivalent number sentences involving multiplication and division to find unknown quantities Represent and describe number patterns formed by multiples Explore the use of brackets and the order of operations to write number sentences 	2.1 Fractions as division 3.2 Multiplication 3.3 Division 4.1 Investigating patterns 4.2 Patterns in a table of values 4.3 Inverse operations to check calculations 7.1 Estimation strategies 14.1 Function machines 14.2 Order of operations 14.3 Balancing equations 19.2 Decimal multiplication 23.3 Inverse operations to solve problems
	Representing quantity fractions B	A student: <ul style="list-style-type: none"> compares and orders fractions with denominators of 2, 3, 4, 5, 6, 8 and 10 MA3-RQF-01 determines $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$ of measures and quantities MA3-RQF-02 	<ul style="list-style-type: none"> Recognise that a fraction can represent a division Compare common fractions with related denominators Build up to the whole from a given fractional part Use equivalence to add and subtract fractional quantities Find fractional quantities of whole numbers (halves, quarters, fifths and tenths) 	1.3 Comparing and ordering fractions 2.1 Fractions as division 15.1 Equivalent fractions 15.2 Adding and subtracting fractions 24.1 Adding and subtracting fractions

25.3 Multiply decimals by 10, 100, 1000
26.1 Decimal multiplication
28.2 Patterns and rules
Inv: Lilja's locked level
Inv: Clever containers

Inv: Educational entrepreneur

Stage 3B Syllabus Alignment Guide

Maths Trek 6

Strand	Mathematical concept	Outcomes	Content	Topics and investigations
Measurement and space	Geometric measure B	A student: <ul style="list-style-type: none"> locates and describes points on a coordinate plane MA3-GM-01 selects and uses the appropriate unit and device to measure lengths and distances including perimeters MA3-GM-02 measures and constructs angles, and identifies the relationships between angles on a straight line and angles at a point MA3-GM-03 	<ul style="list-style-type: none"> Position: Use the 4 quadrants of the coordinate plane Length: Connect decimal representations to the metric system Length: Convert between common metric units of length Length: Solve problems involving the comparison of lengths using appropriate units Angles: Investigate angles on a straight line and angles at a point Angles: Investigate the relationships formed by the intersection of straight lines 	6.1 Properties of angles 7.2 Metric system of measurement 7.3 Perimeter of rectangles 8.3 Area and perimeter 19.1 Coordinates in one quadrant 24.2 Properties of shapes 32.2 Coordinates in four quadrants 32.3 Transformations with coordinates Inv: Happy hippos Inv: Curious coordinates Inv: Clever containers
	Two-dimensional spatial structure B	A student: <ul style="list-style-type: none"> investigates and classifies two-dimensional shapes, including triangles and quadrilaterals based on their properties MA3-2DS-01 selects and uses the appropriate unit to calculate areas, including areas of rectangles MA3-2DS-02 combines, splits and rearranges shapes to determine the area of parallelograms and triangles MA3-2DS-03 	<ul style="list-style-type: none"> 2D shapes: Dissect two-dimensional shapes and rearrange them using translations, reflections and rotations Area: Find the area of composite figures Area: Calculate the area of a parallelogram using subdivision and rearrangement Area: Determine the area of a triangle 	8.1 Area of rectangles 8.2 Area of composite rectangles 24.3 Tessellations 30.3 Transformations Inv: Happy hippos Inv: Octi-origami


Stage 3B Syllabus Alignment Guide

Maths Trek 6

Strand	Mathematical concept	Outcomes	Content	Topics and investigations
Measurement and space	Three-dimensional spatial structure B	A student: <ul style="list-style-type: none"> visualises, sketches and constructs three-dimensional objects, including prisms and pyramids, making connections to two-dimensional representations MA3-3DS-01 selects and uses the appropriate unit to estimate, measure and calculate volumes and capacities MA3-3DS-02 	<ul style="list-style-type: none"> 3D objects: Construct prisms and pyramids Volume: Use cubic metres for measurement of volume Volume: Recognise the multiplicative structure for finding volume Volume: Find the volumes of rectangular prisms in cubic centimetres and cubic metres 	
	Non-spatial measure B	A student: <ul style="list-style-type: none"> selects and uses the appropriate unit and device to measure the masses of objects MA3-NSM-01 measures and compares duration, using 12- and 24-hour time and am and pm notation MA3-NSM-02 	<ul style="list-style-type: none"> Mass: Convert between common metric units of mass Time: Solve problems involving duration, using 12- and 24-hour time 	7.2 Metric system of measurement 10.1 Reading timetables 21.2 Reading and interpreting timetables 21.3 Calculating duration 23.2 Measuring with tonnes and kilograms Inv: Fantasy flight
Statistics and probability	Data B	A student: <ul style="list-style-type: none"> constructs graphs using many-to-one scales MA3-DATA-01 interprets data displays, including timelines and line graphs MA3-DATA-02 	<ul style="list-style-type: none"> Interpret and compare a range of data displays Interpret data presented in digital media and elsewhere 	11.1 Side-by-side column graphs 11.2 Line graphs 11.3 Stacked line graphs 12.1 Bar charts 12.2 Mode and range 12.3 Comparing graphs 17.2 Misleading data and graphs 17.3 Causes of bias Inv: Unique you Inv: Record breaker Inv: Practice makes perfect Inv: Weird or wonderful weather

Stage 3B Syllabus Alignment Guide

Maths Trek 6

Strand	Mathematical concept	Outcomes	Content	Topics and investigations
 Statistics and probability	Chance B	A student: <ul style="list-style-type: none"> conducts chance experiments and quantifies the probability MA3-CHAN-01	<ul style="list-style-type: none"> Compare observed frequencies of outcomes with expected results Create random generators and describe probabilities using fractions Conduct chance experiments with both small and large numbers of trials 	29.1 Comparing probability 29.2 Expected probability 29.3 Observed probability 30.1 Repeated probability experiments Inv: Practice makes perfect