



Maths Trek

Victorian Curriculum Match v2

Foundation – Level 6



Maths Trek covers the curriculum content and general capabilities for the Mathematics learning area F–6. Refer to the tables to see how the Maths Trek topics and investigations match to the Victorian Curriculum content descriptions and achievement standards for each year level.

Foundation Content Descriptions

Strand	Content description	Topics	
Number	Name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals (VC2MFN01)	1.1 One 1.2 Two 2.1 Three 2.2 Count to three 3.2 Four 3.3 Five 4.3 Six 4.4 Seven 5.1 Ordinal numbers to 5th 7.1 Eight 7.2 Nine 7.3 Ten 8.1 Zero 8.3 Represent numbers to 10 10.1 Count to 10 11.1 Use ten frames to represent numbers to 10 12.1 One more than	
		13.1 One less than 13.2 Count backwards from 10 14.1 Numbers before, after, in between 16.2 Numbers 11 to 15 17.2 Numbers 16 to 20 19.2 Represent numbers 11 to 15 20.2 Represent numbers 16 to 20 25.2 Order numbers to 20 26.2 Missing numbers to 20 28.2 Count forwards and backwards 28.3 Ordinal numbers to 10th 29.2 Count to 30 30.2 Use ten frames to represent numbers to 20 31.2 Missing numbers to 30 33.2 Order numbers to 30	
	Recognise and name the number of objects within a collection up to 5 using subitising (VC2MFN02)	1.1 One 1.2 Two 2.1 Three 2.2 Count to three	3.2 Four 3.3 Five 9.1 Dot patterns
	Quantify and compare collections to at least 20 using counting and explain or demonstrate reasoning (VC2MFN03)	3.4 Equal groups 4.1 Count and match one-to-one 8.2 Compare collections to 10 16.3 Count collections	17.3 Count collections 22.2 Compare collections to 20
	Partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts (VC2MFN04)	4.2 Make five 10.3 Partition 6 and 7 12.3 Partition 8 and 9 13.3 Partition 10	
	Represent practical situations, including simple financial situations, involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies (VC2MFN05)	4.3 Six 4.4 Seven 7.1 Eight 7.3 Ten 16.1 Combine two groups 17.1 Combine two groups 19.1 Model addition 20.1 Addition: How many altogether? 21.1 Use beads to show addition 21.2 Make 10 22.1 Addition stories 22.4 Use ten frames to show addition 23.1 Model subtraction 23.2 Subtraction stories	25.1 Find the difference 27.1 Draw pictures to show subtraction 28.1 Count on 1 and 2 29.1 Take away 29.3 Add more to make 10 30.3 Take-away stories 33.1 Add more to find the missing addend 33.3 Money 33.4 Find the missing group 34.3 Shopping 34.4 Compare two groups to find the difference 35.1 Addition and subtraction
	Represent practical situations that involve equal sharing and grouping with physical and virtual materials and use counting or subitising strategies (VC2MFN06)	30.1 Share equally 31.1 Share equally 34.1 Make equal groups	

Foundation Content Descriptions

Strand	Content description	Topics	
Algebra	Follow a short sequence of instructions; recognise, copy, continue and create repeating patterns represented in different ways (VC2MFA01)	19.3 Copy a pattern 21.3 Identify the next item in a pattern 22.3 Describe and continue patterns 23.3 Continue and create patterns	25.3 Identify missing elements in patterns Also covered in investigations: Inv: Oz-animal Olympics Inv: Hopscotch
		1.3 Short and tall 1.4 Long/short, wide/narrow, thick/thin 2.3 Short and long 16.4 Compare length 17.4 Longer than, shorter than 18.1 Duration of events	18.3 Compare length 19.4 Heavy and light 20.3 Compare mass by hefting 21.4 Heavier, lighter, the same as 25.4 Full and empty 26.4 Holds more, holds less 27.3 Compare capacity
Measurement	Identify and compare attributes of objects and events, including length, capacity, mass and duration, use direct comparisons and communicate reasoning (VC2MFM01)	7.4 Day and night 8.4 Days of the week: The Hungry Caterpillar 9.2 Days of the week 12.2 Yesterday, today, tomorrow	18.2 Events in my day 28.4 Before and after 30.4 Sequence events
		Sequence days of the week and times of the day including morning, lunchtime, afternoon and night time, and connect them to familiar events and actions (VC2MFM02)	
Space	Sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons (VC2MFSP01)	10.2 Lines and shapes 10.4 Circles 11.2 Triangles 11.3 Squares 12.4 Rectangles	13.4 Sort shapes 14.2 Name and sort shapes 35.2 Sort objects
		Describe the position and location of themselves and objects in relation to other people and objects within a familiar space (VC2MFSP02)	3.1 In front of, behind, between, next to 5.3 High and low, near and far 9.3 Position 26.3 Position
Statistics	Collect, sort and compare data represented by objects and images in response to given investigative questions that have only 2 outcomes and relate to familiar situations (VC2MFST01)	5.2 Sort data 14.3 Collect data 26.1 Collect data 27.2 Data displays 31.3 Collect data	34.2 Use tally marks to show data 35.2 Sort objects 35.3 Interpret data displays

Foundation Achievement Standard

Achievement standard

Topics and investigations

By the end of Foundation, students make connections between number names, numerals and position in the sequence of numbers from zero to at least 20.

- 1.1 One
- 1.2 Two
- 2.1 Three
- 2.2 Count to three
- 3.2 Four
- 3.3 Five
- 4.3 Six
- 4.4 Seven
- 5.1 Ordinal numbers to 5th
- 7.1 Eight
- 7.2 Nine
- 7.3 Ten
- 8.1 Zero
- 8.3 Represent numbers to 10
- 10.1 Count to 10
- 11.1 Use ten frames to represent numbers to 10
- 12.1 One more than
- 13.1 One less than
- 13.2 Count backwards from 10

- 14.1 Numbers before, after, in between
- 16.2 Numbers 11 to 15
- 17.2 Numbers 16 to 20
- 19.2 Represent numbers 11 to 15
- 20.2 Represent numbers 16 to 20
- 25.2 Order numbers to 20
- 26.2 Missing numbers to 20
- 28.2 Count forwards and backwards
- 28.3 Ordinal numbers to 10th
- 29.2 Count to 30
- 30.2 Use ten frames to represent numbers to 20
- 31.2 Missing numbers to 30
- 33.2 Order numbers to 30

Inv: Oz-animal Olympics
Inv: Hopscotch
Inv: Zoo escape

They use subitising and counting strategies to quantify collections.

- 1.1 One
- 1.2 Two
- 2.1 Three
- 2.2 Count to three
- 3.2 Four
- 3.3 Five
- 9.1 Dot patterns

Inv: Oz-animal Olympics
Inv: Zoo escape
Inv: Hungry billy goats

Students compare the size of collections to at least 20.

- 3.4 Equal groups
- 4.1 Count and match one-to-one
- 8.2 Compare collections to 10
- 16.3 Count collections
- 17.3 Count collections
- 22.2 Compare collections to 20

Inv: Oz-animal Olympics
Inv: Zoo escape

They partition and combine collections up to 10 in different ways, representing these with numbers.

- 4.2 Make five
- 10.3 Partition 6 and 7
- 12.3 Partition 8 and 9
- 13.3 Partition 10

Inv: Zoo escape
Inv: Hungry billy goats

Students represent practical situations, including simple financial situations involving money, that involve quantifying, equal sharing, adding to and taking away from collections to at least 10.

- 4.3 Six
- 4.4 Seven
- 7.1 Eight
- 7.3 Ten
- 16.1 Combine two groups
- 17.1 Combine two groups
- 19.1 Model addition
- 20.1 Addition: How many altogether?
- 21.1 Use beads to show addition
- 21.2 Make 10
- 22.1 Addition stories
- 22.4 Use ten frames to show addition
- 23.1 Model subtraction
- 23.2 Subtraction stories
- 25.1 Find the difference
- 27.1 Draw pictures to show subtraction

- 28.1 Count on 1 and 2
- 29.1 Take away
- 29.3 Add more to make 10
- 30.1 Share equally
- 30.3 Take-away stories
- 31.1 Share equally
- 33.1 Add more to find the missing addend
- 33.3 Money
- 33.4 Find the missing group
- 34.1 Make equal groups
- 34.3 Shopping
- 34.4 Compare two groups to find the difference
- 35.1 Addition and subtraction

Inv: Zoo escape
Inv: Hungry billy goats

Foundation Achievement Standard

Achievement standard	Topics and investigations
Students represent, continue and create simple repeating patterns.	19.3 Copy a pattern 21.3 Identify the next item in a pattern 22.3 Describe and continue patterns 23.3 Continue and create patterns 25.3 Identify missing elements in patterns
Students identify the attributes of mass, capacity, length and duration, and use direct comparison strategies to compare objects and events.	1.3 Short and tall 1.4 Long/short, wide/narrow, thick/thin 2.3 Short and long 5.3 High and low, near and far 16.4 Compare length 17.4 Longer than, shorter than 18.1 Duration of events 18.3 Compare length 19.4 Heavy and light 20.3 Compare mass by hefting 21.4 Heavier, lighter, the same as 25.4 Full and empty 26.4 Holds more, holds less 27.3 Compare capacity Inv: Oz-animal Olympics
They sequence and connect familiar events to the time of day.	7.4 Day and night 8.4 Days of the week: The Hungry Caterpillar 9.2 Days of the week 12.2 Yesterday, today, tomorrow 18.2 Events in my day 28.4 Before and after 30.4 Sequence events
Students name, create and sort familiar shapes and give their reasoning.	10.2 Lines and shapes 10.4 Circles 11.2 Triangles 11.3 Squares 12.4 Rectangles 13.4 Sort shapes 14.2 Name and sort shapes Inv: Hopscotch
They describe the position and the location of themselves and objects in relation to other objects and people within a familiar space.	3.1 In front of, behind, between, next to 9.3 Position 26.3 Position Inv: Oz-animal Olympics
Students collect, sort and compare data in response to questions in familiar contexts.	5.2 Sort data 14.3 Collect data 26.1 Collect data 27.2 Data displays 31.3 Collect data 34.2 Use tally marks to show data 35.2 Sort objects 35.3 Interpret data displays Inv: Oz-animal Olympics Inv: Zoo escape

Level 1 Content Descriptions

Strand	Content description	Topics	
Number	Recognise, represent and order numbers to at least 120 using physical and virtual materials, numerals, number lines and charts (VC2M1N01)	1.2 Counting in ones 1.3 Reading and writing numbers to 20 2.1 Counting in ones to 100 2.2 Identifying Australian coins and notes 3.2 Representing two-digit numbers to 30	3.3 Reading and writing two-digit numbers 9.1 Ordering numbers to 100 11.1 Representing two-digit numbers 17.1 Representing tens and ones 19.1 Count and order numbers to 150
	Partition one- and two-digit numbers in different ways using physical and virtual materials, including partitioning two-digit numbers into tens and ones (VC2M1N02)	4.1 Partitioning to 10 10.1 Counting groups of 10 14.1 Partitioning to 20 18.1 Writing tens and ones 23.1 Partitioning tens and ones 25.2 Partitioning tens and ones 30.1 Partitioning two-digit numbers	
	Quantify sets of objects, to at least 120, by partitioning collections into equal groups using number knowledge and skip counting (VC2M1N03)	9.2 Counting collections to 100 23.3 Counting collections to 150	
	Add and subtract numbers within 20, using physical and virtual materials, part-part-whole knowledge to 10 and a variety of calculation strategies (VC2M1N04)	5.1 Addition to 10 – draw and write 7.1 Addition number sentences 9.3 Counting on 1 or 2 10.2 Friends of 10 11.2 Turnarounds 12.1 Addition using think boards 12.2 Doubles and near doubles 15.1 Subtraction	16.1 Subtraction number sentences 16.2 Subtraction using think boards 17.2 Counting back 1 or 2 19.2 Think addition to subtract 20.1 Addition and subtraction are related 22.1 Addition facts 23.2 Subtraction facts
	Use mathematical modelling to solve practical problems involving additive situations, including simple money transactions; represent the situations with diagrams, physical and virtual materials; use calculation strategies to solve the problem (VC2M1N05)	8.1 Addition using number lines 17.3 One more, one less, ten more, ten less 18.2 Subtraction – find the difference 18.3 Addition using ten frames and number lines 25.3 Addition – split and add 27.1 Working with coins and notes	28.2 Addition and subtraction money problems 31.1 Addition to two digits using 100s charts 31.3 Subtraction to two digits using 100s charts
	Use mathematical modelling to solve practical problems involving equal sharing and grouping; represent the situations with diagrams, physical and virtual materials, and use calculation strategies to solve the problem (VC2M1N06)	25.1 Equal groups 26.2 Equal groups 26.3 Sharing equally 27.2 How many groups? 27.3 Sharing and grouping	
Algebra	Recognise, continue and create pattern sequences, with numbers, symbols, shapes and objects including Australian coins, formed by skip counting, initially by twos, fives and tens (VC2M1A01)	2.3 Skip counting by twos to 20 7.2 Skip counting by fives 8.2 Skip counting by tens 14.2 Skip counting by twos to 100 16.3 Growing patterns	20.3 Describing number patterns 22.2 Keeping the pattern going 24.1 Writing number patterns and rules

Level 1 Content Descriptions

Strand	Content description	Topics
Algebra	Recognise, continue and create repeating patterns with numbers, symbols, shapes and objects, identifying the repeating unit and recognising the importance of repetition in solving problems (VC2M1A02)	15.2 Repeating patterns 22.2 Keeping the pattern going
		Also covered in problem-solving lessons: 3.4 Making a table or chart 4.4 Finding a pattern 19.4 Working backwards
Measurement	Compare directly and indirectly and order objects and events using attributes of length, mass, capacity and duration, communicating reasoning (VC2M1M01)	4.2 Comparing mass – heavier, lighter 4.3 Comparing length – shorter, longer, taller 30.2 Comparing heights 31.2 How much does it hold?
		5.3 Measuring length using informal units 19.3 Informal units to measure length
	Measure the length of shapes and objects using informal units, recognising that units need to be uniform and used end-to-end (VC2M1M02)	
	Describe the duration and sequence of events using years, months, weeks, days and hours (VC2M1M03)	3.1 Days, weeks, months, years 10.3 Calendars and months 15.3 How long does it take? 28.3 Months and seasons
Space	Make, compare and classify familiar shapes; recognise familiar shapes and objects in the environment, identifying the similarities and differences between them (VC2M1SP01)	7.3 Which shape is that? 8.3 Classifying shapes 24.2 Building objects with blocks 28.1 Triangles and quadrilaterals
		11.3 Describing position 12.3 Following directions 20.2 Using ordinal and positional language 26.1 Following and writing directions
Statistics	Acquire and record data for categorical variables in various ways including using digital tools, objects, images, drawings, lists, tally marks and symbols (VC2M1ST01)	5.2 Collecting data using tally marks 22.3 Collecting data 30.3 Collecting data
		14.3 Object graphs 24.3 Picture graphs
	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 (VC2M1ST02)	

Level 1 Achievement Standard

Achievement standard

Topics and investigations

By the end of Level 1, students connect number names, numerals and quantities, and order numbers to at least 120.

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| <ul style="list-style-type: none"> 1.2 Counting in ones 1.3 Reading and writing numbers to 20 2.1 Counting in ones to 100 2.2 Identifying Australian coins and notes 3.2 Representing two-digit numbers to 30 3.3 Reading and writing two-digit numbers 9.1 Ordering numbers to 100 | <ul style="list-style-type: none"> 11.1 Representing two-digit numbers 17.1 Representing tens and ones 19.1 Count and order numbers to 150 Inv: Ramp champ Inv: Numbers up Inv: Let's roll Inv: Breakfast cafe Inv: Win or lose |
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They demonstrate how one- and two-digit numbers can be partitioned in different ways and that two-digit numbers can be partitioned into tens and ones.

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| <ul style="list-style-type: none"> 4.1 Partitioning to 10 10.1 Counting groups of 10 14.1 Partitioning to 20 18.1 Writing tens and ones 23.1 Partitioning tens and ones | <ul style="list-style-type: none"> 25.2 Partitioning tens and ones 30.1 Partitioning two-digit numbers Inv: Numbers up Inv: Let's roll |
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Students partition collections into equal groups and skip count in twos, fives or tens to quantify collections to at least 120.

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| <ul style="list-style-type: none"> 9.2 Counting collections to 100 23.3 Counting collections to 150 | <ul style="list-style-type: none"> Inv: Plenty of popsticks |
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They solve problems involving addition and subtraction of numbers to 20 and use mathematical modelling to solve practical problems involving addition, subtraction, equal sharing and grouping, using calculation strategies.

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| <ul style="list-style-type: none"> 5.1 Addition to 10 – draw and write 7.1 Addition number sentences 8.1 Addition using number lines 9.3 Counting on 1 or 2 10.2 Friends of 10 11.2 Turnarounds 12.1 Addition using think boards 12.2 Doubles and near doubles 15.1 Subtraction 16.1 Subtraction number sentences 16.2 Subtraction using think boards 17.2 Counting back 1 or 2 17.3 One more, one less, ten more, ten less 18.2 Subtraction – find the difference 18.3 Addition using ten frames and number lines 19.2 Think addition to subtract 20.1 Addition and subtraction are related 22.1 Addition facts | <ul style="list-style-type: none"> 23.2 Subtraction facts 25.1 Equal groups 25.3 Addition – split and add 26.2 Equal groups 26.3 Sharing equally 27.1 Working with coins and notes 27.2 How many groups? 27.3 Sharing and grouping 28.2 Addition and subtraction money problems 31.1 Addition to two digits using 100s charts 31.3 Subtraction to two digits using 100s charts Inv: Numbers up Inv: Let's roll Inv: Breakfast cafe Inv: Plenty of popsticks Inv: Win or lose |
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Students use numbers, symbols and objects, including Australian coins, to create skip counting and repeating patterns, identifying the repeating unit.

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| <ul style="list-style-type: none"> 2.3 Skip counting by twos to 20 7.2 Skip counting by fives 8.2 Skip counting by tens 14.2 Skip counting by twos to 100 15.2 Repeating patterns | <ul style="list-style-type: none"> 16.3 Growing patterns 20.3 Describing number patterns 22.2 Keeping the pattern going 24.1 Writing number patterns and rules |
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Students compare and order objects and events based on the attributes of length, mass, capacity and duration, communicating their reasoning.

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| <ul style="list-style-type: none"> 3.1 Days, weeks, months, years 4.2 Comparing mass – heavier, lighter 4.3 Comparing length – shorter, longer, taller 10.3 Calendars and months | <ul style="list-style-type: none"> 15.3 How long does it take? 28.3 Months and seasons 30.2 Comparing heights 31.2 How much does it hold? Inv: Ramp champ |
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Level 1 Achievement Standard

Achievement standard

They measure the length of shapes and objects using uniform informal units.

Topics and investigations

5.3 Measuring length using informal units **Inv:** Ramp champ
19.3 Informal units to measure length

Students make, compare and classify shapes and objects using identifiable features.

7.3 Which shape is that?
8.3 Classifying shapes
24.2 Building objects with blocks
28.1 Triangles and quadrilaterals

They give and follow directions to move people and objects within a space.

11.3 Describing position
12.3 Following directions
20.2 Using ordinal and positional language
26.1 Following and writing directions

Students collect and record categorical data, create one-to-one displays, and compare and discuss the data using frequencies.

5.2 Collecting data using tally marks
14.3 Object graphs
22.3 Collecting data
24.3 Picture graphs
30.3 Collecting data
Inv: Ramp champ

Level 2 Content Descriptions

Strand	Content description	Topics	
Number	Recognise, represent and order numbers to at least 1000 using physical and virtual materials, numerals and number lines (VC2M2N01)	1.2 Tens and ones with blocks 1.3 Read, write and represent numbers to 150 2.1 Number patterns beyond 100 2.3 Grouping to count collections 5.1 Number lines to 500	7.1 Ordering numbers to 500 9.1 Read, write and represent numbers to 500 10.1 Ordering numbers to 1000 20.2 Number lines to 1000 24.1 Numbers beyond 1000
	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 (VC2M2N02)	3.2 Place value to hundreds 11.1 Place value to hundreds 12.1 The role of a zero 14.1 Number expanders 14.2 Expanded notation 17.1 Place value problems 18.1 Expanded notation	22.2 Regrouping and renaming numbers 23.1 Place value to thousands 30.1 Regrouping and renaming numbers
	Recognise and describe one-half as one of 2 equal parts of a whole and connect halves, quarters and eighths through repeated halving (VC2M2N03)	25.2 Fractions 26.2 Fractions as part of a whole 27.1 Fractions as part of a group	
	Add and subtract one- and two-digit numbers, representing problems using number sentences, and solve using part part whole reasoning and a variety of calculation strategies (VC2M2N04)	5.2 Addition using friendly jumps 7.2 Addition using friendly pairs 8.2 Subtraction using friendly jumps 9.2 Extending addition facts 10.2 Addition using split strategy 10.3 Subtraction using split strategy 11.2 Addition with modelling	14.3 Extending subtraction facts 15.1 Subtraction with modelling 17.2 Addition using jump strategy 19.1 Subtraction using jump strategy 25.1 Addition and subtraction problems
	Multiply and divide by one-digit numbers using repeated addition, equal grouping, arrays, and partitioning to support a variety of calculation strategies (VC2M2N05)	20.1 Multiplication 22.1 Groups and arrays 24.3 Multiplication problem-solving 26.1 Division – How many in each group? 27.2 Division – How many groups? 30.2 Multiplication and division problems	
	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 context (VC2M2N06)	18.2 Do I have enough money? 19.2 Coins and notes 20.3 Problem-solving with money	
	Algebra	Recognise, describe and create additive patterns that increase or decrease by a constant amount, using numbers, shapes and objects, and identify missing elements in the pattern (VC2M2A01)	25.3 Connecting and describing patterns 27.3 Number patterns 28.1 Repeating and growing patterns 28.2 Odd and even number patterns

Level 2 Content Descriptions

Strand	Content description	Topics
Algebra	Recall and demonstrate proficiency with addition facts to 20; extend and apply facts to develop related subtraction facts (VC2M2A02)	2.2 Addition using ten frames 4.1 Partitioning to 20 4.2 Addition facts 8.1 Subtraction facts 16.1 Addition and subtraction facts are related
	Recall and demonstrate proficiency with multiplication facts for twos; extend and apply facts to develop the related division facts using doubling and halving (VC2M2A03)	23.2 Multiplication facts for 2 26.3 Doubling and halving numbers 28.3 Multiplication and division facts are related
	Apply repetition in arithmetic operations, including multiplication as repeated addition and division as repeated subtraction (VC2M2A04)	2.1 Number patterns beyond 100 20.1 Multiplication 26.1 Division – How many in each group? 27.2 Division – How many groups?
Also covered in problem-solving lessons: 7.4 Problem-solving practice 18.4 Solving a simpler problem		
Measurement	Measure and compare objects based on length, capacity and mass using appropriate uniform informal units and smaller units for accuracy when necessary (VC2M2M01)	12.2 Measuring length 15.3 Comparing mass 16.3 Measuring mass 23.3 Measuring length 24.2 Measuring capacity
	Identify common uses and represent halves, quarters and eighths in relation to shapes, objects and events (VC2M2M02)	30.3 Representing halves, quarters, eighths
	Identify the date and determine the number of days between events using calendars (VC2M2M03)	3.1 Months of the year 5.3 Calendars 31.2 Reading calendars
	Recognise and read the time represented on an analog clock to the hour, half-hour and quarter-hour (VC2M2M04)	17.3 Time – o'clock 18.3 Time – o'clock, half past 19.3 Time – quarter past, half past 22.3 Time – quarter past, quarter to
	Identify, describe and demonstrate quarter, half, three-quarter and full measures of turn in everyday situations (VC2M2M05)	31.3 Turns
Space	Recognise, compare and classify shapes, referencing the number of sides and using spatial terms such as 'opposite', 'parallel', 'curved' and 'straight' (VC2M2SP01)	7.3 Parallel lines 8.3 Classifying shapes 11.3 Features of shapes 12.3 Recognise and draw shapes
	Locate positions in two-dimensional representations of a familiar space; move positions by following directions and pathways (VC2M2SP02)	9.3 Identifying position 15.2 Maps, pathways, directions

Level 2 Content Descriptions

Strand	Content description	Topics
Statistics	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 (VC2M2ST01)	4.3 Collecting data using tally marks
	Create different graphical representations of data using software where appropriate; compare the different representations, and identify and describe common and distinctive features in response to questions (VC2M2ST02)	3.3 Picture graphs 16.2 Column graphs 31.1 Interpreting graphs

Level 2 Achievement Standard

Achievement standard	Topics and investigations
By the end of Level 2, students order and represent numbers to at least 1000, apply knowledge of place value to partition, rearrange and rename two- and three-digit numbers in terms of their parts, and regroup partitioned numbers to assist in calculations.	1.2 Tens and ones with blocks 1.3 Read, write and represent numbers to 150 2.1 Number patterns beyond 100 2.3 Grouping to count collections 3.2 Place value to hundreds 5.1 Number lines to 500 7.1 Ordering numbers to 500 9.1 Read, write and represent numbers to 500 10.1 Ordering numbers to 1000 11.1 Place value to hundreds 12.1 The role of a zero 14.1 Number expanders 14.2 Expanded notation 17.1 Place value problems 18.1 Expanded notation 20.2 Number lines to 1000 22.2 Regrouping and renaming numbers 23.1 Place value to thousands 24.1 Numbers beyond 1000 30.1 Regrouping and renaming numbers Inv: Paper chain patterns
They use mathematical modelling to solve practical additive and multiplicative problems, including money transactions, representing the situation and choosing calculation strategies.	5.2 Addition using friendly jumps 7.2 Addition using friendly pairs 8.2 Subtraction using friendly jumps 9.2 Extending addition facts 10.2 Addition using split strategy 10.3 Subtraction using split strategy 11.2 Addition with modelling 14.3 Extending subtraction facts 15.1 Subtraction with modelling 17.2 Addition using jump strategy 18.2 Do I have enough money? 19.1 Subtraction using jump strategy 19.2 Coins and notes 20.1 Multiplication 20.3 Problem-solving with money 22.1 Groups and arrays 24.3 Multiplication problem-solving 25.1 Addition and subtraction problems 26.1 Division – How many in each group? 27.2 Division – How many groups? 30.2 Multiplication and division problems Inv: Showtime Inv: Paper chain patterns Inv: Paint it
Students identify and represent part-whole relationships of halves, quarters and eighths in measurement contexts.	25.2 Fractions 26.2 Fractions as part of a whole 27.1 Fractions as part of a group 30.3 Representing halves, quarters, eighths 31.3 Turns
Students describe and continue patterns that increase and decrease additively by a constant amount and identify missing elements in the pattern.	25.3 Connecting and describing patterns 27.3 Number patterns 28.1 Repeating and growing patterns 28.2 Odd and even number patterns Inv: Paper chain patterns Inv: Paint it

Level 2 Achievement Standard

Achievement standard

Topics and investigations

They recall and demonstrate proficiency with addition and subtraction facts within 20 and multiplication facts for twos.

2.2 Addition using ten frames
4.1 Partitioning to 20
4.2 Addition facts
8.1 Subtraction facts
16.1 Addition and subtraction facts are related

23.2 Multiplication facts for 2
26.3 Doubling and halving numbers
28.3 Multiplication and division facts are related

Students use uniform informal units to measure and compare shapes and objects.

12.2 Measuring length
15.3 Comparing mass
16.3 Measuring mass
23.3 Measuring length
24.2 Measuring capacity

Inv: Marble ramp
Inv: Up, up and away

They determine the number of days between events using a calendar and read time on an analog clock to the hour, half hour and quarter hour.

3.1 Months of the year
5.3 Calendars
17.3 Time – o'clock
18.3 Time – o'clock, half past
19.3 Time – quarter past, half past

22.3 Time – quarter past, quarter to
31.2 Reading calendars

Inv: All about birthdays

Students use quarter, half, three-quarter and full measures of turn in everyday situations.

31.3 Turns

Students compare and classify shapes, describing features using formal spatial terms.

7.3 Parallel lines
8.3 Classifying shapes
11.3 Features of shapes
12.3 Recognise and draw shapes

Inv: Marble ramp
Inv: Paper chain patterns

They locate and identify positions of features in two-dimensional representations and move position by following directions and pathways.

9.3 Identifying position
15.2 Maps, pathways, directions

Inv: Marble ramp

Students use a range of methods to collect, record, represent and interpret categorical data in response to questions.

3.3 Picture graphs
4.3 Collecting data using tally marks
16.2 Column graphs
31.1 Interpreting graphs

Inv: All about birthdays
Inv: Marble ramp
Inv: Up, up and away

Level 3 Content Descriptions

Strand	Content description	Topics
Number	Identify, explain and use the properties of odd and even numbers (VC2M3N01)	Topics covering this concept can be found in: Maths Trek 2 28.2 Odd and even number patterns Maths Trek 4 2.2 Odd and even numbers 2.3 Properties of odd and even numbers
	Recognise, represent and order natural numbers using naming and writing conventions for numerals beyond 10 000 (VC2M3N02)	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 10.2 Place value to ten thousands 19.1 Place value beyond ten thousands 28.1 Japanese numeral system 32.1 Comparing and ordering numbers to 10 000
	Recognise and represent unit fractions including $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$ and their multiples in different ways; combine fractions with the same denominator to complete the whole (VC2M3N03)	29.3 Fractions as part of a whole 30.1 Fractions as part of a group 30.2 Fractions on a number line 30.3 Fractions as division
	Add and subtract two- and three-digit numbers using place value to partition, rearrange and regroup numbers to assist in calculations without a calculator (VC2M3N04)	1.3 Regrouping numbers 2.1 Addition with partitioning 2.2 Subtraction with partitioning 10.3 Addition with modelling 11.1 Subtraction with modelling 14.1 Addition 14.2 Subtraction 19.2 Addition to three digits 20.2 Subtraction to three digits 21.3 Inverse operations 28.2 Addition and subtraction
	Multiply and divide one- and two-digit numbers, representing problems using number sentences, diagrams and arrays, and using a variety of calculation strategies (VC2M3N05)	14.3 Modelling to solve problems 17.3 Multiplication 20.3 Multiplication problem-solving 23.2 Input and output 24.3 Division problem-solving 25.1 Division 30.3 Fractions as division
	Estimate the quantity of objects in collections and make estimates when solving problems to determine the reasonableness of calculations (VC2M3N06)	20.1 Rounding to tens and hundreds 23.1 Estimation strategies
	Recognise the relationships between dollars and cents and represent money values in different ways (VC2M3N07)	21.1 Equivalent values of money 21.2 Dollars and cents
	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 (VC2M3N08)	2.1 Addition with partitioning 2.2 Subtraction with partitioning 4.3 Number sentences and word problems 10.3 Addition with modelling 11.1 Subtraction with modelling 11.3 Equivalent number sentences 14.3 Modelling to solve problems 16.1 Number patterns

Level 3 Content Descriptions

Strand	Content description	Topics	
Number	Follow and create algorithms involving a sequence of steps and decisions to investigate numbers; describe any emerging patterns (VC2M3N09)	16.1 Number patterns 16.3 Multiples and repeated addition 23.2 Input and output	
	Recognise and explain the connection between addition and subtraction as inverse operations, apply to partition numbers and find unknown values in number sentences (VC2M3A01)	21.3 Inverse operations	
	Extend and apply knowledge of addition and subtraction facts to 20 to develop efficient mental strategies for computation with larger numbers without a calculator (VC2M3A02)	1.2 Fact families for addition and subtraction	
Algebra	Recall and demonstrate proficiency with multiplication facts for 3, 4, 5 and 10; extend and apply facts to develop the related division facts (VC2M3A03)	4.2 Multiplication by 10 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	24.1 Division facts 3, 4 24.2 Division facts 5, 10 30.3 Fractions as division
	Identify which metric units are used to measure everyday items; use measurements of familiar items and known units to make estimates (VC2M3M01)	8.1 Measuring with metres 12.1 Measuring with kilograms 12.2 Measuring with grams 15.2 Measuring with litres 15.3 Measuring with millilitres	
	Measure and compare objects using familiar metric units of length, mass and capacity, and instruments with labelled markings (VC2M3M02)	8.1 Measuring with metres 8.2 Measuring with centimetres 8.3 Measuring with metres and centimetres 12.1 Measuring with kilograms	12.2 Measuring with grams 12.3 Measuring with kilograms and grams 15.2 Measuring with litres 15.3 Measuring with millilitres
Measurement	Recognise and use the relationship between formal units of time including days, hours, minutes and seconds to estimate and compare the duration of events (VC2M3M03)	29.1 Seconds, minutes, hours, days 29.2 Duration of time	
	Describe the relationship between the hours and minutes on analog and digital clocks, and read the time to the nearest minute (VC2M3M04)	7.1 Time past the hour 15.1 Time to the hour 19.3 Time to and past the hour 23.3 Time to the nearest minute	
	Identify angles as measures of turn and use right angles as a reference to compare angles in everyday situations (VC2M3M05)	25.2 Angles 32.2 Right angles	

Level 3 Content Descriptions

Strand	Content description	Topics
Space	Make, compare and classify objects, identifying key features and explaining why these features make them suited to their uses (VC2M3SP01)	25.3 Connecting cubes 26.1 Face, edge, vertex 26.2 Pyramids and prisms 26.3 Cylinders, cones, spheres
	Interpret and create two-dimensional representations of familiar environments, locating key landmarks and objects relative to each other (VC2M3SP02)	32.3 Maps and plans
Statistics	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 (VC2M3ST01)	6.1 Collecting and organising data 6.2 Predicting possible outcomes 6.3 Predicting possible outcomes with spinners
	Create and compare different graphical representations of data sets including using software where appropriate; interpret the data in terms of the context (VC2M3ST02)	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
	Conduct guided statistical investigations involving the collection, representation and interpretation of data for categorical and discrete numerical variables with respect to questions of interest (VC2M3ST03)	6.1 Collecting and organising data 6.2 Predicting possible outcomes 6.3 Predicting possible outcomes with spinners
	Identify practical activities and everyday events that involve chance, and describe possible outcomes and events as 'likely' or 'unlikely' and identify some events as 'certain' or 'impossible', explaining reasoning (VC2M3P01)	6.2 Predicting possible outcomes 6.3 Predicting possible outcomes with spinners
Conduct repeated chance experiments; identify and describe possible outcomes, record the results, and recognise and discuss the variation (VC2M3P02)	6.2 Predicting possible outcomes 6.3 Predicting possible outcomes with spinners	

Level 3 Achievement Standard

Achievement standard

Topics and investigations

By the end of Level 3, students order and represent natural numbers beyond 10 000, classify numbers as either odd or even, and use the properties of odd and even numbers.

- 1.3** Regrouping numbers
- 2.3** Place value to thousands
- 3.2** Counting on and back by 1, 10, 100
- 3.3** Comparing numbers to 10 000
- 4.1** Ordering numbers to 10 000
- 10.2** Place value to ten thousands
- 19.1** Place value beyond ten thousands
- 28.1** Japanese numeral system
- 32.1** Comparing and ordering numbers to 10 000

Inv: Kilogram quest

Topics covering odd and even numbers can be found in:

Maths Trek 2

28.2 Odd and even number patterns

Maths Trek 4

2.2 Odd and even numbers

2.3 Properties of odd and even numbers

They partition, rearrange and regroup two- and three-digit numbers in different ways to assist in calculations.

- 1.3** Regrouping numbers
- 2.1** Addition with partitioning
- 2.2** Subtraction with partitioning
- 3.1** Expanded notation
- 10.3** Addition with modelling
- 11.1** Subtraction with modelling
- 14.1** Addition

- 14.2** Subtraction
- 19.2** Addition to three digits
- 20.2** Subtraction to three digits
- 28.2** Addition and subtraction

Inv: What's in a thousand words?

Students extend and use single-digit addition and related subtraction facts and apply additive strategies to model and solve problems involving two- and three-digit numbers.

- 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
- 14.1** Addition
- 14.2** Subtraction
- 19.2** Addition to three digits

- 20.2** Subtraction to three digits
- 21.3** Inverse operations
- 28.2** Addition and subtraction

Inv: What's in a thousand words?

Inv: Kilogram quest

Inv: Big spender

Inv: Trash or treasure

They use a range of strategies to apply mathematical modelling to solve practical problems involving single-digit multiplication and division, recalling multiplication facts for twos, threes, fours, fives and tens.

- 4.2** Multiplication by 10
- 4.3** Number sentences and word problems
- 11.3** Equivalent number sentences
- 14.3** Modelling to solve problems
- 16.2** Multiples 2, 3, 4, 5, 10
- 17.1** Multiplication facts 3, 4
- 17.2** Multiplication facts 5, 10
- 17.3** Multiplication
- 20.3** Multiplication problem-solving

- 24.1** Division facts 3, 4
- 24.2** Division facts 5, 10
- 24.3** Division problem-solving
- 25.1** Division
- 30.3** Fractions as division

Inv: Picture perfect patterns

Inv: Big spender

Inv: Trash or treasure

Inv: Top team

Students represent unit fractions and their multiples in different ways.

- 29.3** Fractions as part of a whole
- 30.1** Fractions as part of a group
- 30.2** Fractions on a number line
- 30.3** Fractions as division

Inv: Fraction action

They make estimates and determine the reasonableness of financial and other calculations.

- 20.1** Rounding to tens and hundreds
- 20.2** Subtraction to three digits
- 23.1** Estimation strategies

Inv: Trash or treasure

Students find unknown values in number sentences involving addition and subtraction.

- 11.3** Equivalent number sentences
- 21.3** Inverse operations

Inv: Kilogram quest

Level 3 Achievement Standard

Achievement standard

Topics and investigations

They create algorithms to investigate numbers and explore simple patterns.

16.1 Number patterns
16.2 Multiples 2, 3, 4, 5, 10
16.3 Multiples and repeated addition
23.2 Input and output

Inv: Picture perfect patterns

Students use familiar metric units when estimating, comparing and measuring the attributes of objects and events.

8.1 Measuring with metres
8.2 Measuring with centimetres
8.3 Measuring with metres and centimetres
12.1 Measuring with kilograms
12.2 Measuring with grams
12.3 Measuring with kilograms and grams

15.2 Measuring with litres
15.3 Measuring with millilitres
Inv: How do I measure up?
Inv: Kilogram quest
Inv: Top team
Inv: Sprouting surprises

They identify angles as measures of turn and compare them to right angles.

25.2 Angles
32.2 Right angles

Inv: Kakadu crossing

Students estimate and compare measures of duration using formal units of time.

7.1 Time past the hour
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

Inv: It's on the cards
Inv: Top team

They represent money values in different ways.

21.1 Equivalent values of money
21.2 Dollars and cents

Inv: Trash or treasure

Students make, compare and classify objects using key features.

25.3 Connecting cubes
26.1 Face, edge, vertex
26.2 Pyramids and prisms
26.3 Cylinders, cones, spheres

Inv: Cube conundrum

They interpret and create two-dimensional representations of familiar environments.

32.3 Maps and plans

Inv: Kakadu crossing

Students conduct guided statistical investigations involving categorical and discrete numerical data and interpret their results in terms of the context.

6.2 Predicting possible outcomes
6.3 Predicting possible outcomes with spinners

Inv: How do I measure up?
Inv: Sprouting surprises

They record, represent and compare data they have collected.

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?
Inv: Top team
Inv: Sprouting surprises

Students use practical activities, observation or experiment to identify and describe outcomes and the likelihood of everyday events explaining reasoning.

6.2 Predicting possible outcomes
6.3 Predicting possible outcomes with spinners

Students conduct repeated chance experiments and discuss variation in results.

6.2 Predicting possible outcomes
6.3 Predicting possible outcomes with spinners

Level 4 Content Descriptions

Strand	Content description	Topics
Number	Recognise and extend the application of place value to tenths and hundredths and use the conventions of decimal notation to name and represent decimals (VC2M4N01)	1.2 Place value to hundred thousands 3.1 Place value and expanded notation 6.2 Calculating with money 11.1 Place value to tenths
	Investigate number sequences involving multiples of 3, 4, 6, 7, 8 and 9 (VC2M4N02)	4.1 Multiples using algorithms 23.2 Algorithms
	Find equivalent representations of fractions using related denominators and make connections between fractions and decimal notation (VC2M4N03)	8.1 Measuring with kilograms and grams 11.2 Tenths on a number line 20.3 Fractions on a number line 21.1 Equivalent fractions
	Count by multiples of quarters, halves and thirds, including mixed numerals; locate and represent these fractions as numbers on number lines (VC2M4N04)	20.3 Fractions on a number line 28.3 Mixed numerals 29.1 Mixed numerals and improper fractions
	Solve problems involving multiplying or dividing natural numbers by multiples and powers of 10 without a calculator, using the multiplicative relationship between the place value of digits (VC2M4N05)	1.2 Place value to hundred thousands 3.1 Place value and expanded notation 16.2 Multiplying and dividing by 10, 100, 1000 26.1 Place value and expanded notation
	Develop efficient mental and written strategies and use appropriate digital tools for solving problems involving addition and subtraction, and multiplication and division where there is no remainder (VC2M4N06)	1.3 Addition 2.1 Subtraction 4.3 Multiplication using the area model 6.2 Calculating with money 6.3 Budgets 8.3 Multiplication using the area model 15.2 Addition
	Choose and use estimation and rounding to check and explain the reasonableness of calculations including the results of financial transactions (VC2M4N07)	8.2 Rounding to ten thousands 16.3 Rounding using a target digit strategy 17.1 Estimation strategies
	Solve problems involving purchases and the calculation of change to the nearest 5 cents with and without digital tools (VC2M4N08)	6.2 Calculating with money 6.3 Budgets
		11.2 Tenths on a number line 24.2 Place value to hundredths 24.3 Hundredths on a number line 26.1 Place value and expanded notation 23.3 Fractions as division 24.3 Hundredths on a number line

Level 4 Content Descriptions

Strand	Content description	Topics	
Number	Use mathematical modelling to solve practical problems that involve 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 (VC2M4N09)	6.1 Modelling to solve problems 6.3 Budgets	
	Follow and create algorithms involving a sequence of steps and decisions that use addition or multiplication to generate sets of numbers; identify and describe any emerging patterns (VC2M4N10)	4.1 Multiples using algorithms 23.2 Algorithms	
Algebra	Find unknown values in numerical equations involving addition and subtraction, using the properties of numbers and operations (VC2M4A01)	6.1 Modelling to solve problems 15.1 Equivalent number sentences 23.1 Turnarounds and friendly pairs 26.3 Inverse operations	
	Recall and demonstrate proficiency with multiplication facts up to 10×10 and related division facts, and explain the patterns in these; extend and apply facts to develop efficient mental and written strategies for computation with larger numbers without a calculator (VC2M4A02)	3.2 Multiplication facts 2, 3, 5, 10 3.3 Multiplication facts 4, 6, 8, 9 4.1 Multiples using algorithms 10.1 Factors 23.1 Turnarounds and friendly pairs 23.2 Algorithms	25.1 Division facts 2, 3, 5, 10 25.2 Division facts 4, 6, 8, 9
Measurement	Use scaled and digital instruments to interpret unmarked and partial units to measure and compare lengths, masses, capacities, durations and temperatures, using appropriate units (VC2M4M01)	7.1 Reading graduated scales 7.2 Measuring with litres and millilitres 7.3 Converting litres and millilitres 8.1 Measuring with kilograms and grams 29.2 Measuring with millimetres	29.3 Millimetres, centimetres and metres 32.3 Time to the nearest minute
	Recognise ways of measuring and approximating the perimeter and area of shapes and enclosed spaces, using appropriate formal and informal units (VC2M4M02)	11.3 Measuring perimeter 12.1 Calculating perimeter 12.2 Area 12.3 Area of irregular shapes	
	Solve problems involving the duration of time including situations involving 'am' and 'pm' and conversions between units of time (VC2M4M03)	30.3 Converting units of time 32.1 Time (am and pm) 32.2 Reading and interpreting timetables	
	Estimate and compare angles using angle names including acute, obtuse, straight angle, reflex and revolution, and recognise their relationship to a right angle (VC2M4M04)	21.2 Angles	

Level 4 Content Descriptions

Strand	Content description	Topics
Space	Explain and compare the geometric properties of two-dimensional shapes and three-dimensional objects (VC2M4SP01)	14.3 Combining objects 30.1 Quadrilaterals 30.2 Combining shapes
	Represent and approximate composite shapes and objects in the environment, using combinations of familiar shapes and objects (VC2M4SP02)	14.3 Combining objects 30.1 Quadrilaterals 30.2 Combining shapes
	Create and interpret grid reference systems using grid references and directions to locate and describe positions and pathways (VC2M4SP03)	17.2 Grid references 17.3 Maps, pathways and directions
	Recognise line and rotational symmetry of shapes and create symmetrical patterns and pictures, using dynamic geometry software where appropriate (VC2M4SP04)	10.2 Line symmetry 10.3 Symmetrical patterns 21.3 Tessellation
Statistics	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 (VC2M4ST01)	4.2 Collecting and organising data 16.1 Picture graphs 19.3 Column graphs 20.1 Picture graphs
	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 (VC2M4ST02)	20.2 Comparing graphs
	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 (VC2M4ST03)	4.2 Collecting and organising data 24.1 Predicting possible outcomes
Probability	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 (VC2M4P01)	14.1 Describing possible outcomes 14.2 Dependent and independent events 24.1 Predicting possible outcomes

Level 4 Content Descriptions

Strand	Content description	Topics
Probability	Conduct repeated chance experiments to observe relationships between outcomes in games and other chance situations, and identify and describe the variation in results (VC2M4P02)	14.1 Describing possible outcomes 24.1 Predicting possible outcomes

Level 4 Achievement Standard

Achievement standard	Topics and investigations
By the end of Level 4, students use their understanding of place value to represent tenths and hundredths in decimal form and to multiply natural numbers by multiples of 10.	1.2 Place value to hundred thousands 3.1 Place value and expanded notation 11.1 Place value to tenths 11.2 Tenths on a number line 16.2 Multiplying and dividing by 10, 100, 1000 24.2 Place value to hundredths 24.3 Hundredths on a number line 26.1 Place value and expanded notation Inv: Time of my life Inv: Super sports stadium Inv: Lengthy leaps
Students use mathematical modelling to solve financial and other practical problems, formulating the problem using number sentences, solving the problem choosing efficient strategies and interpreting the results in terms of the situation.	6.1 Modelling to solve problems 6.3 Budgets Inv: Time of my life Inv: Plenty of pikelets Inv: Heritage hunt
They use their proficiency with addition, subtraction, multiplication facts for tens ($\times 10$) and related division facts to perform arithmetic operations to add and subtract, and multiply and divide numbers efficiently.	1.3 Addition 2.1 Subtraction 3.2 Multiplication facts 2, 3, 5, 10 3.3 Multiplication facts 4, 6, 8, 9 4.3 Multiplication using the area model 6.2 Calculating with money 6.3 Budgets 8.3 Multiplication using the area model 15.2 Addition 15.3 Subtraction 19.1 Addition 19.2 Subtraction 23.3 Fractions as division 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 28.1 Addition and subtraction 28.2 Division Inv: Time of my life Inv: Plenty of pikelets Inv: Heritage hunt
They choose rounding and estimation strategies to determine whether results of calculations are reasonable.	8.2 Rounding to ten thousands 16.3 Rounding using a target digit strategy 17.1 Estimation strategies Inv: Heritage hunt Inv: Super sports stadium
They recognise common equivalent fractions in familiar contexts and make connections between fraction and decimal notations.	11.2 Tenths on a number line 20.3 Fractions on a number line 21.1 Equivalent fractions 23.3 Fractions as division 24.3 Hundredths on a number line Inv: Fraction fun
Students count and represent familiar fractions on a number line.	20.3 Fractions on a number line 21.1 Equivalent fractions 28.3 Mixed numerals 29.1 Mixed numerals and improper fractions Inv: Fraction fun

Level 4 Achievement Standard

Achievement standard	Topics and investigations	
Students find unknown values in numerical equations involving addition and subtraction.	15.1 Equivalent number sentences 23.1 Turnarounds and friendly pairs 26.3 Inverse operations	Inv: Super sports stadium
They follow and create algorithms that generate sets of numbers and identify emerging patterns.	4.1 Multiples using algorithms 10.1 Factors 23.2 Algorithms	Inv: It's only natural
Students use appropriate scaled instruments and appropriate units to measure length, mass, capacity and temperature.	7.1 Reading graduated scales 7.2 Measuring with litres and millilitres 7.3 Converting litres and millilitres 8.1 Measuring with kilograms and grams 29.2 Measuring with millimetres	29.3 Millimetres, centimetres and metres 32.3 Time to the nearest minute Inv: Plenty of pikelets Inv: Lengthy leaps
They measure and approximate perimeters and areas for regular and irregular shapes.	11.3 Measuring perimeter 12.1 Calculating perimeter 12.2 Area 12.3 Area of irregular shapes	Inv: It's only natural Inv: Ripper rides Inv: Puzzling perimeters
They convert between units of time when solving problems involving duration.	30.3 Converting units of time 32.1 Time (am and pm) 32.2 Reading and interpreting timetables	Inv: Movie marathon
Students compare angles relative to a right angle using angle names.	21.2 Angles 30.1 Quadrilaterals	Inv: Ripper rides Inv: Angle art
Students represent and approximate shapes and objects from their environment.	14.3 Combining objects 30.1 Quadrilaterals 30.2 Combining shapes	Inv: Double trouble Inv: Angle art
Students create and interpret grid references.	17.2 Grid references 17.3 Maps, pathways and directions	Inv: Heritage hunt
They identify line and rotational symmetry in plane shapes and create symmetrical patterns.	10.2 Line symmetry 10.3 Symmetrical patterns	21.3 Tessellation Inv: Ripper rides
Students create many-to-one data displays, assess the suitability of displays for representing data and informally discuss the shape of distributions and variation in data.	4.2 Collecting and organising data 16.1 Picture graphs 19.3 Column graphs 20.1 Picture graphs 20.2 Comparing graphs	Inv: Movie marathon
They use surveys and digital tools to generate categorical or discrete numerical data in statistical investigations and communicate their findings in context.	24.1 Predicting possible outcomes	Inv: Time of my life Inv: Movie marathon Inv: Lengthy leaps
Students order events or the outcomes of chance experiments in terms of likelihood and identify whether events are independent or dependent.	14.1 Describing possible outcomes 14.2 Dependent and independent events 24.1 Predicting possible outcomes	
They conduct repeated chance experiments and describe the variation in results.	14.1 Describing possible outcomes 24.1 Predicting possible outcomes	

Level 5 Content Descriptions

Strand	Content description	Topics
Number	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 (VC2M5N01)	1.2 Place value to millions 7.2 Place value to thousandths 10.1 Place value beyond millions 21.2 Comparing decimals 28.1 Place value and expanded notation
	Express natural numbers as products of their factors, recognise multiples and determine if one number is divisible by another (VC2M5N02)	14.3 Turnarounds and friendly pairs 16.1 Multiples 16.2 Multiples using algorithms 17.1 Factors 23.3 Divisibility rules
	Compare and order common unit fractions with the same and related denominators, including mixed numerals, applying knowledge of factors and multiples; represent these fractions on a number line (VC2M5N03)	19.3 Comparing and ordering fractions 20.2 Equivalent fractions 21.1 Mixed numerals and improper fractions
	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 (VC2M5N04)	7.3 Percentages 21.3 Percentages
	Solve problems involving addition and subtraction of fractions with the same or related denominators, using different strategies (VC2M5N05)	20.1 Adding and subtracting fractions 20.3 Adding and subtracting fractions
	Solve problems involving multiplication of larger numbers by one- or two-digit numbers, choosing efficient mental and written calculation strategies and using digital tools where appropriate; check the reasonableness of answers (VC2M5N06)	6.3 Multiplication using the area model 7.1 Multiplication using split and multiply 10.2 Multiplication – 3 digits × 1 digit 24.2 Multiplication – 4 digits × 1 digit 24.3 Multiplication by tens and hundreds
	Solve problems involving division, choosing efficient mental and written strategies and using digital tools where appropriate; interpret any remainder according to the context and express results as a whole number, decimal or fraction (VC2M5N07)	15.3 Division 16.3 Division 17.3 Division with remainders 24.1 Division with remainders 29.1 Division with remainders as fractions 29.2 Division with remainders to tenths 29.3 Division with remainders to hundredths
		25.1 Multiplication using the area model 25.2 Multiplication – 3 digits × 2 digits

Level 5 Content Descriptions

Strand	Content description	Topics
Number	Check and explain the reasonableness of solutions to problems including financial contexts using estimation strategies appropriate to the context (VC2M5N08)	2.3 Rounding to ten thousands 3.1 Estimation strategies 28.2 Rounding using a target digit strategy 28.3 Estimation strategies
	Use mathematical modelling to solve practical problems involving additive and multiplicative situations, including simple financial planning contexts; formulate the problems, choosing operations and efficient mental and written calculation strategies, and using digital tools where appropriate; interpret and communicate solutions in terms of the situation (VC2M5N09)	2.1 Addition 2.2 Subtraction 6.3 Multiplication using the area model 7.1 Multiplication using split and multiply 10.2 Multiplication – 3 digits \times 1 digit 14.2 Addition 15.1 Subtraction with zeros 19.2 Budgets 32.1 Budgets
	Follow a mathematical algorithm involving branching and repetition (iteration); create and use algorithms involving a sequence of steps and decisions and digital tools to experiment with factors, multiples and divisibility; identify, interpret and describe emerging patterns (VC2M5N10)	16.1 Multiples 16.2 Multiples using algorithms 17.1 Factors
Algebra	Recognise and explain the connection between multiplication and division as inverse operations and use this to develop families of number facts (VC2M5A01)	1.3 Fact families for multiplication and division 15.2 Inverse operations
	Find unknown values in numerical equations involving multiplication and division using the properties of numbers and operations (VC2M5A02)	14.3 Turnarounds and friendly pairs 15.2 Inverse operations 17.2 Equivalent number sentences
Measurement	Choose appropriate metric units when measuring the length, mass and capacity of objects; use smaller units or a combination of units to obtain a more accurate measure (VC2M5M01)	8.1 Measuring mass 14.1 Measuring with kilometres 25.3 Choosing units of measurement 26.1 Measuring with litres and millilitres
	Solve practical problems involving the perimeter and area of regular and irregular shapes using appropriate metric units (VC2M5M02)	10.3 Calculating perimeter 11.1 Area 11.2 Perimeter of rectangles 11.3 Area of rectangles
	Compare 12- and 24-hour time systems and solve practical problems involving the conversion between them (VC2M5M03)	3.2 24-hour time 3.3 Reading timetables 4.1 Australian time zones

Level 5 Content Descriptions

Strand	Content description	Topics
Measurement	Estimate, construct and measure angles in degrees, using appropriate tools including a protractor, and relate these measures to angle names (VC2M5M04)	23.1 Classifying angles 23.2 Measuring angles 0° to 180° 32.3 Measuring angles 0° to 360°
	Connect objects to their nets and build objects from their nets using spatial and geometric reasoning (VC2M5SP01)	32.2 Nets of objects
	Construct a grid coordinate system that uses coordinates to locate positions within a space; use coordinates and directional language to describe position and movement (VC2M5SP02)	4.2 Directional language 4.3 Coordinates and directions 12.2 Directions, turns, degrees 19.1 Coordinates to locate position
Space	Describe and perform translations, reflections and rotations of shapes, using dynamic geometry software where appropriate; recognise what changes and what remains the same, and identify any symmetries (VC2M5SP03)	12.1 Rotational symmetry 12.3 Translation, reflection, rotation
	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 (VC2M5ST01)	6.2 Categorical and numerical data 8.2 Dot plots 8.3 Column graphs 26.2 Ordinal data 26.3 The mode
	Interpret line graphs representing change over time; discuss the relationships that are represented and conclusions that can be made (VC2M5ST02)	6.1 Line graphs 26.3 The mode
Statistics	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 (VC2M5ST03)	8.2 Dot plots 8.3 Column graphs 30.3 Fair and unfair outcomes
	List the possible outcomes of chance experiments involving equally likely outcomes and compare to those that are not equally likely (VC2M5P01)	30.1 Measures of probability 30.2 Comparing probability 30.3 Fair and unfair outcomes
Probability		

Level 5 Content Descriptions

Strand	Content description	Topics
Probability	Conduct repeated chance experiments, including those with and without equally likely outcomes, and observe and record the results; use frequency to compare outcomes and estimate their likelihoods (VC2M5P02)	30.1 Measures of probability 30.2 Comparing probability 30.3 Fair and unfair outcomes

Level 5 Achievement Standard

Achievement standard	Topics and investigations	
By the end of Level 5, students use place value to write and order decimals including decimals greater than one.	1.2 Place value to millions 7.2 Place value to thousandths 10.1 Place value beyond millions 21.2 Comparing decimals 28.1 Place value and expanded notation	Inv: Twinkle twinkle
They express natural numbers as products of factors and identify multiples and divisors.	16.1 Multiples 16.2 Multiples using algorithms 17.1 Factors 23.3 Divisibility rules	Inv: Factor frenzy
Students order and represent, add and subtract fractions with the same or related denominators.	19.3 Comparing and ordering fractions 20.1 Adding and subtracting fractions 20.2 Equivalent fractions 20.3 Adding and subtracting fractions 21.1 Mixed numerals and improper fractions	Inv: Dynamic dominoes Inv: Score a duck
They represent common percentages and connect them to their fraction and decimal equivalents.	7.3 Percentages 21.3 Percentages	Inv: Breakfast club Inv: Dynamic dominoes Inv: Score a duck
Students use their proficiency with multiplication facts and efficient mental and written calculation strategies to multiply large numbers by one- and two-digit numbers and divide by one-digit numbers.	6.3 Multiplication using the area model 7.1 Multiplication using split and multiply 10.2 Multiplication – 3 digits × 1 digit 15.3 Division 16.3 Division 17.3 Division with remainders 24.1 Division with remainders 24.2 Multiplication – 4 digits × 1 digit 24.3 Multiplication by tens and hundreds 25.1 Multiplication using the area model	25.2 Multiplication – 3 digits × 2 digits 29.1 Division with remainders as fractions 29.2 Division with remainders to tenths 29.3 Division with remainders to hundredths Inv: Factor frenzy Inv: Down the drain Inv: Twinkle twinkle Inv: If I were a Martian Inv: Never a cross word
They check the reasonableness of their calculations using estimation.	2.3 Rounding to ten thousands 3.1 Estimation strategies 28.2 Rounding using a target digit strategy 28.3 Estimation strategies	Inv: Factor frenzy Inv: Twinkle twinkle Inv: Never a cross word

Level 5 Achievement Standard

Achievement standard	Topics and investigations	
Students use mathematical modelling to solve financial and other practical problems, formulating and solving problems, choosing arithmetic operations and interpreting results in terms of the situation.	2.1 Addition 2.2 Subtraction 14.2 Addition 15.1 Subtraction with zeros 19.2 Budgets 32.1 Budgets	Inv: If I were a Martian Inv: Finals fever
Students apply properties of numbers and operations to find unknown values in numerical equations involving multiplication and division.	1.3 Fact families for multiplication and division 14.3 Turnarounds and friendly pairs 15.2 Inverse operations 17.2 Equivalent number sentences	Inv: Breakfast club Inv: Down the drain
They design and use algorithms to identify and explain patterns in the factors and multiples of numbers.	16.2 Multiples using algorithms 17.1 Factors	Inv: Factor frenzy
Students choose and use appropriate metric units to measure the attributes of length, mass and capacity, and to solve problems involving perimeter and area.	8.1 Measuring mass 10.3 Calculating perimeter 11.1 Area 11.2 Perimeter of rectangles 11.3 Area of rectangles 14.1 Measuring with kilometres	25.3 Choosing units of measurement 26.1 Measuring with litres and millilitres Inv: Radical renovation Inv: Down the drain
Students convert between 12- and 24-hour time.	3.2 24-hour time 3.3 Reading timetables 4.1 Australian time zones	Inv: Race around Australia Inv: Finals fever
They estimate, construct and measure angles in degrees.	23.1 Classifying angles 23.2 Measuring angles 0° to 180° 32.3 Measuring angles 0° to 360°	Inv: Twinkle twinkle
Students use grid coordinates to locate and move positions.	4.2 Directional language 4.3 Coordinates and directions 12.2 Directions, turns, degrees 19.1 Coordinates to locate position	Inv: Race around Australia
Students connect objects to their two-dimensional nets.	32.2 Nets of objects	Inv: Baffling blocks
They perform and describe the results of transformations and identify any symmetries.	12.1 Rotational symmetry 12.3 Translation, reflection, rotation	Inv: Radical renovation
Students plan and conduct statistical investigations that collect nominal and ordinal categorical and discrete numerical data with and without digital tools.	6.2 Categorical and numerical data 8.2 Dot plots 8.3 Column graphs 26.2 Ordinal data 30.3 Fair and unfair outcomes	Inv: Breakfast club Inv: Down the drain
Students identify the mode and interpret the shape of distributions of data in context.	26.3 The mode	
They interpret and compare data represented in line graphs.	6.1 Line graphs 26.3 The mode	
Students conduct repeated chance experiments, list the possible outcomes, estimate likelihoods and make comparisons between those with and without equally likely outcomes.	30.1 Measures of probability 30.2 Comparing probability 30.3 Fair and unfair outcomes	Inv: Score a duck

Level 6 Content Descriptions

Strand	Content description	Topics	
Number	Recognise situations, including financial contexts, that use integers; locate and represent integers on a number line and as coordinates on the Cartesian plane (VC2M6N01)	1.2 Positive and negative numbers 21.1 Budgets 32.1 Positive and negative numbers 32.2 Coordinates in four quadrants	
	Identify and describe the properties of prime, composite, square and triangular numbers and use these properties to solve problems and simplify calculations (VC2M6N02)	2.2 Square numbers 2.3 Prime and composite numbers 3.1 Factor trees	
	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 (VC2M6N03)	1.3 Comparing and ordering fractions 15.1 Equivalent fractions	
	Apply knowledge of place value to add and subtract decimals, using digital tools where appropriate; use estimation and rounding to check the reasonableness of answers (VC2M6N04)	15.3 Rounding decimals 16.1 Decimal addition to tenths 16.2 Decimal subtraction to tenths 16.3 Decimal addition to hundredths 17.1 Decimal subtraction to hundredths	25.1 Decimal addition to thousandths 25.2 Decimal subtraction to thousandths
	Solve problems involving addition and subtraction of fractions using knowledge of equivalent fractions (VC2M6N05)	15.1 Equivalent fractions 15.2 Adding and subtracting fractions 24.1 Adding and subtracting fractions	
	Multiply and divide decimals by multiples of powers of 10 without a calculator, applying knowledge of place value and proficiency with multiplication facts; using estimation and rounding to check the reasonableness of answers (VC2M6N06)	15.3 Rounding decimals 19.2 Decimal multiplication 19.3 Decimal division 25.3 Multiply decimals by 10, 100, 1000 26.1 Decimal multiplication 26.2 Decimal division 26.3 Decimal multiplication and division 28.1 Decimals with the four operations	
	Solve problems that require finding a familiar fraction, decimal or percentage of a quantity, including percentage discounts, choosing efficient calculation strategies with and without digital tools (VC2M6N07)	2.1 Fractions as division 6.2 Renaming fractions as percentages 20.1 Renaming fractions as percentages 20.2 Discount 28.3 Percentages	
	Approximate numerical solutions to problems involving rational numbers and percentages, using appropriate estimation strategies (VC2M6N08)	6.2 Renaming fractions as percentages 7.1 Estimation strategies 15.3 Rounding decimals 20.1 Renaming fractions as percentages 20.2 Discount	

Level 6 Content Descriptions

Strand	Content description	Topics
Number	Use mathematical modelling to solve practical problems involving rational numbers and percentages, including in financial contexts; formulate the problems, choosing operations and using efficient mental and written calculation strategies, and using digital tools where appropriate; interpret and communicate solutions in terms of the situation, justifying the choices made (VC2M6N09)	3.2 Multiplication 3.3 Division 7.1 Estimation strategies 20.2 Discount 21.1 Budgets 28.3 Percentages
Algebra	Recognise and use rules that generate visually growing patterns and number patterns involving rational numbers (VC2M6A01)	4.1 Investigating patterns 4.2 Patterns in a table of values 28.2 Patterns and rules
	Find unknown values in numerical equations involving brackets and combinations of arithmetic operations, using the properties of numbers and operations (VC2M6A02)	4.3 Inverse operations to check calculations 6.3 Multi-step problems – add and subtract 14.2 Order of operations 14.3 Balancing equations
	Design and use algorithms involving a sequence of steps and decisions that use rules to generate sets of numbers; identify, interpret and explain emerging patterns (VC2M6A03)	4.2 Patterns in a table of values 14.1 Function machines 28.2 Patterns and rules
Measurement	Convert between common metric units of length, mass and capacity; choose and use decimal representations of metric measurements relevant to the context of a problem (VC2M6M01)	7.2 Metric system of measurement 23.2 Measuring with tonnes and kilograms
	Establish the formula for the area of a rectangle and use it to solve practical problems (VC2M6M02)	7.3 Perimeter of rectangles 8.1 Area of rectangles 8.2 Area of composite rectangles 8.3 Area and perimeter
	Measure, calculate and compare elapsed time; interpret and use timetables and itineraries to plan activities and determine the duration of events and journeys (VC2M6M03)	10.1 Reading timetables 21.2 Reading and interpreting timetables 21.3 Calculating duration
	Identify the relationships between angles on a straight line, angles at a point and vertically opposite angles; use these to determine unknown angles, communicating reasoning (VC2M6M04)	6.1 Properties of angles 24.2 Properties of shapes
Space	Compare the parallel cross-sections of objects and recognise their relationships to right prisms (VC2M6SP01)	23.1 Cross-sections

Level 6 Content Descriptions

Strand	Content description	Topics
Space	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 (VC2M6SP02)	19.1 Coordinates in one quadrant 32.2 Coordinates in four quadrants 32.3 Transformations with coordinates
	Recognise and use combinations of transformations to create tessellations and other geometric patterns, using dynamic geometry software where appropriate (VC2M6SP03)	24.3 Tessellations 30.3 Transformations
Statistics	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 (VC2M6ST01)	10.2 Categorical and numerical data 10.3 Ordinal and nominal data 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 30.2 Discrete and continuous data
	Identify statistically informed arguments presented in traditional and digital media; discuss and critique methods, data representations and conclusions (VC2M6ST02)	17.2 Misleading data and graphs 17.3 Causes of bias
	Plan and conduct statistical investigations by posing and refining questions to collect categorical or numerical data by observation or survey, or identifying a problem and collecting relevant data; analyse and interpret the data and communicate findings within the context of the investigation (VC2M6ST03)	10.2 Categorical and numerical data 10.3 Ordinal and nominal data 29.1 Comparing probability 30.2 Discrete and continuous data
Probability	Describe probabilities using fractions, decimals and percentages; recognise that probabilities lie on numerical scales of 0–1 or 0%–100%; use estimation to assign probabilities that events occur in a given context, using common fractions, percentages and decimals (VC2M6P01)	29.1 Comparing probability 29.2 Expected probability 29.3 Observed probability
	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 (VC2M6P02)	29.1 Comparing probability 29.2 Expected probability 29.3 Observed probability 30.1 Repeated probability experiments

Level 6 Achievement Standard

Achievement standard

Topics and investigations

By the end of Level 6, students use integers to represent points on a number line and in the Cartesian plane.

1.2 Positive and negative numbers **Inv:** Curious coordinates
19.1 Coordinates in one quadrant
32.1 Positive and negative numbers
32.2 Coordinates in four quadrants

They solve problems using the properties of prime, composite, square and triangular numbers.

2.2 Square numbers **Inv:** Lilja's locked level
2.3 Prime and composite numbers
3.1 Factor trees

Students order common fractions, giving reasons, and add and subtract fractions with related denominators.

1.3 Comparing and ordering fractions **Inv:** Educational entrepreneur
15.1 Equivalent fractions
15.2 Adding and subtracting fractions
24.1 Adding and subtracting fractions

They use all 4 operations with decimals and connect decimal representations of measurements to the metric system.

7.2 Metric system of measurement **25.3** Multiply decimals by 10, 100, 1000
15.3 Rounding decimals **26.1** Decimal multiplication
16.1 Decimal addition to tenths **26.2** Decimal division
16.2 Decimal subtraction to tenths **26.3** Decimal multiplication and division
16.3 Decimal addition to hundredths **28.1** Decimals with the four operations
17.1 Decimal subtraction to hundredths **Inv:** Is petrol pricey?
19.2 Decimal multiplication
19.3 Decimal division
25.1 Decimal addition to thousandths
25.2 Decimal subtraction to thousandths

Students solve problems involving finding a fraction, decimal or percentage of a quantity and use estimation to find approximate solutions to problems involving rational numbers and percentages.

2.1 Fractions as division **20.2** Discount
6.2 Renaming fractions as percentages **28.3** Percentages
15.3 Rounding decimals **Inv:** Is petrol pricey?
20.1 Renaming fractions as percentages

They use mathematical modelling to solve financial and other practical problems involving percentages and rational numbers, formulating and solving the problem, and justifying choices.

3.2 Multiplication **Inv:** Lilja's locked level
3.3 Division **Inv:** Happy hippos
20.2 Discount **Inv:** Fantasy flight
21.1 Budgets **Inv:** Is petrol pricey?
28.3 Percentages

Students find unknown values in numerical equations involving combinations of arithmetic operations.

4.3 Inverse operations to check calculations **20.3** Multi-step problems
6.3 Multi-step problems – add and subtract **23.3** Inverse operations to solve problems
7.1 Estimation strategies **Inv:** Lilja's locked level
14.2 Order of operations **Inv:** Fantasy flight
14.3 Balancing equations

They identify and explain rules used to create growing patterns.

4.1 Investigating patterns **Inv:** Lilja's locked level
4.2 Patterns in a table of values **Inv:** Clever containers
28.2 Patterns and rules

Level 6 Achievement Standard

Achievement standard	Topics and investigations	
They design and use algorithms to generate sets of numbers, using a rule.	14.1 Function machines	Inv: Clever containers
Students interpret and use timetables, and measure, calculate and compare elapsed time.	10.1 Reading timetables 21.2 Reading and interpreting timetables 21.3 Calculating duration	Inv: Fantasy flight
They convert between common units of length, mass and capacity.	7.2 Metric system of measurement 7.3 Perimeter of rectangles 8.1 Area of rectangles 8.2 Area of composite rectangles	8.3 Area and perimeter 23.2 Measuring with tonnes and kilograms Inv: Is petrol pricey?
They use the formula for the area of a rectangle and angle properties to solve problems.	6.1 Properties of angles 8.1 Area of rectangles 8.2 Area of composite rectangles	8.3 Area and perimeter 24.2 Properties of shapes Inv: Happy hippos
Students identify the parallel cross-section for right prisms.	23.1 Cross-sections	
They create tessellating patterns using combinations of transformations.	24.3 Tessellations 30.3 Transformations	Inv: Curious coordinates Inv: Octi-origami
They locate an ordered pair in any one of the 4 quadrants on the Cartesian plane.	19.1 Coordinates in one quadrant 32.2 Coordinates in four quadrants 32.3 Transformations with coordinates	Inv: Curious coordinates
Students compare distributions of discrete and continuous numerical and ordinal categorical data sets as part of their statistical investigations, using digital tools.	10.2 Categorical and numerical data 10.3 Ordinal and nominal data 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	29.1 Comparing probability 30.2 Discrete and continuous data Inv: Unique you Inv: Record breaker Inv: Weird or wonderful weather
They critique arguments presented in the media based on statistics.	12.3 Comparing graphs 17.2 Misleading data and graphs 17.3 Causes of bias	Inv: Record breaker
Students assign probabilities using common fractions, decimals and percentages.	29.1 Comparing probability 29.2 Expected probability 29.3 Observed probability	Inv: Practice makes perfect Inv: Educational entrepreneur
They conduct simulations using digital tools, to generate and record the outcomes from many trials of a chance experiment.	30.1 Repeated probability experiments	Inv: Practice makes perfect
They compare observed frequencies to the expected frequencies of the outcomes of chance experiments.	29.1 Comparing probability 29.2 Expected probability 29.3 Observed probability	Inv: Practice makes perfect Inv: Educational entrepreneur