Maths Trek

Victorian Curriculum Match v2

Foundation – Year 6

01/24

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

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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
Measurement	Identify and compare attributes of objects and events, including length, capacity, mass and duration, use direct comparisons and communicate reasoning (VC2MFM01)	**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
	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)	**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
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
	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

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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

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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

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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

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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?
	Measure the length of shapes and objects using informal units, recognising that units need to be uniform and used end-to-end (VC2M1M02)	**5.3** Measuring length using informal units **19.3** Informal units to measure length
	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
	Give and follow directions to move people and objects to different locations within a space (VC2M1SP02)	**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
	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)	**14.3** Object graphs **24.3** Picture graphs

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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.	**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 **Inv:** Ramp champ **Inv:** Numbers up **Inv:** Let's roll **Inv:** Breakfast cafe **Inv:** Win or lose
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.	**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 **Inv:** Numbers up **Inv:** Let's roll
Students partition collections into equal groups and skip count in twos, fives or tens to quantify collections to at least 120.	**9.2** Counting collections to 100 **23.3** Counting collections to 150 **Inv:** Plenty of popsticks
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.	**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 **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
Students use numbers, symbols and objects, including Australian coins, to create skip counting and repeating patterns, identifying the repeating unit.	**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 **16.3** Growing patterns **20.3** Describing number patterns **22.2** Keeping the pattern going **24.1** Writing number patterns and rules
Students compare and order objects and events based on the attributes of length, mass, capacity and duration, communicating their reasoning.	**3.1** Days, weeks, months, years **4.2** Comparing mass – heavier, lighter **4.3** Comparing length – shorter, longer, taller **10.3** Calendars and months **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	Topics and investigations
They measure the length of shapes and objects using uniform informal units.	**5.3** Measuring length using informal units **19.3** Informal units to measure length **Inv:** Ramp champ
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

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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

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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	

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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

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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

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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 **20.2** Subtraction to three digits **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

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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 **16.2** Multiples 2, 3, 4, 5, 10 **16.3** Multiples and repeated addition **23.2** Input and output
Algebra	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
	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
Measurement	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
	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

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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
Probability	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

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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

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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	

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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 **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
	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 **23.3** Fractions as division **24.3** Hundredths on a number line
	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 **15.3** Subtraction **19.1** Addition **19.2** Subtraction **23.3** Fractions as division **25.3** Division **26.2** Multiplication **26.3** Inverse operations **28.1** Addition and subtraction **28.2** Division
	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

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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

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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

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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 (× 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

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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	

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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 **25.1** Multiplication using the area model **25.2** Multiplication – 3 digits × 2 digits
	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

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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 × 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

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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°
Space	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
	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
Statistics	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
	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
Probability	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

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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

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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

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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

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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 **20.3** Multi-step problems **23.3** Inverse operations to solve problems
	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

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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

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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 **19.1** Coordinates in one quadrant **32.1** Positive and negative numbers **32.2** Coordinates in four quadrants	**Inv:** Curious coordinates
They solve problems using the properties of prime, composite, square and triangular numbers.	**2.2** Square numbers **2.3** Prime and composite numbers **3.1** Factor trees	**Inv:** Lilja's locked level
Students order common fractions, giving reasons, and add and subtract fractions with related denominators.	**1.3** Comparing and ordering fractions **15.1** Equivalent fractions **15.2** Adding and subtracting fractions **24.1** Adding and subtracting fractions	**Inv:** Educational entrepreneur
They use all 4 operations with decimals and connect decimal representations of measurements to the metric system.	**7.2** Metric system of measurement **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 **19.2** Decimal multiplication **19.3** Decimal division **25.1** Decimal addition to thousandths **25.2** Decimal subtraction to thousandths	**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 **Inv:** Is petrol pricey?
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 **6.2** Renaming fractions as percentages **15.3** Rounding decimals **20.1** Renaming fractions as percentages	**20.2** Discount **28.3** Percentages **Inv:** Is petrol pricey?
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 **3.3** Division **20.2** Discount **21.1** Budgets **28.3** Percentages	**Inv:** Lilja's locked level **Inv:** Happy hippos **Inv:** Fantasy flight **Inv:** Is petrol pricey?
Students find unknown values in numerical equations involving combinations of arithmetic operations.	**4.3** Inverse operations to check calculations **6.3** Multi-step problems – add and subtract **7.1** Estimation strategies **14.2** Order of operations **14.3** Balancing equations	**20.3** Multi-step problems **23.3** Inverse operations to solve problems **Inv:** Lilja's locked level **Inv:** Fantasy flight
They identify and explain rules used to create growing patterns.	**4.1** Investigating patterns **4.2** Patterns in a table of values **28.2** Patterns and rules	**Inv:** Lilja's locked level **Inv:** Clever containers

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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

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