

Years 5–6 multi-age Mathematics Curriculum and assessment plan

Example

Context and cohort considerations (if applicable)	
<p>The multi-age Years 5–6 cohort participate in daily mathematics learning. This plan has considered:</p> <ul style="list-style-type: none">• summative and formative data from previous year levels showing the need to support and extend on emerging rational number understandings• timing of NAPLAN in Term 1 for Year 5• exploration and use of digital tools (e.g. virtual material, electronic devices, simulation programs and dynamic geometric software) in relevant contexts that support the learning and doing of mathematics. <p>Across the year, the contexts for teaching and learning reflect authentic learning experiences for the students. There is an emphasis on developing digital literacy through the use of digital tools.</p>	
Level description — Year 5	Level description — Year 6
<p>In Year 5, learning in Mathematics builds on each student’s prior learning and experiences. Students engage in a range of approaches to learning and doing mathematics that develop their understanding of and fluency with concepts, procedures and processes by making connections, reasoning, problem-solving and practice. Proficiency in mathematics enables students to respond to familiar and unfamiliar situations by employing mathematical strategies to make informed decisions and solve problems efficiently.</p> <p>Students further develop proficiency and positive dispositions towards mathematics and its use as they:</p> <ul style="list-style-type: none">• apply their understanding of relationships to convert between forms of numbers, units and spatial representations• use mathematical modelling to solve practical problems, with guidance, using natural numbers and operations, and report on insights and conclusions they reach about the context• use common percentages to make proportional comparisons of quantities• use appropriate instruments and digital tools to construct and measure angles in degrees• use appropriate metric units to directly measure the area and perimeter of regular and irregular spaces• locate and move positions within a grid coordinate system• recognise what stays the same and what changes when shapes undergo transformations• experiment with factors and multiples using algorithms and digital tools• plan, conduct and report findings from statistical investigations that involve an increasing range of types of data and means for representing data• develop their reasoning skills when they consider relationships between events, and connect long-term frequency over many trials to the likelihood of an event occurring.	<p>In Year 6, learning in Mathematics builds on each student’s prior learning and experiences. Students engage in a range of approaches to learning and doing mathematics that develop their understanding of and fluency with concepts, procedures and processes by making connections, reasoning, problem-solving and practice. Proficiency in mathematics enables students to respond to familiar and unfamiliar situations by employing mathematical strategies to make informed decisions and solve problems efficiently.</p> <p>Students further develop proficiency and positive dispositions towards mathematics and its use as they:</p> <ul style="list-style-type: none">• expand the repertoire of numbers they work with to include rational numbers and the use of integers in practical contexts such as locating points in the 4 quadrants of a Cartesian plane• extend their knowledge of factors and multiples to understand the properties of prime, composite and square numbers• solve arithmetic problems involving all 4 operations with natural numbers of any size• use mathematical modelling to solve practical problems, choosing models, representations and calculation strategies, and justify solutions• apply computational approaches to develop algorithms that use rules to generate numbers• develop a range of written and digital means for representing objects and three-dimensional spaces in two dimensions• apply their understanding of area and use multiplicative thinking to establish the formula for the areas of a rectangle• begin to formally use deductive reasoning in spatial contexts involving lines and angles• describe and compare probabilities numerically• determine the mode and range, and discuss the shape of, distributions in their reports of findings from their statistical investigations• observe and compare long-run frequencies in repeated chance experiments and simulations.

Unit 1 — Recognising relationships	Unit 2 — Making sense of measurement	Unit 3 — Contemplating connections	Unit 4 — Considering influences and choices
Duration: 10 weeks	Duration: 10 weeks	Duration: 10 weeks	Duration: 10 weeks
<p>The ability to recognise patterns in one area of mathematics can reinforce similar skills in another area. In this unit, students develop critical and creative thinking skills as they recognise and generalise patterns in the context of numbers and operations, and in shapes and transformations.</p> <p>In the first phase of this unit, students revise their understanding of natural numbers and explore patterns and relationships within numbers, such as finding factors or multiples. Year 5 students express natural numbers as products of factors, identify multiples and determine divisibility. Year 6 students identify and describe the properties of prime, composite and square numbers. All students record relationships using materials, diagrams, and numerical representations to identify emerging patterns. Students develop an understanding of equivalence and inverse operations as they find unknown values and solve equations. Year 6 students use brackets and the order of operations when constructing and solving number sentences. Finally, understandings are applied as students create and use algorithms to identify and explain patterns, using a rule.</p> <p>In the second phase of this unit, students recognise relationships as they manipulate shapes, positions, and angles, and identify spatial patterns. As Year 5 students connect objects to their two-dimensional nets and Year 6 students identify the parallel cross-section for right prisms, students visualise and understand the correspondence between three-dimensional objects and their two-dimensional representations. Through hands-on learning experiences and by utilising digital tools, students engage in critical thinking about the properties of shapes and their relationships in space. Year 5 students perform and describe the results of transformations, identifying symmetries, and Year 6 students create tessellating patterns using combinations of transformations. Year 5 students estimate, construct, and measure angles with a protractor. Year 6 students explore angle properties to solve problems, determining unknown angles. Finally, Year 5 students use grid coordinates to locate and move positions and Year 6 students locate an ordered pair in the 4 quadrants of the Cartesian plane. Further connections are made to number understandings, as Year 6 students use integers to represent points on a number line and in the Cartesian plane.</p>	<p>Proficiency with multiplication, division, and decimal operations allows students to solve practical problems involving length, mass, capacity, and area. This unit helps students build confidence when operating with the number system and connect it to the metric system.</p> <p>In the first phase of this unit, students build on number understandings from Unit 1 as they develop confidence in performing operations. Year 5 students use their proficiency with multiplication facts and efficient calculation strategies to multiply large numbers by one- and two-digit numbers and divide by single-digit numbers. Year 5 students also extend the number system to write and order decimals including decimals greater than one. Year 6 students build on this understanding to use all 4 operations with decimals. All students explore a range of strategies to develop procedural flexibility, such as doubling, place value partitioning, thinking of factors and rearranging factors to make calculations easier. They explore the effect of rounding on calculations, apply knowledge of place value to find solutions to problems, including those with financial contexts, and check the reasonableness of calculations by using estimation.</p> <p>In the second phase of the unit, students' operational skills are extended through application in measurement contexts. In practical investigations involving length, mass and capacity, connections are made between decimal representations and the metric system. Year 5 students measure the length, mass and capacity of objects and use smaller units or a combination of metric units to obtain a more accurate measure. Year 6 students convert between common metric units by multiplying and dividing decimals by multiples of powers of 10. Confidence with operations and decimal representations is further strengthened through investigating problem situations involving perimeter and area. Year 5 students choose and use appropriate metric units to find the perimeter and area of regular and irregular shapes, and Year 6 students use the formula for the area of a rectangle to solve problems. Finally, the context of 12- and 24-hour time systems is explored. Critical and creative thinking skills are enhanced as students interpret problems involving conversions, planning activities and events, calculating durations and interpreting timetables.</p>	<p>Understanding fractions, decimals, and percentages is important as students transition from purely numerical operations to practical applications. In this unit students make connections between rational number operations and probability.</p> <p>In the first phase of this unit, students expand on their number understandings from Units 1 and 2 to explore rational numbers. They compare and order fractions using physical materials, fraction wall models, number lines and games. Year 6 students also explore number patterns involving rational numbers. All students draw on their understanding of factors, multiples and equivalence to recognise efficient methods for working with fractions with related denominators and convert between mixed numerals and improper fractions. Students then create models to represent the relationship between common percentages and their fraction and decimal equivalents. Year 6 students use this knowledge to find a fraction, decimal or percentage of a quantity, including percentage discounts. They explore the use of estimation to find approximate solutions to problems involving rational numbers and percentages, or to verify solutions, and recognise the effect of rounding on calculations.</p> <p>In the second phase of this unit, critical and creative thinking skills are developed as students transfer knowledge and skills of rational numbers to the context of probability. Students conduct repeated chance experiments to generate and record the outcomes from many trials, including those with and without equally likely outcomes. They list outcomes, estimate likelihoods, observe trials and record the results. Year 5 students compare outcomes and Year 6 students utilise digital tools to run simulations and compare observed frequencies to expected frequencies of outcomes. Year 6 students assign probabilities using common fractions, decimals and percentages.</p>	<p>Students are empowered in their everyday lives when they are able to mathematically model practical situations and solve real-world problems. In this unit, students develop critical and creative thinking skills as they analyse scenarios, make choices, draw reasoned conclusions and communicate their findings.</p> <p>In the first phase of this unit, students build analytical and critical thinking skills through statistical investigations. Students draw on their number understandings as they collect, acquire and interpret nominal and ordinal categorical, and discrete and continuous numerical data. They develop the digital literacy skills of investigating, managing and operating as they use a range of digital tools to analyse and visualise data. Students compare and discuss distributions in terms of mode, range (Year 6) and shape. They also investigate the appropriateness of various data displays for different types of data. Year 5 students interpret line graphs representing change over time and make simple inferences. Year 6 students use their statistical understandings to critique the methods, data representations and conclusions presented in the media, identifying potentially misleading data representations.</p> <p>In the second phase of this unit, students continue to develop their analytical and critical thinking skills as they use mathematical modelling to solve practical problems with real-world contexts. Students learn to approach problems systematically by formulating, solving, and interpreting results. Year 6 students justify their choices. Through a series of practical problems, students practise choosing operations and efficient calculation strategies, and use digital tools where appropriate. They express results as a whole number, decimal or fraction and clearly communicate their choices. Students use the skills developed when analysing and critiquing data to consider the results from their mathematical modelling scenarios.</p>

	Unit 1 — Recognising relationships	Unit 2 — Making sense of measurement	Unit 3 — Contemplating connections	Unit 4 — Considering influences and choices
Year 5	Assessment 1 — Project, including computational thinking Description: Students compile a digital investigation folio on unknown values in numerical equations, algorithms involving patterns in the factors and multiples of numbers, measuring angles in degrees, using grid coordinates, connecting objects to their nets, performing and describing transformations, identifying symmetries. Technique: Project Mode: Written (using digital tools) Conditions: Length is considered in the context of the assessment.	Assessment 2 — Supervised assessment Description: Students respond to questions, scenarios, or problems involving decimals, multiplication and division, estimation, length, mass and capacity, perimeter and area, and 12- and 24-hour time. Technique: Supervised assessment Mode: Written Conditions: Up to 60 minutes, plus 5 minutes perusal time.	Assessment 3 — Supervised assessment, including probability experiments Description: Students respond to questions, scenarios, or problems involving fractions with the same or related denominators, common percentages and repeated chance experiments, with and without equally likely outcomes. Technique: Supervised assessment Mode: Written and practical Conditions: Up to 60 minutes, plus 5 minutes perusal time.	Assessment 4 — Project: Statistical investigations Description: Through a series of statistical investigations relating to an end-of-year event or excursion, students collect nominal and ordinal categorical and discrete numerical data. They identify the mode and the shape of distributions of data and compare data represented in line graphs. Technique: Project Mode: Written (using digital tools where appropriate) Conditions: Written responses up to 400 words.
	Assessment 5 — Project: Mathematical modelling Description: In response to a stimulus, students use mathematical modelling to plan a sleepover with friends which meets a specific budget, choosing arithmetic operations. Technique: Project Mode: Written Conditions: Written responses up to 400 words.			
Year 6	Assessment 1 — Project, including computational thinking Description: Students compile a digital investigation folio on integers on a number line and in the Cartesian plane, prime, composite and square numbers, unknown values in numerical equations, growing patterns, algorithms that generate sets of numbers, angle properties, right prisms and tessellating patterns that use combinations of transformations. Technique: Project Mode: Written (using digital tools) Conditions: Length is considered in the context of the assessment.	Assessment 2 — Supervised assessment Description: Students respond to questions, scenarios, or problems involving all 4 operations with decimals, timetables, conversions between common units of length, mass and capacity, and area of a rectangle. Technique: Supervised assessment Mode: Written Conditions: Up to 60 minutes, plus 5 minutes perusal time.	Assessment 3 — Supervised assessment, including probability experiments Description: Students respond to questions, scenarios, or problems involving rational numbers and percentages, patterns involving rational numbers, probabilities using common fractions, decimal and percentages and simulations that generate and record the outcomes from many trials of a chance experiment. Technique: Supervised assessment Mode: Written and practical Conditions: Up to 60 minutes, plus 5 minutes perusal time.	Assessment 4 — Project: Statistical investigations Description: Through a series of statistical investigations relating to an end-of-year event or excursion, students collect discrete and continuous numerical and ordinal categorical data. They compare distributions in terms of mode, range and shape, and critique arguments presented in the media based on statistics. Technique: Project Mode: Written (using digital tools where appropriate) Conditions: Written responses up to 400 words.
				Assessment 5 — Project: Mathematical modelling Description: In response to a stimulus, students use mathematical modelling to plan a sleepover with friends which meets a specific budget, involving percentages and rational numbers. Technique: Project Mode: Written Conditions: Written responses up to 400 words.

Year 5

Assessment	Unit 1 — Recognising relationships		Unit 2 — Making sense of measurement		Unit 3 — Contemplating connections		Unit 4 — Considering influences and choices	
	Assessment 1 — Project, including computational thinking	Term/week	Assessment 2 — Supervised assessment	Term/week	Assessment 3 — Supervised assessment, including probability experiments	Term/week	Assessment 4 — Project: Statistical investigations	Term/week
	<p>Description: In response to a series of practical investigations, students compile a digital investigation folio, e.g. photographs, diagrams, number patterns, function machines, spatial representations. The digital folio shows samples of students' learning focusing on:</p> <ul style="list-style-type: none"> expressing natural numbers as products of factors and identifying multiples applying properties of numbers and operations to find unknown values in numerical equations involving multiplication and division creating and using algorithms to identify and explain patterns in the factors and multiples of numbers estimating, constructing and measuring angles in degrees using grid coordinates to locate and move positions connecting objects to their two-dimensional nets performing and describing the results of transformations, identifying any symmetries. <p>Technique: Project</p> <p>Mode: Written (using digital tools, e.g. dynamic geometric software and photographs with annotations)</p> <p>Conditions:</p> <ul style="list-style-type: none"> started in Week 6 and completed over multiple lessons by end of Week 10. 	Term 1 Week 10	<p>Description: Students respond to questions, scenarios, or problems that involve:</p> <ul style="list-style-type: none"> using place value to write and order decimals including decimals greater than one using their proficiency with multiplication facts and efficient calculation strategies to multiply large numbers by one- and two-digit numbers and divide by single-digit numbers checking the reasonableness of their calculations using estimation choosing and using appropriate metric units to measure the attributes of length, mass and capacity solving problems involving perimeter and area converting between 12- and 24-hour time. <p>Technique: Supervised assessment</p> <p>Mode: Written</p> <p>Conditions:</p> <ul style="list-style-type: none"> up to 60 minutes, plus 5 minutes perusal time may be completed over multiple lessons or broken into components in Week 8. 	Term 2 Week 8	<p>Description: Students respond to questions, scenarios, or problems that involve:</p> <ul style="list-style-type: none"> ordering and representing fractions with the same or related denominators adding and subtracting fractions with the same or related denominators representing common percentages and connecting them to their fraction and decimal equivalents conducting repeated chance experiments, listing the possible outcomes, estimating likelihoods and making comparisons between those with and without equally likely outcomes. <p>Technique: Supervised assessment</p> <p>Mode: Written and practical (with materials and digital tools to conduct chance experiments)</p> <p>Conditions:</p> <ul style="list-style-type: none"> up to 60 minutes, plus 5 minutes perusal time may be completed over multiple lessons or broken into components in Week 10 practical responses are observed by the teacher. 	Term 3 Week 10	<p>Description: Through a series of statistical investigations relating to an end-of-year event or excursion, students record responses to stimulus and questions in a learning journal, to demonstrate evidence of:</p> <ul style="list-style-type: none"> planning and conducting statistical investigations that collect nominal and ordinal categorical and discrete numerical data using digital tools identifying the mode and interpreting the shape of distributions of data in context interpreting and comparing data represented in line graphs. <p>Technique: Project</p> <p>Mode: Written (using digital tools where appropriate to create data representations and visualisations)</p> <p>Conditions:</p> <ul style="list-style-type: none"> started in Week 3 and completed over multiple lessons by end of Week 5 written responses up to 400 words. 	Term 4 Week 5
	Assessment 5 — Project: Mathematical modelling						<p>Description: In response to a stimulus, students use mathematical modelling to plan a sleepover with friends which meets a specific budget. Students demonstrate their proficiency when:</p> <ul style="list-style-type: none"> using mathematical modelling to solve financial and other practical problems formulating and solving problems choosing arithmetic operations interpreting results in terms of the situation. <p>Technique: Project</p> <p>Mode: Written</p> <p>Conditions:</p> <ul style="list-style-type: none"> started in Week 7 and completed over multiple lessons by end of Week 8 written responses up to 400 words. 	Term 4 Week 8

	Unit 1 — Recognising relationships	Unit 2 — Making sense of measurement	Unit 3 — Contemplating connections	Unit 4 — Considering influences and choices
Achievement standard	<p>By the end of Year 5, students use place value to write and order decimals including decimals greater than one. They express natural numbers as products of factors and identify multiples. Students order and represent, add and subtract fractions with the same or related denominators. They represent common percentages and connect them to their fraction and decimal equivalents. Students use their proficiency with multiplication facts and efficient calculation strategies to multiply large numbers by one- and two-digit numbers and divide by single-digit numbers. They check the reasonableness of their calculations using estimation. 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. They apply properties of numbers and operations to find unknown values in numerical equations involving multiplication and division. Students create and use algorithms to identify and explain patterns in the factors and multiples of numbers.</p> <p>They choose and use appropriate metric units to measure the attributes of length, mass and capacity, and to solve problems involving perimeter and area. Students convert between 12- and 24-hour time. They estimate, construct and measure angles in degrees. Students use grid coordinates to locate and move positions. They connect objects to their two-dimensional nets. Students perform and describe the results of transformations and identify any symmetries.</p> <p>They plan and conduct statistical investigations that collect nominal and ordinal categorical and discrete numerical data using digital tools. Students identify the mode and interpret the shape of distributions of data in context. They interpret and compare data represented in line graphs. Students conduct repeated chance experiments, list the possible outcomes, estimate likelihoods and make comparisons between those with and without equally likely outcomes.</p>	<p>By the end of Year 5, students use place value to write and order decimals including decimals greater than one. They express natural numbers as products of factors and identify multiples. Students order and represent, add and subtract fractions with the same or related denominators. They represent common percentages and connect them to their fraction and decimal equivalents. Students use their proficiency with multiplication facts and efficient calculation strategies to multiply large numbers by one- and two-digit numbers and divide by single-digit numbers. They check the reasonableness of their calculations using estimation. 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. They apply properties of numbers and operations to find unknown values in numerical equations involving multiplication and division. Students create and use algorithms to identify and explain patterns in the factors and multiples of numbers.</p> <p>They choose and use appropriate metric units to measure the attributes of length, mass and capacity, and to solve problems involving perimeter and area. Students convert between 12- and 24-hour time. They estimate, construct and measure angles in degrees. Students use grid coordinates to locate and move positions. They connect objects to their two-dimensional nets. Students perform and describe the results of transformations and identify any symmetries.</p> <p>They plan and conduct statistical investigations that collect nominal and ordinal categorical and discrete numerical data using digital tools. Students identify the mode and interpret the shape of distributions of data in context. They interpret and compare data represented in line graphs. Students conduct repeated chance experiments, list the possible outcomes, estimate likelihoods and make comparisons between those with and without equally likely outcomes.</p>	<p>By the end of Year 5, students use place value to write and order decimals including decimals greater than one. They express natural numbers as products of factors and identify multiples. Students order and represent, add and subtract fractions with the same or related denominators. They represent common percentages and connect them to their fraction and decimal equivalents. Students use their proficiency with multiplication facts and efficient calculation strategies to multiply large numbers by one- and two-digit numbers and divide by single-digit numbers. They check the reasonableness of their calculations using estimation. 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. They apply properties of numbers and operations to find unknown values in numerical equations involving multiplication and division. Students create and use algorithms to identify and explain patterns in the factors and multiples of numbers.</p> <p>They choose and use appropriate metric units to measure the attributes of length, mass and capacity, and to solve problems involving perimeter and area. Students convert between 12- and 24-hour time. They estimate, construct and measure angles in degrees. Students use grid coordinates to locate and move positions. They connect objects to their two-dimensional nets. Students perform and describe the results of transformations and identify any symmetries.</p> <p>They plan and conduct statistical investigations that collect nominal and ordinal categorical and discrete numerical data using digital tools. Students identify the mode and interpret the shape of distributions of data in context. They interpret and compare data represented in line graphs. Students conduct repeated chance experiments, list the possible outcomes, estimate likelihoods and make comparisons between those with and without equally likely outcomes.</p>	<p>By the end of Year 5, students use place value to write and order decimals including decimals greater than one. They express natural numbers as products of factors and identify multiples. Students order and represent, add and subtract fractions with the same or related denominators. They represent common percentages and connect them to their fraction and decimal equivalents. Students use their proficiency with multiplication facts and efficient calculation strategies to multiply large numbers by one- and two-digit numbers and divide by single-digit numbers. They check the reasonableness of their calculations using estimation. 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. They apply properties of numbers and operations to find unknown values in numerical equations involving multiplication and division. Students create and use algorithms to identify and explain patterns in the factors and multiples of numbers.</p> <p>They choose and use appropriate metric units to measure the attributes of length, mass and capacity, and to solve problems involving perimeter and area. Students convert between 12- and 24-hour time. They estimate, construct and measure angles in degrees. Students use grid coordinates to locate and move positions. They connect objects to their two-dimensional nets. Students perform and describe the results of transformations and identify any symmetries.</p> <p>They plan and conduct statistical investigations that collect nominal and ordinal categorical and discrete numerical data using digital tools. Students identify the mode and interpret the shape of distributions of data in context. They interpret and compare data represented in line graphs. Students conduct repeated chance experiments, list the possible outcomes, estimate likelihoods and make comparisons between those with and without equally likely outcomes.</p>
Moderation	<p>Consensus:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.</p>	<p>Calibration:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.</p>	<p>Consensus:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.</p>	<p>Expert:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.</p>

Content descriptions	Units				Content descriptions	Units				Content descriptions	Units			
Number	1	2	3	4	Algebra	1	2	3	4	Measurement	1	2	3	4
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 AC9M5N01	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	recognise and explain the connection between multiplication and division as inverse operations and use this to develop families of number facts AC9M5A01	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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 AC9M5M01	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
express natural numbers as products of their factors, recognise multiples and determine if one number is divisible by another AC9M5N02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	find unknown values in numerical equations involving multiplication and division using the properties of numbers and operations AC9M5A02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	solve practical problems involving the perimeter and area of regular and irregular shapes using appropriate metric units AC9M5M02	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
compare and order fractions with the same and related denominators including mixed numerals, applying knowledge of factors and multiples; represent these fractions on a number line AC9M5N03	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>						compare 12- and 24-hour time systems and solve practical problems involving the conversion between them AC9M5M03	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 AC9M5N04	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>						estimate, construct and measure angles in degrees, using appropriate tools including a protractor, and relate these measures to angle names AC9M5M04	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
solve problems involving addition and subtraction of fractions with the same or related denominators, using different strategies AC9M5N05	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>										
solve problems involving multiplication of larger numbers by one- or two-digit numbers, choosing efficient calculation strategies and using digital tools where appropriate; check the reasonableness of answers AC9M5N06	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
solve problems involving division, choosing efficient strategies and using digital tools where appropriate; interpret any remainder according to the context and express results as a whole number, decimal or fraction AC9M5N07	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
check and explain the reasonableness of solutions to problems including financial contexts using estimation strategies appropriate to the context AC9M5N08	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
use mathematical modelling to solve practical problems involving additive and multiplicative situations including financial contexts; formulate the problems, choosing operations and efficient calculation strategies, using digital tools where appropriate; interpret and communicate solutions in terms of the situation AC9M5N09	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
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 AC9M5N010	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										

Content descriptions	Units				Content descriptions	Units				Content descriptions	Units			
Space	1	2	3	4	Statistics	1	2	3	4	Probability	1	2	3	4
connect objects to their nets and build objects from their nets using spatial and geometric reasoning AC9M5SP01	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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 AC9M5ST01	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	list the possible outcomes of chance experiments involving equally likely outcomes and compare to those which are not equally likely AC9M5P01	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
construct a grid coordinate system that uses coordinates to locate positions within a space; use coordinates and directional language to describe position and movement AC9M5SP02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	interpret line graphs representing change over time; discuss the relationships that are represented and conclusions that can be made AC9M5ST02	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	conduct repeated chance experiments including those with and without equally likely outcomes, observe and record the results; use frequency to compare outcomes and estimate their likelihoods AC9M5P02	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
describe and perform translations, reflections and rotations of shapes, using dynamic geometric software where appropriate; recognise what changes and what remains the same, and identify any symmetries AC9M5SP03	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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 AC9M5ST03	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>					

Year 6

Assessment	Unit 1 — Recognising relationships		Unit 2 — Making sense of measurement		Unit 3 — Contemplating connections		Unit 4 — Considering influences and choices	
	Assessment 1 — Project, including computational thinking	Term/week	Assessment 2 — Supervised assessment	Term/week	Assessment 3 — Supervised assessment, including probability experiments	Term/week	Assessment 4 — Project: Statistical investigations	Term/week
	<p>Description: In response to a series of practical investigations, students compile a digital investigation folio, e.g. photographs, diagrams, number patterns, function machines, spatial representations. The digital folio shows samples of students' learning focusing on:</p> <ul style="list-style-type: none"> • using integers to represent points on a number line and in the Cartesian plane • solving problems using the properties of prime, composite and square numbers • finding unknown values in numerical equations involving combinations of arithmetic operations • identifying and explaining rules used to create growing patterns • creating and using algorithms to generate sets of numbers, using a rule • using angle properties to solve problems • identifying the parallel cross-section for right prisms • creating tessellating patterns using combinations of transformations • locating an ordered pair in any one of the 4 quadrants on the Cartesian plane. <p>Technique: Project</p> <p>Mode: Written (using digital tools, e.g. dynamic geometric software and photographs with annotations)</p> <p>Conditions:</p> <ul style="list-style-type: none"> • started in Week 6 and completed over multiple lessons by end of Week 10. 	Term 1 Week 10	<p>Description: Students respond to questions, scenarios, or problems that involve:</p> <ul style="list-style-type: none"> • using all 4 operations with decimals and connecting decimal representations of measurements to the metric system • interpreting and using timetables • converting between common units of length, mass and capacity • using the formula for the area of a rectangle to solve problems. <p>Technique: Supervised assessment</p> <p>Mode: Written</p> <p>Conditions:</p> <ul style="list-style-type: none"> • up to 60 minutes, plus 5 minutes perusal time • may be completed over multiple lessons or broken into components in Week 8. 	Term 2 Week 8	<p>Description: Students respond to questions, scenarios, or problems that involve:</p> <ul style="list-style-type: none"> • ordering common fractions, giving reasons • adding and subtracting fractions with related denominators • solving problems involving finding a fraction, decimal or percentage of a quantity • using estimation to find approximate solutions to problems involving rational numbers and percentages • identifying and explaining rules used to create number patterns involving rational numbers • assigning probabilities using common fractions, decimal and percentages • conducting simulations using digital tools, to generate and record the outcomes from many trials of a chance experiment • comparing observed frequencies to the expected frequencies of the outcomes of chance experiments. <p>Technique: Supervised assessment</p> <p>Mode: Written and practical (with materials and digital tools to conduct chance experiments)</p> <p>Conditions:</p> <ul style="list-style-type: none"> • up to 60 minutes, plus 5 minutes perusal time • may be completed over multiple lessons or broken into components in Week 10 • practical responses are observed by the teacher. 	Term 3 Week 10	<p>Description: Through a series of statistical investigations relating to an end-of-year event or excursion, students record responses to stimulus and questions in a learning journal, to demonstrate evidence of:</p> <ul style="list-style-type: none"> • comparing distributions of discrete and continuous numerical and ordinal categorical data sets, using digital tools • critiquing arguments presented in the media based on statistics. <p>Technique: Project</p> <p>Mode: Written (using digital tools where appropriate to create data representations and visualisations)</p> <p>Conditions:</p> <ul style="list-style-type: none"> • started in Week 3 and completed over multiple lessons by end of Week 5 • written responses up to 400 words. 	Term 4 Week 5
							<p>Assessment 5 — Project: Mathematical modelling</p> <p>Description: In response to a stimulus, students use mathematical modelling to plan a sleepover with friends which meets a specific budget. Students demonstrate their proficiency when:</p> <ul style="list-style-type: none"> • using mathematical modelling to solve financial and other practical problems involving percentages and rational numbers • formulating and solving the problem • justifying choices. <p>Technique: Project</p> <p>Mode: Written</p> <p>Conditions:</p> <ul style="list-style-type: none"> • started in Week 7 and completed over multiple lessons by end of Week 8 • written responses up to 400 words. 	Term 4 Week 8

	Unit 1 — Recognising relationships	Unit 2 — Making sense of measurement	Unit 3 — Contemplating connections	Unit 4 — Considering influences and choices
Achievement standard	<p>By the end of Year 6, students use integers to represent points on a number line and in the Cartesian plane. They solve problems using the properties of prime, composite and square numbers. Students order common fractions, giving reasons, and add and subtract fractions with related denominators. They use all 4 operations with decimals and connect decimal representations of measurements to the metric system. 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. They use mathematical modelling to solve financial and other practical problems involving percentages and rational numbers, formulating and solving the problem, and justifying choices. Students find unknown values in numerical equations involving combinations of arithmetic operations. They identify and explain rules used to create growing patterns. Students create and use algorithms to generate sets of numbers, using a rule.</p> <p>They interpret and use timetables. Students convert between common units of length, mass and capacity. They use the formula for the area of a rectangle and angle properties to solve problems. Students identify the parallel cross-section for right prisms. They create tessellating patterns using combinations of transformations. Students locate an ordered pair in any one of the 4 quadrants on the Cartesian plane.</p> <p>They compare distributions of discrete and continuous numerical and ordinal categorical data sets as part of their statistical investigations, using digital tools. Students critique arguments presented in the media based on statistics. They assign probabilities using common fractions, decimal and percentages. Students conduct simulations using digital tools, to generate and record the outcomes from many trials of a chance experiment. They compare observed frequencies to the expected frequencies of the outcomes of chance experiments.</p>	<p>By the end of Year 6, students use integers to represent points on a number line and in the Cartesian plane. They solve problems using the properties of prime, composite and square numbers. Students order common fractions, giving reasons, and add and subtract fractions with related denominators. They use all 4 operations with decimals and connect decimal representations of measurements to the metric system. 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. They use mathematical modelling to solve financial and other practical problems involving percentages and rational numbers, formulating and solving the problem, and justifying choices. Students find unknown values in numerical equations involving combinations of arithmetic operations. They identify and explain rules used to create growing patterns. Students create and use algorithms to generate sets of numbers, using a rule.</p> <p>They interpret and use timetables. Students convert between common units of length, mass and capacity. They use the formula for the area of a rectangle and angle properties to solve problems. Students identify the parallel cross-section for right prisms. They create tessellating patterns using combinations of transformations. Students locate an ordered pair in any one of the 4 quadrants on the Cartesian plane.</p> <p>They compare distributions of discrete and continuous numerical and ordinal categorical data sets as part of their statistical investigations, using digital tools. Students critique arguments presented in the media based on statistics. They assign probabilities using common fractions, decimal and percentages. Students conduct simulations using digital tools, to generate and record the outcomes from many trials of a chance experiment. They compare observed frequencies to the expected frequencies of the outcomes of chance experiments.</p>	<p>By the end of Year 6, students use integers to represent points on a number line and in the Cartesian plane. They solve problems using the properties of prime, composite and square numbers. Students order common fractions, giving reasons, and add and subtract fractions with related denominators. They use all 4 operations with decimals and connect decimal representations of measurements to the metric system. 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. They use mathematical modelling to solve financial and other practical problems involving percentages and rational numbers, formulating and solving the problem, and justifying choices. Students find unknown values in numerical equations involving combinations of arithmetic operations. They identify and explain rules used to create growing patterns. Students create and use algorithms to generate sets of numbers, using a rule.</p> <p>They interpret and use timetables. Students convert between common units of length, mass and capacity. They use the formula for the area of a rectangle and angle properties to solve problems. Students identify the parallel cross-section for right prisms. They create tessellating patterns using combinations of transformations. Students locate an ordered pair in any one of the 4 quadrants on the Cartesian plane.</p> <p>They compare distributions of discrete and continuous numerical and ordinal categorical data sets as part of their statistical investigations, using digital tools. Students critique arguments presented in the media based on statistics. They assign probabilities using common fractions, decimal and percentages. Students conduct simulations using digital tools, to generate and record the outcomes from many trials of a chance experiment. They compare observed frequencies to the expected frequencies of the outcomes of chance experiments.</p>	<p>By the end of Year 6, students use integers to represent points on a number line and in the Cartesian plane. They solve problems using the properties of prime, composite and square numbers. Students order common fractions, giving reasons, and add and subtract fractions with related denominators. They use all 4 operations with decimals and connect decimal representations of measurements to the metric system. 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. They use mathematical modelling to solve financial and other practical problems involving percentages and rational numbers, formulating and solving the problem, and justifying choices. Students find unknown values in numerical equations involving combinations of arithmetic operations. They identify and explain rules used to create growing patterns. Students create and use algorithms to generate sets of numbers, using a rule.</p> <p>They interpret and use timetables. Students convert between common units of length, mass and capacity. They use the formula for the area of a rectangle and angle properties to solve problems. Students identify the parallel cross-section for right prisms. They create tessellating patterns using combinations of transformations. Students locate an ordered pair in any one of the 4 quadrants on the Cartesian plane.</p> <p>They compare distributions of discrete and continuous numerical and ordinal categorical data sets as part of their statistical investigations, using digital tools. Students critique arguments presented in the media based on statistics. They assign probabilities using common fractions, decimal and percentages. Students conduct simulations using digital tools, to generate and record the outcomes from many trials of a chance experiment. They compare observed frequencies to the expected frequencies of the outcomes of chance experiments.</p>
Moderation	<p>Consensus:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.</p>	<p>Calibration:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.</p>	<p>Consensus:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.</p>	<p>Expert:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.</p>

Content descriptions	Units				Content descriptions	Units				Content descriptions	Units			
Number	1	2	3	4	Algebra	1	2	3	4	Measurement	1	2	3	4
recognise situations, including financial contexts, that use integers; locate and represent integers on a number line and as coordinates on the Cartesian plane AC9M6N01	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	recognise and use rules that generate visually growing patterns and number patterns involving rational numbers AC9M6A01	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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 AC9M6M01	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
identify and describe the properties of prime, composite and square numbers and use these properties to solve problems and simplify calculations AC9M6N02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	find unknown values in numerical equations involving brackets and combinations of arithmetic operations, using the properties of numbers and operations AC9M6A02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	establish the formula for the area of a rectangle and use it to solve practical problems AC9M6M02	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 AC9M6N03	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	create and use algorithms involving a sequence of steps and decisions that use rules to generate sets of numbers; identify, interpret and explain emerging patterns AC9M6A03	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	interpret and use timetables and itineraries to plan activities and determine the duration of events and journeys AC9M6M03	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 AC9M6N04	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						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 AC9M6M04	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
solve problems involving addition and subtraction of fractions using knowledge of equivalent fractions AC9M6N05	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>										
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 AC9M6N06	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
solve problems that require finding a familiar fraction, decimal or percentage of a quantity, including percentage discounts, choosing efficient calculation strategies and using digital tools where appropriate AC9M6N07	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>										
approximate numerical solutions to problems involving rational numbers and percentages, including financial contexts, using appropriate estimation strategies AC9M6N08	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>										
use mathematical modelling to solve practical problems involving natural and rational numbers and percentages, including in financial contexts; formulate the problems, choosing operations and efficient calculation strategies, and using digital tools where appropriate; interpret and communicate solutions in terms of the situation, justifying the choices made AC9M6N09	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										

Content descriptions	Units				Content descriptions	Units				Content descriptions	Units			
Space	1	2	3	4	Statistics	1	2	3	4	Probability	1	2	3	4
compare the parallel cross-sections of objects and recognise their relationships to right prisms AC9M6SP01	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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 AC9M6ST01	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	recognise that probabilities lie on numerical scales of 0–1 or 0%–100% and use estimation to assign probabilities that events occur in a given context, using common fractions, percentages and decimals AC9M6P01	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 AC9M6SP02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	identify statistically informed arguments presented in traditional and digital media; discuss and critique methods, data representations and conclusions AC9M6ST02	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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 AC9M6P02	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
recognise and use combinations of transformations to create tessellations and other geometric patterns, using dynamic geometric software where appropriate AC9M6SP03	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	plan and conduct statistical investigations by posing and refining questions or identifying a problem and collecting relevant data; analyse and interpret the data and communicate findings within the context of the investigation AC9M6ST03	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>					

General capabilities	Units			
	1	2	3	4
Critical and creative thinking	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Digital literacy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ethical understanding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercultural understanding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Literacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Numeracy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Personal and social capability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Cross-curriculum priorities	Units			
	1	2	3	4
Aboriginal and Torres Strait Islander histories and cultures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asia and Australia’s engagement with Asia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sustainability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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