

Years 7–8 multi-age Mathematics Curriculum and assessment plan

Example

Context and cohort considerations (if applicable)	
<p>The multi-age Years 7–8 cohort have three mathematics lessons each week.</p> <p>This plan has considered:</p> <ul style="list-style-type: none">• data from Years 6 and 7 which has shown that students are proficient with Number but need to consolidate their understanding of Algebra, particularly algebraic expressions, formulas and conventions• timing of NAPLAN in Term 1 for Year 7• 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.	
Level description — Year 7	Level description — Year 8
<p>In Year 7, 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">• extend their understanding of the integer and rational number systems, strengthen their fluency with mental calculation, written algorithms and digital tool, and routinely consider the reasonableness of results in context• use exponents and exponent notation to consolidate and formalise their understanding of representations of natural numbers, and use these to make conjectures involving natural numbers by experimenting with the assistance of digital tools• recognise the use of algebraic expressions and formulas using conventions, notations, symbols and pronumerals. They interpret algebraic expressions and formulas, use substitution to evaluate and determine unknown terms where other values are given, and solve simple equations using a variety of methods• use mathematical modelling to solve practical problems involving rational numbers, ratios and percentages, formulating and making choices about representations, calculation strategies, and communicating solutions within the context• use variables, constants, relations and functions to express relationships in real life data and interpret key features of their representation in rules, tables and graphs• extend their knowledge of angles to establish further relationships and apply these when solving measurement and spatial problems• create and use algorithms to classify shapes in the plane and use tools to construct shapes, including two-dimensional representations of prisms and other objects• use coordinates in the Cartesian plane to describe transformations• apply the statistical investigation process to obtain numerical data related to questions of interest, choose displays for the distributions of data, and interpret summary statistics for determining the centre and spread of the data in context• conduct probability simulations and experiments involving chance events, construct corresponding sample spaces and observe related frequencies, comparing expected, simulated and experimental results.	<p>In Year 8, 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">• extend computation with combinations of the 4 operations with integers and positive rational numbers, recognise the relationship between fractions and their terminating or infinite recurring decimal expansions, convert between fraction and decimal forms of rational numbers and locate them on the real number line• extend the exponent laws to numerical calculations involving positive and zero exponents, and solve a broad range of practical problems using mental methods, written algorithms and digital tools• use mathematical modelling to solve problems in a broad range of contexts that involve ratios with two or more terms, percentage increase and decrease, proportions with decimal values, and rates in measurement contexts, and apply proportional reasoning• manipulate linear and other algebraic expressions, recognise and model situations using linear relations and solve related equations using tables, graphs and algebra• interpret and explain demonstrations and proofs of Pythagoras’ theorem and investigate irrational numbers, their infinite non-recurring decimal expansion and their approximate location on the real number line• select metric measurement units fit for purpose, convert between units, recognise the effects of different levels of measurement accuracy on the results of computations and relate these to interval estimates for measurements in various contexts• apply knowledge of the relationships between π and the features of circles to solve problems involving circumference and area, establish sets of congruency and similarity conditions for common shapes in the plane and create algorithms to test for these conditions, and discuss examples and counter examples• construct and locate objects with reference to three-dimensional coordinates using digital tools• consider a variety of situations involving complementary and mutually exclusive events and combinations of two events; represent these using tables and diagrams, conducting simulations and calculating corresponding probabilities• examine experimental and observational data and identify populations and samples with respect to context; investigate variation in summary statistics across samples of varying size and discuss their findings.

Unit 1 — Making connections	Unit 2 — Reasonable representations	Unit 3 — Can you solve that accurately?	Unit 4 — Is that a good model?
Duration: 10 weeks	Duration: 10 weeks	Duration: 10 weeks	Duration: 10 weeks
<p>Connecting learning between years and strands supports deeper mathematical understanding. In this unit, students connect representations of numbers, probability and the real world. Students develop their digital literacy and critical and creative thinking skills as they conduct probability experiments and simulations.</p> <p>In the first phase of this unit, students continue their work from Years 6 and 7 on rational numbers to include solving problems using all 4 operations and efficient calculation strategies. Students consider the many ways that a number can be represented to make connections between fractions, decimals and percentages and between rational numbers, integers and exponents. Students explore the different representations of rational numbers to find ways to calculate efficiently. Year 7 students explore expanded notation, and numbers as fractions, as decimals, as percentages, using factor trees. Year 8 students consider and explain the use of exponents to represent numbers and to aid in calculation. They use approximation and exponent laws to develop their proficiency with rational numbers. Year 7 students solve problems involving the addition and subtraction of integers, Year 8 students extend this to include positive rational numbers.</p> <p>In the second phase of this unit, students apply their learning about rational numbers and exponents to probability problems. They consider sample spaces, conduct experiments, and run simulations to further explore the probability of events. They continue their work on the ways to represent numbers by considering the ways to represent the sample space for given scenarios. Students are supported to make the connection between rational numbers expressed as fractions, decimals and percentages, with exponents, and with the solutions to problems involving repeated chance experiments and simulations. Year 7 students work with single step experiments and Year 8 students extend this to possible combinations of two events. Students respond to given scenarios and create games to explore their proficiency with probability. Year 7 students focus on predicting frequencies for related events and giving reasons for the differences between predicted and observed results. Year 8 students focus on determining related probabilities of compound events.</p> <p>When Year 7 students are involved with NAPLAN, Year 8 students will work on solving problems involving 12- and 24-hour cycles across multiple time zones by planning holiday trips for the Year 7 students.</p>	<p>As future citizens, students will need to know whether information is being represented fairly. In this unit student develop their ethical understanding by creating critical and creative representations of information, including summaries, classifications, displays and images. They mathematically justify their decisions.</p> <p>In the first phase of this unit, students search for polygons in their environment. Students look for triangles and quadrilaterals and Year 7 students extend this to other polygons and solids. Students represent the polygons and solids in a journal. Students revise algorithms from previous years and continue to develop their proficiency by using critical and creative thinking to design an algorithm to sort polygons in Year 7 and test for congruency and similarity in Year 8. Year 7 students focus on the representation of objects in two dimensions. Year 8 students focus on applying the properties of quadrilaterals to solve problems. Students demonstrate their learning in a multimodal presentation that includes an explanation of their algorithm.</p> <p>In the second phase of this unit, students build on their experiences of collecting and processing information to develop statistical investigation questions that are significant to them and their environment, e.g. Do students spend less time on screens than their parents? Students use digital tools to critically examine the ways in which data is collected and represented. They determine measures of central tendency and distribution of data. Students collect data to answer their statistical investigation question, and communicate their findings in a report, showing evidence of analysing data in terms of the distribution and summary statistics. Students create appropriate data displays. Year 7 students focus on discrete and continuous data, summary statistics, shape and possible outliers. Year 8 students focus on sampling techniques, the variations between samples and comparing the variation.</p>	<p>Algebra is the foundation to further understanding of mathematics. This unit uses measurement as a context for the development of algebraic skills, procedures and processes. Students use their critical and creative thinking skills to consider the appropriate level of accuracy for their solutions in the context of each problem. This connects with Unit 1 where they considered different representations of numbers.</p> <p>In the first phase of this unit, students use area models to investigate squares, square roots and irrational numbers. Year 8 students extend this work to consider terminating and recurring decimals. Year 7 students solve problems involving addition and subtraction of integers and then they move on to working with circles, adding π as an irrational number to their understanding of Number. Students then solve problems involving length, area and volume. Year 7 students focus on triangles, parallelograms, rectangular and triangular prisms while Year 8 students focus on circumference, perimeter, composite shapes and right prisms. Year 7 students use coordinates to describe transformations of points in the plane. Year 8 students extend the coordinate system and their knowledge into 3 dimensions. This phase focuses on students making the connection between appropriate subsets of the real numbers and how they help to find the solutions to mensuration problems.</p> <p>In the second phase of this unit, students use their measurement formulas to support their facility with algebra. They solve equations and Year 8 students rearrange, expand and factorise expressions by making a link to the measurement context. Measurement provides students with a concrete embodiment for abstract algebraic concepts. They move on to working with triangles, where Year 7 students focus on angles in triangles and extend this to angles on parallel lines. Year 8 students link their earlier work on irrational numbers and rearranging expressions to use Pythagoras' theorem to solve measurement problems in right-angle triangles.</p>	<p>Financial contexts allow students to explore algebra and expand their mathematical toolboxes. In this unit, students connect the ideas of Cartesian coordinates, linear graphs, transformations to objects and tables of values to become proficient at critically creating mathematical models. They use digital tools to enhance their digital literacy.</p> <p>In the first phase of this unit, students explore the coordinate system. Students revise coordinates and make a connection between the coordinate system and linear equations. They explore how changes to algebraic formulas and relations change their graphs. Students use digital tools to observe the effects of changes. Year 7 students create tables of values and use those to describe the effects of variation. Year 8 students make and test conjectures involving linear relations, then extend that to graphing and solving linear equations with rational solutions and one-variable inequality, graphically and algebraically.</p> <p>In the second phase of this unit, students apply their understanding, fluency, and reasoning developed in the first phase, to problem solving and mathematical modelling in a financial context. The cost to travel to a local stadium or event venue using different modes of transport is the context to create mathematical models. Students collect data about the cost to travel to the venue from different distances. They determine whether a linear model is an appropriate model for the data. Students consider the cost per kilometre to travel to the venue. They connect the real-world data about the cost of the transport to their work from Unit 1 about fractions, percentages and decimals. They use their mathematical models to solve practical problems. Year 7 students consider the percentage of the cost to visit an event that comes from transport; they consider different modes of transport and how that impacts the percentage or fraction of the cost that comes from transport. Year 8 students consider the suitability of linear models to model the cost to travel to the venue for different distances and solve practical problems about the mode of transport that gives the lowest cost per kilometre.</p>

	Unit 1 — Making connections	Unit 2 — Reasonable representations	Unit 3 — Can you solve that accurately?	Unit 4 — Is that a good model?
Year 7 achievement standard aspects	<p>Assessment 1 — Examination</p> <p>Description: Students answer short response questions on the concepts of sample spaces, probabilities, relative frequencies, exponent notation, using the 4 operations with positive rational numbers, and representations of rational numbers.</p> <p>Technique: Examination</p> <p>Mode: Written</p> <p>Conditions: Up to 70 minutes, plus 5 minutes perusal, calculator permitted.</p>	<p>Assessment 2 — Project: Computational thinking</p> <p>Description: Students create and test an algorithm that will sort and classify shapes.</p> <p>Technique: Project</p> <p>Mode: Multimodal (using multimedia)</p> <p>Conditions: 3–4 minute presentation</p> <p>Assessment 3 — Project: Statistical investigation</p> <p>Description: Students conduct a statistical investigation involving discrete and continuous numerical data, using appropriate displays and summary statistics, and identifying any outliers.</p> <p>Technique: Project</p> <p>Mode: Written</p> <p>Conditions: 600 words.</p>	<p>Assessment 4 — Examination</p> <p>Description: Students answer short response questions on the concepts of square numbers, square roots, addition and subtraction of integers, linear equations, using coordinates to describe transformations of points in the plane, angle relationships, using formulas, areas of triangles and parallelograms, volumes of rectangular and triangular prisms and the relationship between parts of a circle.</p> <p>Technique: Examination</p> <p>Mode: Written</p> <p>Conditions: Up to 70 minutes, plus 5 minutes perusal, calculator permitted.</p>	<p>Assessment 5 — Project: Mathematical modelling</p> <p>Description: Students determine a mathematical model to calculate the cost of travel as a percentage of the total cost of attending an event, using the mathematical modelling process.</p> <p>Technique: Project</p> <p>Mode: Written</p> <p>Conditions: 600 words.</p>
Year 8 achievement standard aspects	<p>Assessment 1 — Examination</p> <p>Description: Students answer short response questions on the concepts of probabilities of compound events, relative frequencies, exponent laws, 4 operations with integers and positive rational numbers, and duration across multiple time zones.</p> <p>Technique: Examination</p> <p>Mode: Written</p> <p>Conditions: up to 70 minutes, plus 5 minutes perusal calculator permitted.</p>	<p>Assessment 2 — Project: Computational thinking</p> <p>Description: Students create and test an algorithm that will test for congruence and similarity.</p> <p>Technique: Project</p> <p>Mode: Multimodal (using multimedia)</p> <p>Conditions: 3–4 minute presentation.</p> <p>Assessment 3 — Project: Statistical investigation</p> <p>Description: Students conduct a statistical investigation involving sampling data, and analysing, comparing and describing the distribution of data using summary statistics.</p> <p>Technique: Project</p> <p>Mode: Written</p> <p>Conditions: 600 words.</p>	<p>Assessment 4 — Examination</p> <p>Description: Students answer short response questions on the concepts of irrational numbers, terminating and recurring decimals, rearranging linear expressions, perimeter and area of composite shapes, volumes of right prisms, location of objects in three dimensions, using formulas to find the area and circumference of circles and Pythagoras' theorem.</p> <p>Technique: Examination</p> <p>Mode: Written</p> <p>Conditions: up to 70 minutes, plus 5 minutes perusal, calculator permitted.</p>	<p>Assessment 5 — Project: Mathematical modelling</p> <p>Description: Students consider the suitability of linear models to model the cost to travel to a venue for different distances and solve practical problems about the mode of transport that gives the lowest cost per kilometre.</p> <p>Technique: Project</p> <p>Mode: Written</p> <p>Conditions: 600 words.</p>

Year 7

	Unit 1 — Making connections		Unit 2 — Reasonable representations		Unit 3 — Can you solve that accurately?		Unit 4 — Is that a good model?	
	Assessment 1 — Examination	Term/ week	Assessment 2 — Project: Computational thinking	Term/ week	Assessment 4 — Examination	Term/ week	Assessment 5 — Project: Mathematical modelling	Term/ week
Assessment	<p>Description: Students answer short response questions focusing on:</p> <ul style="list-style-type: none">identifying the sample space for single-stage eventsassigning probabilities to outcomes and predicting relative frequencies for related eventsgiving reasons for differences between predicted and observed results from chance experiments and simulations with large numbers of trialsrepresenting natural numbers as products of powers of prime numbers using exponent notationusing the 4 operations with positive rational numbers including fractions, decimals and percentages to solve problems using efficient calculation strategieschoosing between equivalent representations of rational numbers and percentages to assist in calculations. <p>Technique: Examination</p> <p>Mode: Written</p> <p>Conditions:</p> <ul style="list-style-type: none">up to 70 minutes, plus 5 minutes perusalsupervised conditionscalculator permitted.	Term 1 Week 9	<p>Description: Through a multimedia presentation students demonstrate their creation and testing of an algorithm to sort and classify shapes. The presentation demonstrates students’ proficiency when:</p> <ul style="list-style-type: none">representing objects two-dimensionally in different ways and describing the usefulness of these representationsclassifying polygons according to their featurescreating an algorithm designed to sort and classify shapes. <p>Technique: Project</p> <p>Mode: Multimodal</p> <p>Conditions:</p> <ul style="list-style-type: none">issued in Week 2 and completed by end of Week 5 (including 2 hours of class time)spoken/signed response 3–4 minutes.	Term 2 Week 5	<p>Description: Students answer short response questions focusing on:</p> <ul style="list-style-type: none">solving problems involving squares of numbers and square roots of perfect square numberssolving problems involving addition and subtraction of integerssolving linear equations with natural number solutionsusing coordinates to describe transformations of points in the planeapplying knowledge of angle relationships and the sum of angles in a triangle to solve problems, giving reasonsusing formulas to solve problems involving the areas of triangles and parallelogramsusing formulas to solve problems involving the volume of rectangular and triangular prismsdescribing the relationships between the radius, diameter and circumference of a circle. <p>Technique: Examination</p> <p>Mode: Written</p> <p>Conditions:</p> <ul style="list-style-type: none">up to 70 minutes, plus 5 minutes perusalsupervised conditionscalculator not permitted.	Term 3 Week 9	<p>Description: Through a written report students determine a mathematical model to calculate the cost of travel as a percentage of the total cost of attending an event. The report demonstrates students’ proficiency when:</p> <ul style="list-style-type: none">using mathematical modelling to solve practical problems involving rational numbers, percentages and ratios, in financial contextsjustifying choices made about the representationusing algebraic expressions to represent situationsdescribing the relationships between variables from authentic data and substituting values into formulas to determine unknown valuescreating tables of values related to algebraic expressions and formulas, and describe the effect of variation. <p>Technique: Project</p> <p>Mode: Written</p> <p>Conditions:</p> <ul style="list-style-type: none">issued in Week 5 and completed by end of Week 9 (including three hours of class time)written responses up to 600 words (with raw data given in an appendix).	Term 4 Week 9
			<p>Assessment 3 — Project: Statistical investigation</p> <p>Description: Through a written report students demonstrate their proficiency when:</p> <ul style="list-style-type: none">planning and conducting statistical investigations involving discrete and continuous numerical datausing appropriate displaysinterpreting data in terms of the shape of distribution and summary statisticsidentifying possible outliersdeciding which measure of central tendency is most suitable and explaining their reasoning. <p>Technique: Project</p> <p>Mode: Written</p> <p>Conditions:</p> <ul style="list-style-type: none">issued in Week 5 and completed by end of Week 9 (including 2 hours of class time)written responses up to 600 words (with raw data given in an appendix).	Term 2 Week 9				

	Unit 1 — Making connections	Unit 2 — Reasonable representations	Unit 3 — Can you solve that accurately?	Unit 4 — Is that a good model?
Achievement standard	<p>By the end of Year 7, students represent natural numbers in expanded form and as products of prime factors, using exponent notation. They solve problems involving squares of numbers and square roots of perfect square numbers. Students solve problems involving addition and subtraction of integers. They use all 4 operations in calculations involving positive fractions and decimals, choosing efficient calculation strategies. Students choose between equivalent representations of rational numbers and percentages to assist in calculations. They use mathematical modelling to solve practical problems involving rational numbers, percentages and ratios, in financial and other applied contexts, justifying choices of representation. Students use algebraic expressions to represent situations, describe the relationships between variables from authentic data and substitute values into formulas to determine unknown values. They solve linear equations with natural number solutions. Students create tables of values related to algebraic expressions and formulas, and describe the effect of variation.</p> <p>They apply knowledge of angle relationships and the sum of angles in a triangle to solve problems, giving reasons. Students use formulas for the areas of triangles and parallelograms and the volumes of rectangular and triangular prisms to solve problems. They describe the relationships between the radius, diameter and circumference of a circle. Students classify polygons according to their features and create an algorithm designed to sort and classify shapes. They represent objects two-dimensionally in different ways, describing the usefulness of these representations. Students use coordinates to describe transformations of points in the plane.</p> <p>They plan and conduct statistical investigations involving discrete and continuous numerical data, using appropriate displays. Students interpret data in terms of the shape of distribution and summary statistics, identifying possible outliers. They decide which measure of central tendency is most suitable and explain their reasoning. Students list sample spaces for single step experiments, assign probabilities to outcomes and predict relative frequencies for related events. They conduct repeated single-step chance experiments and run simulations using digital tools, giving reasons for differences between predicted and observed results.</p>	<p>By the end of Year 7, students represent natural numbers in expanded form and as products of prime factors, using exponent notation. They solve problems involving squares of numbers and square roots of perfect square numbers. Students solve problems involving addition and subtraction of integers. They use all 4 operations in calculations involving positive fractions and decimals, choosing efficient calculation strategies. Students choose between equivalent representations of rational numbers and percentages to assist in calculations. They use mathematical modelling to solve practical problems involving rational numbers, percentages and ratios, in financial and other applied contexts, justifying choices of representation. Students use algebraic expressions to represent situations, describe the relationships between variables from authentic data and substitute values into formulas to determine unknown values. They solve linear equations with natural number solutions. Students create tables of values related to algebraic expressions and formulas, and describe the effect of variation.</p> <p>They apply knowledge of angle relationships and the sum of angles in a triangle to solve problems, giving reasons. Students use formulas for the areas of triangles and parallelograms and the volumes of rectangular and triangular prisms to solve problems. They describe the relationships between the radius, diameter and circumference of a circle. Students classify polygons according to their features and create an algorithm designed to sort and classify shapes. They represent objects two-dimensionally in different ways, describing the usefulness of these representations. Students use coordinates to describe transformations of points in the plane.</p> <p><u>They plan and conduct statistical investigations involving discrete and continuous numerical data, using appropriate displays. Students interpret data in terms of the shape of distribution and summary statistics, identifying possible outliers. They decide which measure of central tendency is most suitable and explain their reasoning.</u> Students list sample spaces for single step experiments, assign probabilities to outcomes and predict relative frequencies for related events. They conduct repeated single-step chance experiments and run simulations using digital tools, giving reasons for differences between predicted and observed results.</p>	<p>By the end of Year 7, students represent natural numbers in expanded form and as products of prime factors, using exponent notation. They solve problems involving squares of numbers and square roots of perfect square numbers. Students solve problems involving addition and subtraction of integers. They use all 4 operations in calculations involving positive fractions and decimals, choosing efficient calculation strategies. Students choose between equivalent representations of rational numbers and percentages to assist in calculations. They use mathematical modelling to solve practical problems involving rational numbers, percentages and ratios, in financial and other applied contexts, justifying choices of representation. Students use algebraic expressions to represent situations, describe the relationships between variables from authentic data and substitute values into formulas to determine unknown values. They solve linear equations with natural number solutions. Students create tables of values related to algebraic expressions and formulas, and describe the effect of variation.</p> <p>They apply knowledge of angle relationships and the sum of angles in a triangle to solve problems, giving reasons. Students use formulas for the areas of triangles and parallelograms and the volumes of rectangular and triangular prisms to solve problems. They describe the relationships between the radius, diameter and circumference of a circle. Students classify polygons according to their features and create an algorithm designed to sort and classify shapes. They represent objects two-dimensionally in different ways, describing the usefulness of these representations. Students use coordinates to describe transformations of points in the plane.</p> <p>They plan and conduct statistical investigations involving discrete and continuous numerical data, using appropriate displays. Students interpret data in terms of the shape of distribution and summary statistics, identifying possible outliers. They decide which measure of central tendency is most suitable and explain their reasoning. Students list sample spaces for single step experiments, assign probabilities to outcomes and predict relative frequencies for related events. They conduct repeated single-step chance experiments and run simulations using digital tools, giving reasons for differences between predicted and observed results.</p>	<p>By the end of Year 7, students represent natural numbers in expanded form and as products of prime factors, using exponent notation. They solve problems involving squares of numbers and square roots of perfect square numbers. Students solve problems involving addition and subtraction of integers. They use all 4 operations in calculations involving positive fractions and decimals, choosing efficient calculation strategies. Students choose between equivalent representations of rational numbers and percentages to assist in calculations. They use mathematical modelling to solve practical problems involving rational numbers, percentages and ratios, in financial and other applied contexts, justifying choices of representation. Students use algebraic expressions to represent situations, describe the relationships between variables from authentic data and substitute values into formulas to determine unknown values. They solve linear equations with natural number solutions. Students create tables of values related to algebraic expressions and formulas, and describe the effect of variation.</p> <p>They apply knowledge of angle relationships and the sum of angles in a triangle to solve problems, giving reasons. Students use formulas for the areas of triangles and parallelograms and the volumes of rectangular and triangular prisms to solve problems. They describe the relationships between the radius, diameter and circumference of a circle. Students classify polygons according to their features and create an algorithm designed to sort and classify shapes. They represent objects two-dimensionally in different ways, describing the usefulness of these representations. Students use coordinates to describe transformations of points in the plane.</p> <p>They plan and conduct statistical investigations involving discrete and continuous numerical data, using appropriate displays. Students interpret data in terms of the shape of distribution and summary statistics, identifying possible outliers. They decide which measure of central tendency is most suitable and explain their reasoning. Students list sample spaces for single step experiments, assign probabilities to outcomes and predict relative frequencies for related events. They conduct repeated single-step chance experiments and run simulations using digital tools, giving reasons for differences between predicted and observed results.</p>
Moderation	<p>Calibration:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area. Will occur one day after the exam is sat and then one week later.</p>	<p>Expert:</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. Will occur one day after the exam is sat and then one week later.</p>	<p>Consensus:</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
describe the relationship between perfect square numbers and square roots, and use squares of numbers and square roots of perfect square numbers to solve problems AC9M7N01	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	recognise and use variables to represent everyday formulas algebraically and substitute values into formulas to determine an unknown AC9M7A01	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	solve problems involving the area of triangles and parallelograms using established formulas and appropriate units AC9M7M01	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
represent natural numbers as products of powers of prime numbers using exponent notation AC9M7N02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	formulate algebraic expressions using constants, variables, operations and brackets AC9M7A02	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	solve problems involving the volume of right prisms including rectangular and triangular prisms, using established formulas and appropriate units AC9M7M02	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
represent natural numbers in expanded notation using place value and powers of 10 AC9M7N03	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	solve one-variable linear equations with natural number solutions; verify the solution by substitution AC9M7A03	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	describe the relationship between π and the features of circles including the circumference, radius and diameter AC9M7M03	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
find equivalent representations of rational numbers and represent rational numbers on a number line AC9M7N04	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	describe relationships between variables represented in graphs of functions from authentic data AC9M7A04	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	identify corresponding, alternate and co interior relationships between angles formed when parallel lines are crossed by a transversal; use them to solve problems and explain reasons AC9M7M04	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
round decimals to a given accuracy appropriate to the context and use appropriate rounding and estimation to check the reasonableness of solutions AC9M7N05	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	generate tables of values from visually growing patterns or the rule of a function; describe and plot these relationships on the Cartesian plane AC9M7A05	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	demonstrate that the interior angle sum of a triangle in the plane is 180° and apply this to determine the interior angle sum of other shapes and the size of unknown angles AC9M7M05	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
use the 4 operations with positive rational numbers including fractions, decimals and percentages to solve problems using efficient calculation strategies AC9M7N06	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	manipulate formulas involving several variables using digital tools, and describe the effect of systematic variation in the values of the variables AC9M7A06	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	use mathematical modelling to solve practical problems involving ratios; formulate problems, interpret and communicate solutions in terms of the situation, justifying choices made about the representation AC9M7M06	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
compare, order and solve problems involving addition and subtraction of integers AC9M7N07	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>										
recognise, represent and solve problems involving ratios AC9M7N08	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
use mathematical modelling to solve practical problems, involving rational numbers and percentages, including financial contexts; formulate problems, choosing representations and efficient calculation strategies, using digital tools as appropriate; interpret and communicate solutions in terms of the situation, justifying choices made about the representation AC9M7N09	<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
represent objects in 2 dimensions; discuss and reason about the advantages and disadvantages of different representations AC9M7SP01	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	acquire data sets for discrete and continuous numerical variables and calculate the range, median, mean and mode; make and justify decisions about which measures of central tendency provide useful insights into the nature of the distribution of data AC9M7ST01	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	identify the sample space for single-stage events; assign probabilities to the outcomes of these events and predict relative frequencies for related events AC9M7P01	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
classify triangles, quadrilaterals and other polygons according to their side and angle properties; identify and reason about relationships AC9M7SP02	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	create different types of numerical data displays including stem and leaf plots using software where appropriate; describe and compare the distribution of data, commenting on the shape, centre and spread including outliers and determining the range, median, mean and mode AC9M7ST02	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	conduct repeated chance experiments and run simulations with a large number of trials using digital tools; compare predictions about outcomes with observed results, explaining the differences AC9M7P02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
describe transformations of a set of points using coordinates in the Cartesian plane, translations and reflections on an axis, and rotations about a given point AC9M7SP03	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	plan and conduct statistical investigations involving data for discrete and continuous numerical variables; analyse and interpret distributions of data and report findings in terms of shape and summary statistics AC9M7ST03	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
design and create algorithms involving a sequence of steps and decisions that will sort and classify sets of shapes according to their attributes, and describe how the algorithms work AC9M7SP04	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										

Year 8

Unit 1 — Making connections		Unit 2 — Reasonable representations		Unit 3 — Can you solve that accurately?		Unit 4 — Is that a good model?	
Assessment 1 — Examination	Term/ week	Assessment 2 — Project: Involving computational thinking	Term/ week	Assessment 4 — Examination	Term/ week	Assessment 5 — Project: Mathematical modelling	Term/ week
Description: Students answer short response questions focusing on: <ul style="list-style-type: none"> representing the possible combinations of two events with tables and diagrams, and determine related probabilities to solve practical problems using the results from previously conducted experiments and simulations using digital tools to determine related probabilities of compound events applying the exponent laws to calculations with numbers involving positive integer exponents solving problems involving the 4 operations with integers and positive rational numbers solving problems of duration involving 12- and 24-hour cycles across multiple time zones. Technique: Examination Mode: Written Conditions: <ul style="list-style-type: none"> up to 70 minutes, plus 5 minutes perusal supervised conditions calculator permitted. 	Term 1 Week 9	Description: Through a multimedia presentation, students demonstrate their creation and testing of an algorithm to test for congruence and similarity. The presentation demonstrates students' proficiency when: <ul style="list-style-type: none"> identifying the conditions for congruence and similarity applying the properties of quadrilaterals to solve problems creating and testing algorithms designed to test for congruency and similarity. Technique: Project Mode: Multimodal Conditions: <ul style="list-style-type: none"> issued in Week 2 and completed by end of Week 5 (including two hours of class time) spoken/signed response 3–4 minutes. 	Term 2 Week 5	Description: Students answer short response questions focusing on: <ul style="list-style-type: none"> recognising irrational numbers recognising terminating and recurring decimals applying algebraic properties to rearrange, expand and factorise linear expressions using appropriate metric units when solving measurement problems involving the perimeter and area of composite shapes using appropriate metric units when solving measurement problems involving the volume of right prisms using three dimensions to locate and describe position using formulas to solve problems involving the area and circumference of a circle using Pythagoras' theorem to solve problems involving unknown lengths of right-angle triangles. Technique: Examination Mode: Written Conditions: <ul style="list-style-type: none"> up to 70 minutes, plus 5 minutes perusal supervised conditions calculator permitted. 	Term 3 Week 9	Description: Through a written report students consider the suitability of linear models to model the cost to travel to a venue for different distances and solve practical problems about the mode of transport that gives the lowest cost per kilometre. The report demonstrates students' proficiency when: <ul style="list-style-type: none"> using mathematical modelling to solve practical problems involving ratios, percentages and rates in measurement and financial contexts graphing linear relations and solving linear equations with rational solutions and one-variable inequalities, graphically and algebraically using mathematical modelling to solve problems using linear relations interpreting and reviewing the model in context making and testing conjectures involving linear relations using digital tools. Technique: Project Mode: Written Conditions: <ul style="list-style-type: none"> issued in Week 5 and completed by end of Week 9 (including three hours of class time) written responses up to 600 words (with raw data given in an appendix). 	Term 4 Week 9
		Assessment 3 — Project: Statistical investigations Description: Through a written report students demonstrate their proficiency when: <ul style="list-style-type: none"> conducting statistical investigations explaining the implications of obtaining data through sampling analysing and describing the distribution of data comparing the variation in distributions of random samples of the same and different size from a given population with respect to shape, measures of central tendency and range. Technique: Project Mode: Written Conditions: <ul style="list-style-type: none"> issued in Week 5 and completed by end of Week 9 (including two hours of class time) written responses up to 600 words (with raw data given in an appendix). 	Term 2 Week 9				

	Unit 1 — Making connections	Unit 2 — Reasonable representations	Unit 3 — Can you solve that accurately?	Unit 4 — Is that a good model?
Achievement standard	<p>By the end of Year 8, students recognise irrational numbers and terminating or recurring decimals. They apply the exponent laws to calculations with numbers involving positive integer exponents. Students solve problems involving the 4 operations with integers and positive rational numbers. They use mathematical modelling to solve practical problems involving ratios, percentages and rates in measurement and financial contexts. Students apply algebraic properties to rearrange, expand and factorise linear expressions. They graph linear relations and solve linear equations with rational solutions and one-variable inequalities, graphically and algebraically. Students use mathematical modelling to solve problems using linear relations, interpreting and reviewing the model in context. They make and test conjectures involving linear relations using digital tools.</p> <p>Students use appropriate metric units when solving measurement problems involving the perimeter and area of composite shapes, and volume of right prisms. They use Pythagoras' theorem to solve measurement problems involving unknown lengths of right-angle triangles. Students use formulas to solve problems involving the area and circumference of circles. They solve problems of duration involving 12- and 24-hour cycles across multiple time zones. Students use 3 dimensions to locate and describe position. They identify conditions for congruency and similarity in shapes and create and test algorithms designed to test for congruency and similarity. Students apply the properties of quadrilaterals to solve problems.</p> <p>They conduct statistical investigations and explain the implications of obtaining data through sampling. Students analyse and describe the distribution of data. They compare the variation in distributions of random samples of the same and different size from a given population with respect to shape, measures of central tendency and range. Students represent the possible combinations of 2 events with tables and diagrams, and determine related probabilities to solve practical problems. They conduct experiments and simulations using digital tools to determine related probabilities of compound events.</p>	<p>By the end of Year 8, students recognise irrational numbers and terminating or recurring decimals. They apply the exponent laws to calculations with numbers involving positive integer exponents. Students solve problems involving the 4 operations with integers and positive rational numbers. They use mathematical modelling to solve practical problems involving ratios, percentages and rates in measurement and financial contexts. Students apply algebraic properties to rearrange, expand and factorise linear expressions. They graph linear relations and solve linear equations with rational solutions and one-variable inequalities, graphically and algebraically. Students use mathematical modelling to solve problems using linear relations, interpreting and reviewing the model in context. They make and test conjectures involving linear relations using digital tools.</p> <p>Students use appropriate metric units when solving measurement problems involving the perimeter and area of composite shapes, and volume of right prisms. They use Pythagoras' theorem to solve measurement problems involving unknown lengths of right-angle triangles. Students use formulas to solve problems involving the area and circumference of circles. They solve problems of duration involving 12- and 24-hour cycles across multiple time zones. Students use 3 dimensions to locate and describe position. They identify conditions for congruency and similarity in shapes and create and test algorithms designed to test for congruency and similarity. Students apply the properties of quadrilaterals to solve problems.</p> <p>They conduct statistical investigations and explain the implications of obtaining data through sampling. Students analyse and describe the distribution of data. They compare the variation in distributions of random samples of the same and different size from a given population with respect to shape, measures of central tendency and range. Students represent the possible combinations of 2 events with tables and diagrams, and determine related probabilities to solve practical problems. They conduct experiments and simulations using digital tools to determine related probabilities of compound events.</p>	<p>By the end of Year 8, students recognise irrational numbers and terminating or recurring decimals. They apply the exponent laws to calculations with numbers involving positive integer exponents. Students solve problems involving the 4 operations with integers and positive rational numbers. They use mathematical modelling to solve practical problems involving ratios, percentages and rates in measurement and financial contexts. Students apply algebraic properties to rearrange, expand and factorise linear expressions. They graph linear relations and solve linear equations with rational solutions and one-variable inequalities, graphically and algebraically. Students use mathematical modelling to solve problems using linear relations, interpreting and reviewing the model in context. They make and test conjectures involving linear relations using digital tools.</p> <p>Students use appropriate metric units when solving measurement problems involving the perimeter and area of composite shapes, and volume of right prisms. They use Pythagoras' theorem to solve measurement problems involving unknown lengths of right-angle triangles. Students use formulas to solve problems involving the area and circumference of circles. They solve problems of duration involving 12- and 24-hour cycles across multiple time zones. Students use 3 dimensions to locate and describe position. They identify conditions for congruency and similarity in shapes and create and test algorithms designed to test for congruency and similarity. Students apply the properties of quadrilaterals to solve problems.</p> <p>They conduct statistical investigations and explain the implications of obtaining data through sampling. Students analyse and describe the distribution of data. They compare the variation in distributions of random samples of the same and different size from a given population with respect to shape, measures of central tendency and range. Students represent the possible combinations of 2 events with tables and diagrams, and determine related probabilities to solve practical problems. They conduct experiments and simulations using digital tools to determine related probabilities of compound events.</p>	<p>By the end of Year 8, students recognise irrational numbers and terminating or recurring decimals. They apply the exponent laws to calculations with numbers involving positive integer exponents. Students solve problems involving the 4 operations with integers and positive rational numbers. They use mathematical modelling to solve practical problems involving ratios, percentages and rates in measurement and financial contexts. Students apply algebraic properties to rearrange, expand and factorise linear expressions. They graph linear relations and solve linear equations with rational solutions and one-variable inequalities, graphically and algebraically. Students use mathematical modelling to solve problems using linear relations, interpreting and reviewing the model in context. They make and test conjectures involving linear relations using digital tools.</p> <p>Students use appropriate metric units when solving measurement problems involving the perimeter and area of composite shapes, and volume of right prisms. They use Pythagoras' theorem to solve measurement problems involving unknown lengths of right-angle triangles. Students use formulas to solve problems involving the area and circumference of circles. They solve problems of duration involving 12- and 24-hour cycles across multiple time zones. Students use 3 dimensions to locate and describe position. They identify conditions for congruency and similarity in shapes and create and test algorithms designed to test for congruency and similarity. Students apply the properties of quadrilaterals to solve problems.</p> <p>They conduct statistical investigations and explain the implications of obtaining data through sampling. Students analyse and describe the distribution of data. They compare the variation in distributions of random samples of the same and different size from a given population with respect to shape, measures of central tendency and range. Students represent the possible combinations of 2 events with tables and diagrams, and determine related probabilities to solve practical problems. They conduct experiments and simulations using digital tools to determine related probabilities of compound events.</p>
Moderation	<p>Calibration:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area. Will occur one day after the exam is sat and then one week later.</p>	<p>Expert:</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. Will occur one day after the exam is sat and then one week later.</p>	<p>Consensus:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.</p>

Content descriptions					Content descriptions					Content descriptions				
Units					Units					Units				
Number	1	2	3	4	Algebra	1	2	3	4	Measurement	1	2	3	4
recognise irrational numbers in applied contexts, including square roots and π AC9M8N01	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	create, expand, factorise, rearrange and simplify linear expressions, applying the associative, commutative, identity, distributive and inverse properties AC9M8A01	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	solve problems involving the area and perimeter of irregular and composite shapes using appropriate units AC9M8M01	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
establish and apply the exponent laws with positive integer exponents and the zero-exponent, using exponent notation with numbers AC9M8N02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	graph linear relations on the Cartesian plane using digital tools where appropriate; solve linear equations and one-variable inequalities using graphical and algebraic techniques; verify solutions by substitution AC9M8A02	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	solve problems involving the volume and capacity of right prisms using appropriate units AC9M8M02	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
recognise terminating and recurring decimals, using digital tools as appropriate AC9M8N03	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	use mathematical modelling to solve applied problems involving linear relations, including financial contexts; formulate problems with linear functions, choosing a representation; interpret and communicate solutions in terms of the situation, reviewing the appropriateness of the model AC9M8A03	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	solve problems involving the circumference and area of a circle using formulas and appropriate units AC9M8M03	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
use the 4 operations with integers and with rational numbers, choosing and using efficient strategies and digital tools where appropriate AC9M8N04	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	experiment with linear functions and relations using digital tools, making and testing conjectures and generalising emerging patterns AC9M8A04	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	solve problems involving duration, including using 12- and 24-hour time across multiple time zones AC9M8M04	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
use mathematical modelling to solve practical problems involving rational numbers and percentages, including financial contexts; formulate problems, choosing efficient calculation strategies and using digital tools where appropriate; interpret and communicate solutions in terms of the situation, reviewing the appropriateness of the model AC9M8N05	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						recognise and use rates to solve problems involving the comparison of 2 related quantities of different units of measure AC9M8M05	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
										use Pythagoras' theorem to solve problems involving the side lengths of right-angled triangles AC9M8M06	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
										use mathematical modelling to solve practical problems involving ratios and rates, including financial contexts; formulate problems; interpret and communicate solutions in terms of the situation, reviewing the appropriateness of the model AC9M8M07	<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
identify the conditions for congruence and similarity of triangles and explain the conditions for other sets of common shapes to be congruent or similar, including those formed by transformations AC9M8SP01	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	investigate techniques for data collection including census, sampling, experiment and observation, and explain the practicalities and implications of obtaining data through these techniques AC9M8ST01	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	recognise that complementary events have a combined probability of one; use this relationship to calculate probabilities in applied contexts AC9M8P01	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
establish properties of quadrilaterals using congruent triangles and angle properties, and solve related problems explaining reasoning AC9M8SP02	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	analyse and report on the distribution of data from primary and secondary sources using random and non-random sampling techniques to select and study samples AC9M8ST02	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	determine all possible combinations for 2 events, using two-way tables, tree diagrams and Venn diagrams, and use these to determine probabilities of specific outcomes in practical situations AC9M8P02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
describe the position and location of objects in 3 dimensions in different ways, including using a three dimensional coordinate system with the use of dynamic geometric software and other digital tools AC9M8SP03	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	compare variations in distributions and proportions obtained from random samples of the same size drawn from a population and recognise the effect of sample size on this variation AC9M8ST03	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	conduct repeated chance experiments and simulations, using digital tools to determine probabilities for compound events, and describe results AC9M8P03	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
design, create and test algorithms involving a sequence of steps and decisions that identify congruency or similarity of shapes, and describe how the algorithm works AC9M8SP04	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	plan and conduct statistical investigations involving samples of a population; use ethical and fair methods to make inferences about the population and report findings, acknowledging uncertainty AC9M8ST04	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

General capabilities	Units				Cross-curriculum priorities	Units			
	1	2	3	4		1	2	3	4
Critical and creative thinking	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Aboriginal and Torres Strait Islander histories and cultures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Digital literacy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Asia and Australia's engagement with Asia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ethical understanding	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sustainability	<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"/>					

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