|  |
| --- |
| Year 6 MathematicsCurriculum and assessment plan[Insert school name, implementation year] |

Use this template to plan an overview or summary of the teaching, learning and assessment for a year level in the Australian Curriculum: Mathematics. For planning advice, refer to the *Planning for teaching, learning and assessment* document available on the Planning tab for each learning area at [www.qcaa.qld.edu.au/p-10/aciq/version-9/learning-areas](http://www.qcaa.qld.edu.au/p-10/aciq/version-9/learning-areas).

**How to use this template:** Type information into the fields (yellow shading). When the plan is complete, delete the highlighted instructions (blue shading). To do so, select the instruction text, click the **Home tab > Styles dropdown > Clear All/Clear Formatting >** text will revert to Normal style and you can delete the text.

| Level description | Context and cohort considerations (if applicable)  |
| --- | --- |
| 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 of 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.Students further develop proficiency and positive dispositions towards mathematics and its use as they:* 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 2 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.
 | Describe the context and cohort. Consider the following to make informed professional decisions during the planning process:* + relevant student data and information, e.g. achievement data
	+ available resources, e.g. timetabling
	+ school and sector priorities.

[Insert context and cohort considerations] |

**Note:** Insert/delete rows/columns, as required, to provide an overview of the teaching, learning and assessment sequence across the year level.

| Unit 1 — [Insert unit title] | Unit 2 — [Insert unit title] | Unit 3 — [Insert unit title] | Unit 4 — [Insert unit title] |
| --- | --- | --- | --- |
| Duration: [Insert semester, term and/or weeks] | Duration: [Insert semester, term and/or weeks] | Duration: [Insert semester, term and/or weeks] | Duration: [Insert semester, term and/or weeks] |
| [Insert unit description and learning focus] | [Insert unit description and learning focus] | [Insert unit description and learning focus] | [Insert unit description and learning focus] |

**Note:**

Adjust the table to reflect the number of units you will offer.

Highlight the aspects of the achievement standard that will be assessed within each unit.

|  | Unit 1 | Unit 2  | Unit 3 | Unit 4 |
| --- | --- | --- | --- | --- |
|  | Assessment — [Insert assessment title] | Timing | Assessment — [Insert assessment title] | Timing | Assessment — [Insert assessment title] | Timing | Assessment — [Insert assessment title] | Timing  |
| Assessment | [Insert concise description of assessment][Insert technique][Insert mode, if applicable][Insert conditions]  | [Insert week/s or date/s] | [Insert concise description of assessment][Insert technique][Insert mode, if applicable][Insert conditions]  | [Insert week/s or date/s] | [Insert concise description of assessment][Insert technique][Insert mode, if applicable][Insert conditions]  | [Insert week/s or date/s] | [Insert concise description of assessment][Insert technique][Insert mode, if applicable][Insert conditions]  | [Insert week/s or date/s] |
| Achievement standard | 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.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.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. | 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.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.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. | 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.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.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. | 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.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.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. |
| Moderation | [Insert moderation details, including when moderation will occur and how it will be conducted] | [Insert moderation details, including when moderation will occur and how it will be conducted] | [Insert moderation details, including when moderation will occur and how it will be conducted] | [Insert moderation details, including when moderation will occur and how it will be conducted] |

**Note:** Adjust the table to reflect the number of units you will offer. Check or uncheck the columns as appropriate for each unit.

| 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 | [ ]  | [ ]  | [ ]  | [ ]  | recognise and use rules that generate visually growing patterns and number patterns involving rational numbers**AC9M6A01**  | [ ]  | [ ]  | [ ]  | [ ]  | 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** | [ ]  | [ ]  | [ ]  | [ ]  |
| identify and describe the properties of prime, composite and square numbers and use these properties to solve problems and simplify calculations AC9M6N02 | [ ]  | [ ]  | [ ]  | [ ]  | find unknown values in numerical equations involving brackets and combinations of arithmetic operations, using the properties of numbers and operations AC9M6A02 | [ ]  | [ ]  | [ ]  | [ ]  | establish the formula for the area of a rectangle and use it to solve practical problems AC9M6M02 | [ ]  | [ ]  | [ ]  | [ ]  |
| 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 | [ ]  | [ ]  | [ ]  | [ ]  | 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 | [ ]  | [ ]  | [ ]  | [ ]  | interpret and use timetables and itineraries to plan activities and determine the duration of events and journeys AC9M6M03 | [ ]  | [ ]  | [ ]  | [ ]  |
| 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 | [ ]  | [ ]  | [ ]  | [ ]  |  |  |  |  |  | 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 | [ ]  | [ ]  | [ ]  | [ ]  |
| solve problems involving addition and subtraction of fractions using knowledge of equivalent fractions AC9M6N05 | [ ]  | [ ]  | [ ]  | [ ]  |  |  |  |  |  |  |  |  |  |  |
| 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 answersAC9M6N06 | [ ]  | [ ]  | [ ]  | [ ]  |  |  |  |  |  |  |  |  |  |  |
| 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 appropriateAC9M6N07 | [ ]  | [ ]  | [ ]  | [ ]  |  |  |  |  |  |  |  |  |  |  |
| approximate numerical solutions to problems involving rational numbers and percentages, including financial contexts, using appropriate estimation strategies AC9M6N08 | [ ]  | [ ]  | [ ]  | [ ]  |  |  |  |  |  |  |  |  |  |  |
| 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 madeAC9M6N09 | [ ]  | [ ]  | [ ]  | [ ]  |  |  |  |  |  |  |  |  |  |  |

**Note:** Adjust the table to reflect the number of units you will offer. Check or uncheck the columns as appropriate for each unit.

| 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 | [ ]  | [ ]  | [ ]  | [ ]  | 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** | [ ]  | [ ]  | [ ]  | [ ]  | 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 decimalsAC9M6P01 | [ ]  | [ ]  | [ ]  | [ ]  |
| 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 | [ ]  | [ ]  | [ ]  | [ ]  | identify statistically informed arguments presented in traditional and digital media; discuss and critique methods, data representations and conclusions AC9M6ST02 | [ ]  | [ ]  | [ ]  | [ ]  | 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 trialsAC9M6P02 | [ ]  | [ ]  | [ ]  | [ ]  |
| recognise and use combinations of transformations to create tessellations and other geometric patterns, using dynamic geometric software where appropriate AC9M6SP03 | [ ]  | [ ]  | [ ]  | [ ]  | 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 investigationAC9M6ST03 | [ ]  | [ ]  | [ ]  | [ ]  |  |  |  |  |  |

**Note:** Adjust the table to reflect the number of units you will offer. Check or uncheck the columns as appropriate for each unit.

| General capabilities | Units |  | Cross-curriculum priorities | Units |
| --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 |  |  | 1 | 2 | 3 | 4 |
| Critical and creative thinking  | [ ]  | [ ]  | [ ]  | [ ]  |  | Aboriginal and Torres Strait Islander histories and cultures | [ ]  | [ ]  | [ ]  | [ ]  |
| Digital literacy  | [ ]  | [ ]  | [ ]  | [ ]  |  | Asia and Australia’s engagement with Asia | [ ]  | [ ]  | [ ]  | [ ]  |
| Ethical understanding | [ ]  | [ ]  | [ ]  | [ ]  |  | Sustainability | [ ]  | [ ]  | [ ]  | [ ]  |
| Intercultural understanding | [ ]  | [ ]  | [ ]  | [ ]  |
| Literacy  | [ ]  | [ ]  | [ ]  | [ ]  |
| Numeracy | [ ]  | [ ]  | [ ]  | [ ]  |
| Personal and social capability | [ ]  | [ ]  | [ ]  | [ ]  |

 © State of Queensland (QCAA) 2023

**Licence:** <https://creativecommons.org/licenses/by/4.0> **| Copyright notice:** [www.qcaa.qld.edu.au/copyright](https://www.qcaa.qld.edu.au/copyright) — lists the full terms and conditions, which specify certain exceptions to the licence. **| Attribution** (include the link): © State of Queensland ([QCAA](https://www.qcaa.qld.edu.au/copyright)) 2023 [www.qcaa.qld.edu.au/copyright](https://www.qcaa.qld.edu.au/copyright).

Unless otherwise indicated material from the Australian Curriculum is © ACARA 2010–present, licensed under CC BY 4.0. For the latest information and additional terms of use, please check the [Australian Curriculum website](https://www.australiancurriculum.edu.au/) and its [copyright notice](https://www.acara.edu.au/contact-us/copyright).