

## Australian Curriculum Version 9.0: Achievement standard aligned to content descriptions

This resource shows alignment between aspects of the achievement standard and relevant content descriptions for Year 4. A similar resource is available for other year levels.

The Australian Curriculum (AC) v9.0 code for each content description includes an element indicating the strand it is organised by, e.g. AC9M4N01 indicates Number strand.

Key to content description codes: Mathematics	
e.g. AC9M4N01 Australian Curriculum (AC) Version 9 (9) Mathematics (M) Year (4) Strand (N, A, M, SP, ST, P) Content description number (##)	Strands: <ul style="list-style-type: none"> <li>N — Number</li> <li>A — Algebra</li> <li>M — Measurement</li> <li>SP — Space</li> <li>ST — Statistics</li> <li>P — Probability</li> </ul>

### Year 4 Australian Curriculum: Mathematics achievement standard

By the end of Year 4, students use their understanding of place value to represent tenths and hundredths in decimal form and to multiply natural numbers by multiples of 10. They use mathematical modelling to solve financial and other practical problems, formulating the problem using number sentences, solving the problem choosing efficient strategies and interpreting results in terms of the situation. Students use their proficiency with addition and multiplication facts to add and subtract, multiply and divide numbers efficiently. They choose rounding and estimation strategies to determine whether results of calculations are reasonable. Students use the properties of odd and even numbers. They recognise equivalent fractions and make connections between fraction and decimal notations. Students count and represent fractions on a number line. They find unknown values in numerical equations involving addition and subtraction. Students follow and create algorithms that generate sets of numbers and identify emerging patterns.

They use scaled instruments and appropriate units to measure length, mass, capacity and temperature. Students measure and approximate perimeters and areas. They convert between units of time when solving problems involving duration. Students compare angles relative to a right angle using angle names. They represent and approximate shapes and objects in the environment. Students create and interpret grid references. They identify line and rotational symmetry in plane shapes and create symmetrical patterns.

Students create many-to-one data displays, assess the suitability of displays for representing data and discuss the shape of distributions and variation in data. They use surveys and digital tools to generate categorical or discrete numerical data in statistical investigations and communicate their findings in context. Students order events or the outcomes of chance experiments in terms of likelihood and identify whether events are independent or dependent. They conduct repeated chance experiments and describe the variation in results.

Achievement standard aspect	Relevant content description/s	AC v9.0 code
<b>By the end of Year 4</b>	<b>Students learn to:</b>	
Students use their understanding of place value to represent tenths and hundredths in decimal form and to multiply natural numbers by multiples of 10.	• recognise and extend the application of place value to tenths and hundredths and use the conventions of decimal notation to name and represent decimals	AC9M4N01
	• solve problems involving multiplying or dividing natural numbers by multiples and powers of 10 without a calculator, using the multiplicative relationship between the place value of digits	AC9M4N05
They use mathematical modelling to solve financial and other practical problems, formulating the problem using number sentences, solving the problem choosing efficient strategies and interpreting results in terms of the situation.	• develop efficient strategies and use appropriate digital tools for solving problems involving addition and subtraction, and multiplication and division where there is no remainder	AC9M4N06
	• use mathematical modelling to solve practical problems involving additive and multiplicative situations including financial contexts; formulate the problems using number sentences and choose efficient calculation strategies, using digital tools where appropriate; interpret and communicate solutions in terms of the situation	AC9M4N08
They use their proficiency with addition and multiplication facts to add and subtract, multiply and divide numbers efficiently.	• develop efficient strategies and use appropriate digital tools for solving problems involving addition and subtraction, and multiplication and division where there is no remainder	AC9M4N06
	• use mathematical modelling to solve practical problems involving additive and multiplicative situations including financial contexts; formulate the problems using number sentences and choose efficient calculation strategies, using digital tools where appropriate; interpret and communicate solutions in terms of the situation	AC9M4N08
	• recall and demonstrate proficiency with multiplication facts up to 10 x 10 and related division facts; extend and apply facts to develop efficient mental strategies for computation with larger numbers without a calculator	AC9M4A02
They choose rounding and estimation strategies to determine whether results of calculations are reasonable.	• choose and use estimation and rounding to check and explain the reasonableness of calculations including the results of financial transactions	AC9M4N07
They use the properties of odd and even numbers.	• explain and use the properties of odd and even numbers	AC9M4N02
They recognise equivalent fractions and make connections between fraction and decimal notations.	• recognise and extend the application of place value to tenths and hundredths and use the conventions of decimal notation to name and represent decimals	AC9M4N01
	• find equivalent representations of fractions using related denominators and make connections between fractions and decimal notation	AC9M4N03
They count and represent fractions on a number line.	• count by fractions including mixed numerals; locate and represent these fractions as numbers on number lines	AC9M4N04
They find unknown values in numerical equations involving addition and subtraction.	• find unknown values in numerical equations involving addition and subtraction, using the properties of numbers and operations	AC9M4A01

Achievement standard aspect	Relevant content description/s	AC v9.0 code
They follow and create algorithms that generate sets of numbers and identify emerging patterns.	<ul style="list-style-type: none"> <li>follow and create algorithms involving a sequence of steps and decisions that use addition or multiplication to generate sets of numbers; identify and describe any emerging patterns</li> </ul>	<a href="#">AC9M4N09</a>
They use scaled instruments and appropriate units to measure length, mass, capacity and temperature.	<ul style="list-style-type: none"> <li>interpret unmarked and partial units when measuring and comparing attributes of length, mass, capacity, duration and temperature, using scaled and digital instruments and appropriate units</li> </ul>	<a href="#">AC9M4M01</a>
They measure and approximate perimeters and areas.	<ul style="list-style-type: none"> <li>recognise ways of measuring and approximating the perimeter and area of shapes and enclosed spaces, using appropriate formal and informal units</li> </ul>	<a href="#">AC9M4M02</a>
They convert between units of time when solving problems involving duration.	<ul style="list-style-type: none"> <li>solve problems involving the duration of time including situations involving “am” and “pm” and conversions between units of time</li> </ul>	<a href="#">AC9M4M03</a>
They compare angles relative to a right angle using angle names.	<ul style="list-style-type: none"> <li>estimate and compare angles using angle names including acute, obtuse, straight angle, reflex and revolution, and recognise their relationship to a right angle</li> </ul>	<a href="#">AC9M4M04</a>
They represent and approximate shapes and objects in the environment.	<ul style="list-style-type: none"> <li>represent and approximate composite shapes and objects in the environment, using combinations of familiar shapes and objects</li> </ul>	<a href="#">AC9M4SP01</a>
They create and interpret grid references.	<ul style="list-style-type: none"> <li>create and interpret grid reference systems using grid references and directions to locate and describe positions and pathways</li> </ul>	<a href="#">AC9M4SP02</a>
They identify line and rotational symmetry in plane shapes and create symmetrical patterns.	<ul style="list-style-type: none"> <li>recognise line and rotational symmetry of shapes and create symmetrical patterns and pictures, using dynamic geometric software where appropriate</li> </ul>	<a href="#">AC9M4SP03</a>
They create many-to-one data displays, assess the suitability of displays for representing data and discuss the shape of distributions and variation in data.	<ul style="list-style-type: none"> <li>acquire data for categorical and discrete numerical variables to address a question of interest or purpose, using digital tools; represent data using many-to-one pictographs, column graphs and other displays or visualisations; interpret and discuss the information that has been created</li> </ul>	<a href="#">AC9M4ST01</a>
	<ul style="list-style-type: none"> <li>analyse the effectiveness of different displays or visualisations in illustrating and comparing data distributions, then discuss the shape of distributions and the variation in the data</li> </ul>	<a href="#">AC9M4ST02</a>
They use surveys and digital tools to generate categorical or discrete numerical data in statistical investigations and communicate their findings in context.	<ul style="list-style-type: none"> <li>acquire data for categorical and discrete numerical variables to address a question of interest or purpose, using digital tools; represent data using many-to-one pictographs, column graphs and other displays or visualisations; interpret and discuss the information that has been created</li> </ul>	<a href="#">AC9M4ST01</a>
	<ul style="list-style-type: none"> <li>conduct statistical investigations, collecting data through survey responses and other methods; record and display data using digital tools; interpret the data and communicate the results</li> </ul>	<a href="#">AC9M4ST03</a>
They order events or the outcomes of chance experiments in terms of likelihood and identify whether events are independent or dependent.	<ul style="list-style-type: none"> <li>describe possible everyday events and the possible outcomes of chance experiments and order outcomes or events based on their likelihood of occurring; identify independent or dependent events</li> </ul>	<a href="#">AC9M4P01</a>
They conduct repeated chance experiments and describe the variation in results.	<ul style="list-style-type: none"> <li>conduct repeated chance experiments to observe relationships between outcomes; identify and describe the variation in results.</li> </ul>	<a href="#">AC9M4P02</a>

## More information

If you would like more information, please visit the QCAA website [www.qcaa.qld.edu.au](http://www.qcaa.qld.edu.au). Alternatively, email the K–10 Curriculum and Assessment branch at [australiancurriculum@qcaa.qld.edu.au](mailto:australiancurriculum@qcaa.qld.edu.au).



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