

# Year 2 standard elaborations — Australian Curriculum v9.0: Mathematics

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## Purpose

The standards elaborations (SEs) have been designed to support teachers to connect curriculum to evidence in assessment so that students are assessed on what they have had the opportunity to learn. The SEs can be used to:

- make consistent and comparable judgments, on a five-point scale, about the evidence of learning in a folio of student work across a year/band
- develop task-specific standards (or marking guides) for individual assessment tasks
- quality assure planning documents to ensure coverage of the achievement standard across a year/band.

## Structure

The SEs have been developed using the Australian Curriculum achievement standard. The achievement standard for Mathematics describes what students are expected to know and be able to do at the end of each year. Teachers use the SEs during and at the end of a teaching period to make on-balance judgments about the qualities in student work that demonstrate the depth and breadth of their learning.

The Mathematics SEs have been organised using the Mathematical proficiencies. Performance across the five-point scale is frequently described in terms of complexity and familiarity of the standards descriptor being assessed. Across the standards elaborations in Prep to Year 2, this is described using: applying (AP) — unfamiliar, making connections (MC) — complex familiar, working with (WW) — simple familiar, exploring (EX) — some simple familiar, becoming aware (BA) — isolated and obvious.

In Queensland, the achievement standard represents the WW standard — a sound level of knowledge and understanding of the content, and application of skills. The SEs are presented in a matrix where the discernible differences and/or degrees of quality between each performance level are **highlighted**. Teachers match these discernible differences and/or degrees of quality to characteristics of student work to make judgments across a five-point scale. Terms are described in the Notes section following the matrix.



## Year 2 Australian Curriculum: Mathematics achievement standard

By the end of Year 2, students order and represent numbers to at least 1000, apply knowledge of place value to partition, rearrange and rename two- and three-digit numbers in terms of their parts, and regroup partitioned numbers to assist in calculations. They use mathematical modelling to solve practical additive and multiplicative problems, including money transactions, representing the situation and choosing calculation strategies. Students identify and represent part-whole relationships of halves, quarters and eighths in measurement contexts. They describe and continue patterns that increase and decrease additively by a constant amount and identify missing elements in the pattern. Students recall and demonstrate proficiency with addition and subtraction facts within 20 and multiplication facts for twos.

They use uniform informal units to measure and compare shapes and objects. Students determine the number of days between events using a calendar and read time on an analog clock to the hour, half hour and quarter hour. They compare and classify shapes, describing features using formal spatial terms. Students locate and identify positions of features in two-dimensional representations and move position by following directions and pathways.

They use a range of methods to collect, record, represent and interpret categorical data in response to questions.

Source: Australian Curriculum, Assessment and Reporting Authority (ACARA), *Australian Curriculum Version 9.0 Mathematics for Foundation–10*  
<https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/mathematics/year-2?view=quick&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0>

**Note:** The Mathematics SEs are organised by the Mathematical proficiencies. The proficiencies represent the actions students demonstrate when working mathematically. The proficiencies are embedded as verbs in the achievement standard and related content descriptions. For further information about the connections between the achievement standard aspects and the standard elaborations see Table 1 on page 5.

## Year 2 Mathematics standard elaborations

		Applying (AP)	Making connections (MC)	Working with (WW)	Exploring (EX)	Becoming aware (BA)
The folio of student work contains evidence of the following:						
Mathematical proficiencies	Understanding	accurately and <b>consistently</b> identifying, representing, describing and connecting mathematical concepts and relationships in <b>unfamiliar</b> , complex familiar and simple familiar situations	<b>accurately</b> identifying, representing, describing and connecting mathematical concepts and relationships in <b>complex familiar</b> and simple familiar situations	identifying, representing, describing and connecting mathematical concepts and relationships in simple familiar situations	<b>partially</b> identifying, representing and describing mathematical concepts and relationships in <b>some</b> simple familiar situations	<b>in a fragmented manner</b> , identifying, representing and describing mathematical concepts and relationships in <b>isolated and obvious</b> situations
	Fluency	choosing, using and applying <b>comprehensive</b> facts, definitions, and procedures to find solutions in <b>unfamiliar</b> , complex familiar and simple familiar situations	choosing, using and applying <b>effective</b> facts, definitions, and procedures to find solutions in <b>complex familiar</b> and simple familiar situations	choosing, using and applying facts, definitions, and procedures to find solutions in simple familiar situations	choosing and using <b>partial</b> facts, definitions, and procedures to find solutions in <b>some</b> simple familiar situations	choosing and using <b>fragmented</b> facts, definitions, and procedures to find solutions in <b>isolated and obvious</b> situations
	Reasoning	<b>comprehensively</b> explaining of mathematical thinking, strategies used, and conclusions reached in <b>unfamiliar</b> , complex familiar, and simple familiar situations	<b>with detail</b> explaining of mathematical thinking, strategies used, and conclusions reached in <b>complex familiar</b> and simple familiar situations	explaining of mathematical thinking, strategies used, and conclusions reached in simple familiar situations	<b>partially</b> explaining mathematical thinking, strategies used, and conclusions reached in <b>some</b> simple familiar situations	<b>in a fragmented manner</b> , explaining mathematical thinking, strategies used, and conclusions reached in <b>isolated and obvious</b> situations
	Problem-solving	<b>purposefully</b> using problem-solving approaches to find solutions to problems.	<b>effectively</b> using problem-solving approaches to find solutions to problems.	using problem-solving approaches to find solutions to problems.	<b>partially</b> using problem-solving approaches <b>to make progress towards</b> finding solutions to problems.	<b>in a fragmented manner</b> , using problem-solving approaches to make progress towards finding solutions to problems.

Key	Shading identifies the qualities or discernible differences in the AP–BA descriptors:
AP	Applies the curriculum content; demonstrates a thorough understanding of the required knowledge; demonstrates a high level of skill that can be transferred to new situations
MC	Makes connections using the curriculum content; demonstrates a clear understanding of the required knowledge; applies a high level of skill in situations familiar to them, and begins to transfer skills to new situations
WW	Works with the curriculum content; demonstrates understanding of the required knowledge; applies skills in situations familiar to them
EX	Explores the curriculum content; demonstrates understanding of aspects of the required knowledge; uses a varying level of skills in situations familiar to them
BA	Becomes aware of the curriculum content; demonstrates a basic understanding of aspects of required knowledge; begins to use skills in situations familiar to them

## Notes

The SEs for Mathematics are organised using the Mathematical proficiencies. The Mathematical proficiencies include Understanding, Fluency, Reasoning and Problem-solving. The Mathematical proficiencies represent the valued features or assessable elements.

For a specific assessment task, the standard elaboration description (in the previous table above) can be modified to include task-specific content. Task-specific content can be drawn from an aspect of the achievement standard and the related content description/s which are aligned to the Mathematical proficiencies being assessed. Table 1 provides examples of how content can be related to the standard elaborations valued features for task-specific marking guides at a WW standard.

Table 2 helps clarify key terms from the standard descriptors in the Mathematics SEs and should be used in conjunction with the ACARA Australian Curriculum Mathematics glossary:

<https://v9.australiancurriculum.edu.au/content/dam/en/curriculum/ac-version-9/downloads/mathematics/mathematics-glossary-v9.docx>

**Table 1: Examples of how content can be related to the SE valued features for task-specific marking guides at a working with (WW) standard**

Aspect of the achievement standard	Related content description/s	SE valued features (Mathematical proficiencies)	Examples of how content can be related to the SE valued features
Students order and represent numbers to at least 1000, apply knowledge of place value to partition, rearrange and rename two- and three-digit numbers in terms of their parts, and regroup partitioned numbers to assist in calculations.	<p><b>Number</b></p> <ul style="list-style-type: none"> <li>recognise, represent and order numbers to at least 1000 using physical and virtual materials, numerals and number lines AC9M2N01</li> <li>partition, rearrange, regroup and rename two- and three-digit numbers using standard and non-standard groupings; recognise the role of a zero digit in place value notation AC9M2N02</li> <li>add and subtract one- and two-digit numbers, representing problems using number sentences, and solve using part-part-whole reasoning and a variety of calculation strategies AC9M2N04</li> </ul>	Understanding	<ul style="list-style-type: none"> <li>representing numbers to at least 1000</li> </ul>
		Fluency	<ul style="list-style-type: none"> <li>ordering numbers to at least 1000</li> <li>applying knowledge of place value to partition, rearrange and rename               <ul style="list-style-type: none"> <li>two-digit numbers</li> <li>three-digit numbers in terms of their parts</li> </ul> </li> <li>regrouping partitioned numbers to assist in calculations</li> </ul>

Aspect of the achievement standard	Related content description/s	SE valued features (Mathematical proficiencies)	Examples of how content can be related to the SE valued features
	<ul style="list-style-type: none"> <li>multiply and divide by one-digit numbers using repeated addition, equal grouping, arrays and partitioning to support a variety of calculation strategies AC9M2N05</li> </ul>		
<p>They use mathematical modelling to solve practical additive and multiplicative problems, including money transactions, representing the situation and choosing calculation strategies.</p>	<p><b>Number</b></p> <ul style="list-style-type: none"> <li>add and subtract one- and two-digit numbers, representing problems using number sentences, and solve using part-part-whole reasoning and a variety of calculation strategies AC9M2N04</li> <li>multiply and divide by one-digit numbers using repeated addition, equal grouping, arrays, and partitioning to support a variety of calculation strategies AC9M2N05</li> <li>use mathematical modelling to solve practical problems involving additive and multiplicative situations, including money transactions; represent situations and choose calculation strategies; interpret and communicate solutions in terms of the situation AC9M2N06</li> </ul>	Understanding	<ul style="list-style-type: none"> <li>representing additive situations and multiplicative situations</li> </ul>
		Fluency	<ul style="list-style-type: none"> <li>choosing calculation strategies when solving practical additive and multiplicative problems, including money transactions</li> </ul>
		Problem-solving	<ul style="list-style-type: none"> <li>using mathematical modelling to solve practical problems</li> </ul>

Aspect of the achievement standard	Related content description/s	SE valued features (Mathematical proficiencies)	Examples of how content can be related to the SE valued features
Students identify and represent part-whole relationships of halves, quarters and eighths in measurement contexts.	<p><b>Number</b></p> <ul style="list-style-type: none"> <li>recognise and describe one-half as one of 2 equal parts of a whole and connect halves, quarters and eighths through repeated halving AC9M2N03</li> </ul> <p><b>Measurement</b></p> <ul style="list-style-type: none"> <li>identify common uses and represent halves, quarters and eighths in relation to shapes, objects and events AC9M2M02</li> <li>recognise and read the time represented on an analog clock to the hour, half-hour and quarter-hour AC9M2M04</li> <li>identify, describe and demonstrate quarter, half, three-quarter and full measures of turn in everyday situations AC9M2M05</li> </ul>	Understanding	<ul style="list-style-type: none"> <li>identifying part-whole relationships of halves, quarters and eighths in measurement contexts</li> <li>representing part-whole relationships of halves, quarters and eighths in measurement contexts</li> </ul>
They describe and continue patterns that increase and decrease additively by a constant amount and identify missing elements in the pattern.	<p><b>Algebra</b></p> <ul style="list-style-type: none"> <li>recognise, describe and create additive patterns that increase or decrease by a constant amount, using numbers, shapes and objects, and identify missing elements in the pattern AC9M2A01</li> </ul>	Understanding	<ul style="list-style-type: none"> <li>describing patterns that increase and decrease additively by a constant amount</li> <li>identifying missing elements in patterns</li> </ul>
		Fluency	<ul style="list-style-type: none"> <li>continuing patterns that increase and decrease additively by a constant amount</li> </ul>
Students recall and demonstrate proficiency with addition and subtraction facts within 20 and multiplication facts for twos.	<p><b>Algebra</b></p> <ul style="list-style-type: none"> <li>recall and demonstrate proficiency with addition facts to 20; extend and apply facts to develop related subtraction facts AC9M2A02</li> <li>recall and demonstrate</li> </ul>	Fluency	<ul style="list-style-type: none"> <li>recalling <ul style="list-style-type: none"> <li>addition facts within 20</li> <li>subtraction facts within 20</li> <li>multiplication facts for twos</li> </ul> </li> </ul>

Aspect of the achievement standard	Related content description/s	SE valued features (Mathematical proficiencies)	Examples of how content can be related to the SE valued features
	<p>proficiency with multiplication facts for twos; extend and apply facts to develop the related division facts using doubling and halving AC9M2A03</p> <ul style="list-style-type: none"> <li>add and subtract one- and two-digit numbers, representing problems using number sentences, and solve using part-part-whole reasoning and a variety of calculation strategies AC9M2N04</li> </ul>		
They use uniform informal units to measure and compare shapes and objects.	<p><b>Measurement</b></p> <ul style="list-style-type: none"> <li>measure and compare objects based on length, capacity and mass using appropriate uniform informal units and smaller units for accuracy when necessary AC9M2M01</li> </ul>	Fluency	<ul style="list-style-type: none"> <li>measuring shapes and objects, using uniform informal units</li> </ul>
		Reasoning	<ul style="list-style-type: none"> <li>comparing shapes and objects, using uniform informal units</li> </ul>
Students determine the number of days between events using a calendar and read time on an analog clock to the hour, half hour and quarter hour.	<p><b>Measurement</b></p> <ul style="list-style-type: none"> <li>identify the date and determine the number of days between events using calendars AC9M2M03</li> <li>recognise and read the time represented on an analog clock to the hour, half-hour and quarter-hour AC9M2M04</li> </ul>	Fluency	<ul style="list-style-type: none"> <li>determining the number of days between events using a calendar</li> <li>reading time on an analog clock to the hour, half hour, quarter hour</li> </ul>



Aspect of the achievement standard	Related content description/s	SE valued features (Mathematical proficiencies)	Examples of how content can be related to the SE valued features
They compare and classify shapes, describing features using formal spatial terms.	<b>Space</b> <ul style="list-style-type: none"> <li>recognise, compare and classify shapes, referencing the number of sides and using spatial terms such as 'opposite', 'parallel', 'curved' and 'straight' AC9M2SP01</li> </ul>	Fluency	<ul style="list-style-type: none"> <li>classifying shapes, using formal spatial terms</li> </ul>
		Reasoning	<ul style="list-style-type: none"> <li>comparing shapes, describing features, using formal spatial terms</li> </ul>
Students locate and identify positions of features in two-dimensional representations and move position by following directions and pathways.	<b>Space</b> <ul style="list-style-type: none"> <li>locate positions in two dimensional representations of a familiar space; move positions by following directions and pathways AC9M2SP02</li> </ul>	Understanding	<ul style="list-style-type: none"> <li>identifying positions of features in two-dimensional representations</li> </ul>
		Fluency	<ul style="list-style-type: none"> <li>locating positions of features in two-dimensional representations</li> <li>moving position by following directions and pathways</li> </ul>
They use a range of methods to collect, record, represent and interpret categorical data in response to questions.	<b>Statistics</b> <ul style="list-style-type: none"> <li>acquire data for categorical variables through surveys, observation, experiment and using digital tools; sort data into relevant categories and display data using lists and tables AC9M2ST01</li> <li>create different graphical representations of data using software where appropriate; compare the different representations, identify and describe common and distinctive features in response to questions AC9M2ST02</li> </ul>	Understanding	<ul style="list-style-type: none"> <li>representing categorical data in response to questions</li> </ul>
		Fluency	<ul style="list-style-type: none"> <li>using a range of methods to collect and record categorical data in response to questions</li> </ul>
		Reasoning	<ul style="list-style-type: none"> <li>interpreting categorical data in response to questions</li> </ul>

Table 2: Key terms used in Mathematics SEs

Term	Description
Simple familiar	<p>Problems of this degree of difficulty require students to demonstrate knowledge and understanding of the subject matter and application of skills in a situation where:</p> <ul style="list-style-type: none"> <li>relationships and interactions are obvious and have few elements; and</li> <li>all of the information to solve the problem is identifiable; that is               <ul style="list-style-type: none"> <li>the required procedure is clear from the way the problem is posed, or</li> <li>in a context that has been a focus of prior learning.</li> </ul> </li> </ul> <p>Students are not required to interpret, clarify and analyse problems to develop responses.</p>
Complex familiar	<p>Problems of this degree of difficulty require students to demonstrate knowledge and understanding of the subject matter and application of skills in a situation where:</p> <ul style="list-style-type: none"> <li>relationships and interactions have a number of elements, such that connections are made with subject matter within and/or across the strands of mathematics; and</li> <li>all of the information to solve the problem is identifiable; that is               <ul style="list-style-type: none"> <li>the required procedure is clear from the way the problem is posed, or</li> <li>in a context that has been a focus of prior learning.</li> </ul> </li> </ul> <p>Some interpretation, clarification and analysis will be required to develop responses.</p> <p>Creating complex familiar examples may consist in making changes to any of the following, including the:</p> <ul style="list-style-type: none"> <li>number of steps required to solve the problem/situation</li> <li>changes to increments, benchmarks or scale</li> <li>number of attributes considered.</li> </ul>
Unfamiliar	<p>Problems of this degree of difficulty require students to demonstrate knowledge and understanding of the subject matter and application of skills in a situation where:</p> <ul style="list-style-type: none"> <li>relationships and interactions have a number of elements, such that connections are made with subject matter within and/or across the strands of mathematics; and</li> <li>all the information to solve the problem is not immediately identifiable; that is               <ul style="list-style-type: none"> <li>the required procedure is not clear from the way the problem is posed, and</li> <li>in a context in which students have had limited prior experience.</li> </ul> </li> </ul> <p>Students interpret, clarify and analyse problems to develop responses.</p> <p>Creating unfamiliar examples may consist in making changes to any of the following, including the:</p> <ul style="list-style-type: none"> <li>context for application, e.g. financial, measurement, spatial or statistical</li> <li>type of representation, e.g. physical, visual or symbolic</li> <li>orientation of representation, e.g. horizontal or vertical</li> <li>merge of subject matter/concepts from across different strands.</li> </ul>



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