

# Year 1 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 1 Australian Curriculum: Mathematics achievement standard

By the end of Year 1, students connect number names, numerals and quantities, and order numbers to at least 120. They demonstrate how one- and two-digit numbers can be partitioned in different ways and that two-digit numbers can be partitioned into tens and ones. Students partition collections into equal groups and skip count in twos, fives or tens to quantify collections to at least 120. They solve problems involving addition and subtraction of numbers to 20 and use mathematical modelling to solve practical problems involving addition, subtraction, equal sharing and grouping, using calculation strategies. Students use numbers, symbols and objects to create skip counting and repeating patterns, identifying the repeating unit.

They compare and order objects and events based on the attributes of length, mass, capacity and duration, communicating reasoning. Students measure the length of shapes and objects using uniform informal units. They make, compare and classify shapes and objects using obvious features. Students give and follow directions to move people and objects within a space.

They collect and record categorical data, create one-to-one displays, and compare and discuss the data using frequencies.

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-1?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 1 Mathematics standard elaborations

		Applying (AP)	Making connections (MC)	Working with (WW)	Exploring (EX)	Becoming aware (BA)
<b>The folio of student work contains evidence of the following:</b>						
<b>Mathematical proficiencies</b>	<b>Understanding</b>	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
	<b>Fluency</b>	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
	<b>Reasoning</b>	<b>comprehensively</b> explaining of mathematical thinking, strategies used, and conclusions reached in <b>unfamiliar, complex familiar</b> , 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
	<b>Problem-solving</b>	<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 elaborations description (in the previous table) 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 connect number names, numerals and quantities, and order numbers to at least 120.	<b>Number</b> <ul style="list-style-type: none"> <li>recognise, represent and order numbers to at least 120 using physical and virtual materials, numerals, number lines and charts AC9M1N01</li> </ul>	Understanding	<ul style="list-style-type: none"> <li>connecting number names, numerals and quantities to at least 120</li> </ul>
		Fluency	<ul style="list-style-type: none"> <li>ordering numbers to at least 120</li> </ul>
They demonstrate how one- and two-digit numbers can be partitioned in different ways and that two-digit numbers can be partitioned into tens and ones.	<b>Number</b> <ul style="list-style-type: none"> <li>partition one- and two-digit numbers in different ways using physical and virtual materials, including partitioning two-digit numbers into tens and ones AC9M1N02</li> <li>add and subtract numbers within 20, using physical and virtual materials, part-part-whole knowledge to 10 and a variety of calculation strategies AC9M1N04</li> </ul>	Fluency	<ul style="list-style-type: none"> <li>demonstrating how               <ul style="list-style-type: none"> <li>one- and two-digit numbers can be partitioned in different ways</li> <li>two-digit numbers can be partitioned into tens and ones</li> </ul> </li> </ul>
Students partition collections into equal groups and skip count in twos, fives or tens to quantify collections to at least 120.	<b>Number</b> <ul style="list-style-type: none"> <li>quantify sets of objects, to at least 120, by partitioning collections into equal groups using number knowledge and skip counting AC9M1N03</li> </ul>	Fluency	<ul style="list-style-type: none"> <li>quantifying collections to at least 120 by partitioning collections into equal groups and skip counting in twos, fives or tens</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 solve problems involving addition and subtraction of numbers to 20 and use mathematical modelling to solve practical problems involving addition, subtraction, equal sharing and grouping, using calculation strategies.	<b>Number</b> <ul style="list-style-type: none"> <li>add and subtract numbers within 20, using physical and virtual materials, part-part-whole knowledge to 10 and a variety of calculation strategies AC9M1N04</li> <li>use mathematical modelling to solve practical problems involving additive situations including simple money transactions; represent the situations with diagrams, physical and virtual materials, and use calculation strategies to solve the problem AC9M1N05</li> <li>use mathematical modelling to solve practical problems involving equal sharing and grouping; represent the situations with diagrams, physical and virtual materials, and use calculation strategies to solve the problem AC9M1N06</li> </ul>	Fluency	<ul style="list-style-type: none"> <li>solving problems involving addition and subtraction of numbers to 20</li> <li>using calculation strategies to solve practical problems involving addition, subtraction, equal sharing and grouping</li> </ul>
		Problem-solving	<ul style="list-style-type: none"> <li>using mathematical modelling to solve practical problems</li> </ul>
Students use numbers, symbols and objects to create skip counting and repeating patterns, identifying the repeating unit.	<b>Algebra</b> <ul style="list-style-type: none"> <li>recognise, continue and create pattern sequences, with numbers, symbols, shapes and objects, formed by skip counting, initially by twos, fives and tens AC9M1A01</li> <li>recognise, continue and create repeating patterns with numbers, symbols, shapes and objects, identifying the repeating unit AC9M1A02</li> </ul>	Understanding	<ul style="list-style-type: none"> <li>creating <ul style="list-style-type: none"> <li>skip counting patterns</li> <li>repeating patterns using numbers, symbols and objects</li> </ul> </li> <li>identifying the repeating unit</li> </ul>
They compare and order objects and events based on the attributes of length, mass, capacity and duration,	<b>Measurement</b> <ul style="list-style-type: none"> <li>compare directly and indirectly and order objects and events using attributes of length, mass, capacity and duration, communicating reasoning AC9M1M01</li> </ul>	Fluency	<ul style="list-style-type: none"> <li>ordering objects based on the attributes of <ul style="list-style-type: none"> <li>length</li> <li>mass</li> <li>capacity</li> </ul> </li> <li>ordering events based on the attributes of duration</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
communicating reasoning.	<ul style="list-style-type: none"> <li>describe the duration and sequence of events using years, months, weeks, days and hours AC9M1M03</li> </ul>	Reasoning	<ul style="list-style-type: none"> <li>comparing objects based on the attributes of               <ul style="list-style-type: none"> <li>length</li> <li>mass</li> <li>capacity</li> </ul>               communicating reasoning             </li> <li>comparing events based on the attribute of duration, communicating reasoning</li> </ul>
Students measure the length of shapes and objects using uniform informal units.	<b>Measurement</b> <ul style="list-style-type: none"> <li>measure the length of shapes and objects using informal units, recognising that units need to be uniform and used end-to-end AC9M1M02</li> </ul>	Fluency	<ul style="list-style-type: none"> <li>measuring the length of shapes and objects using uniform informal units</li> </ul>
They make, compare and classify shapes and objects using obvious features.	<b>Space</b> <ul style="list-style-type: none"> <li>make, compare and classify familiar shapes; recognise familiar shapes and objects in the environment, identifying the similarities and differences between them AC9M1SP01</li> </ul>	Understanding	<ul style="list-style-type: none"> <li>making shapes and objects using obvious features</li> </ul>
		Fluency	<ul style="list-style-type: none"> <li>classifying shapes and objects using obvious features</li> </ul>
		Reasoning	<ul style="list-style-type: none"> <li>comparing shapes and objects using obvious features</li> </ul>
Students give and follow directions to move people and objects within a space.	<b>Space</b> <ul style="list-style-type: none"> <li>give and follow directions to move people and objects to different locations within a space AC9M1SP02</li> </ul>	Fluency	<ul style="list-style-type: none"> <li>giving directions to move people and objects within a space</li> <li>following directions to move within a space</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 collect and record categorical data, create one-to-one displays, and compare and discuss the data using frequencies.	<b>Statistics</b> <ul style="list-style-type: none"> <li>acquire and record data for categorical variables in various ways including using digital tools, objects, images, drawings, lists, tally marks and symbols AC9M1ST01</li> <li>represent collected data for a categorical variable using one-to-one displays and digital tools where appropriate; compare the data using frequencies and discuss the findings AC9M1ST02</li> </ul>	Understanding	<ul style="list-style-type: none"> <li>creating one-to-one displays</li> </ul>
		Fluency	<ul style="list-style-type: none"> <li>collecting and recording categorical data</li> </ul>
		Reasoning	<ul style="list-style-type: none"> <li>comparing and discussing the data using frequencies</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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