

# Year 3 standard elaborations — Australian Curriculum: Mathematics

- Purpose** The standard elaborations (SEs) provide additional clarity when using the Australian Curriculum achievement standard to make judgments on a five-point scale. They promote and support:
- aligning curriculum, assessment and reporting, and connecting curriculum and evidence in assessment, so that what is assessed relates directly to what students have had the opportunity to learn
  - continuing skill development from one year of schooling to another
  - making judgments on a five-point scale based on evidence of learning in a folio of student work
  - developing task-specific standards and grading guides.

**Structure** The SEs are developed using the **Australian Curriculum achievement standard**. In Prep\* to Year 6, the Mathematics SEs have been organised using the **content and proficiency strands**. Performance is frequently represented in terms of complexity and familiarity of the standard being assessed. Across the elaborations this is described according to: A — unfamiliar, B — complex familiar, C — simple familiar, D — some simple familiar, E — partial, isolated and obvious.

The Mathematics achievement standard describes the learning expected of students at each year level. Teachers use the achievement standard during and at the end of a period of teaching to make on-balance judgments about the quality of learning students demonstrate.

In Queensland the achievement standard represents the **C standard** — a sound level of knowledge and understanding of the content, and application of skills. The SEs are presented in a **matrix**. The **discernible differences** or degrees of quality associated with the five-point scale are highlighted to identify the characteristics of student work on which teacher judgments are made. Terms are described in the Notes section following the matrix.

## Year 3 Australian Curriculum: Mathematics achievement standard

By the end of Year 3, students recognise the connection between addition and subtraction and solve problems using efficient strategies for multiplication. They model and represent unit fractions. They represent money values in various ways. Students identify symmetry in the environment. They match positions on maps with given information. Students recognise angles in real situations. They interpret and compare data displays.

Students count to and from 10 000. They classify numbers as either odd or even. They recall addition and multiplication facts for single-digit numbers. Students correctly count out change from financial transactions. They continue number patterns involving addition and subtraction. Students use metric units for length, mass and capacity. They tell time to the nearest minute. Students make models of three-dimensional objects. Students conduct chance experiments and list possible outcomes. They conduct simple data investigations for categorical variables.

**Source** Australian Curriculum, Assessment and Reporting Authority (ACARA), *Australian Curriculum Version 8 Mathematics for Foundation–10*, [www.australiancurriculum.edu.au/Mathematics/Curriculum/F-10](http://www.australiancurriculum.edu.au/Mathematics/Curriculum/F-10)

\* Prep in Queensland is the Foundation Year of the Australian Curriculum and refers to the year before Year 1. Children beginning Prep in January must be five years of age by 30 June.

# Year 3 Mathematics standard elaborations

		A	B	C	D	E
<b>The folio of a student's work has the following characteristics:</b>						
<b>Number and algebra</b>	<b>Understanding</b>	recognition of the connection between addition and subtraction <u>in unfamiliar situations</u>	recognition of the connection between addition and subtraction <u>in complex familiar situations</u>	recognition of the connection between addition and subtraction	<u>partial</u> recognition of the connection between addition and subtraction	<u>statements about</u> addition and subtraction
		representation and modelling of unit fractions <u>and their multiples using a range of representations</u>	representation and modelling of unit fractions <u>and their multiples</u>	representation and modelling of unit fractions	representation and modelling of <u>aspects of</u> unit fractions	<u>directed</u> representation and modelling of <u>aspects of</u> unit fractions
		representation of money values in various ways <u>in unfamiliar situations and explanation of these representations</u>	representation of money values in various ways <u>and explanation of these representations</u>	representation of money values in various ways	representation of <u>aspects of</u> money values	<u>directed</u> representation of <u>aspects of</u> money values
	<b>Fluency</b>	counting to and from 10 000, <u>and modelling, representing and ordering these numbers</u>	counting to and from 10 000 <u>and modelling and representing these numbers</u>	counting to and from 10 000	counting <u>using aspects of the sequence of numbers</u> to and from 10 000	<u>directed</u> counting <u>using aspects of</u> the sequence of numbers to and from 10 000
		reasoned classification of numbers as either odd or even <u>in unfamiliar situations</u>	<u>reasoned</u> classification of numbers as either odd or even	classification of numbers as either odd or even	<u>partial</u> classification of numbers as either odd or even	<u>directed</u> classification of numbers as either odd or even
		recall of addition facts and related subtraction facts, and multiplication facts <u>and related division facts</u> for single-digit numbers	recall of addition facts and <u>related subtraction facts</u> , and multiplication facts for single-digit numbers	recall of addition facts and multiplication facts for single-digit numbers	recall of <u>aspects of</u> addition facts and multiplication facts for single-digit numbers	recall of <u>aspects of</u> addition facts and <u>directed use of aspects of</u> multiplication facts for single-digit numbers

		A	B	C	D	E
Number and algebra	Problem-solving	use of efficient strategies to solve problems for multiplication <u>in unfamiliar situations</u>	use of efficient strategies to solve problems for multiplication <u>in complex familiar situations</u>	use of efficient strategies to solve problems for multiplication	use of strategies to solve problems for multiplication	<u>directed</u> use of strategies to solve multiplication problems
		continuation of number patterns involving addition and subtraction <u>in unfamiliar situations and description of the rule</u>	continuation of number patterns involving addition and subtraction <u>and description of the rule</u>	continuation of number patterns involving addition and subtraction	continuation of <u>aspects of</u> number patterns involving addition and subtraction	<u>directed</u> continuation of <u>aspects of</u> number patterns involving addition and subtraction
		counting out of change from financial transactions correctly <u>in unfamiliar situations</u>	counting out of change from financial transactions correctly <u>in complex familiar situations</u>	counting out of change from financial transactions correctly	<u>guided</u> counting out of change from financial transactions correctly	<u>directed</u> counting out of change from financial transactions
	Reasoning	<p><i>Reasoning</i> is critical across all content strands in Mathematics.</p> <p>In Year 3, reasoning of number and algebra is not explicitly identified in the achievement standard. It appears in the content descriptions so there are opportunities to strengthen student reasoning.</p>				

		A	B	C	D	E
Measurement and geometry	Understanding	identification of symmetry in unfamiliar situations	identification of symmetry in complex familiar situations	identification of symmetry in the environment	guided identification of symmetry in the environment	directed identification of aspects of symmetry in the environment
		recognition of angles and comparison of angle size in unfamiliar situations	recognition of angles and comparison of angle size in real situations	recognition of angles in real situations	recognition of aspects of angles in real situations	directed recognition of aspects of angles in real situations
		telling and representation of time to the nearest minute and explanation of the relationship between units of time	telling and representation of time to the nearest minute	telling of time to the nearest minute	telling of aspects of time	directed telling of time
	Fluency	matching of positions and showing of pathways on maps with given information in unfamiliar situations	matching of positions and showing of pathways on maps with given information	matching of positions on maps with given information	matching of positions on maps with aspects of given information	directed matching of positions on maps with aspects of given information
		use of metric units for length, mass and capacity to explain comparison of objects	use of metric units for length, mass and capacity to compare objects	use of metric units for length, mass and capacity	use of aspects of metric units for length, mass and capacity	directed use of aspects of metric units for length, mass and capacity
	Problem-solving	construction of models of three-dimensional objects and description of the relationship between key features	construction of models of three-dimensional objects and description of key features	construction of models of three-dimensional objects	guided construction of models of three-dimensional objects	directed construction of models of three-dimensional objects
	Reasoning	<p><i>Reasoning</i> is critical across all content strands in Mathematics.</p> <p>In Year 3, reasoning of measurement and geometry is not explicitly identified in the achievement standard. It appears in the content descriptions so there are opportunities to strengthen student reasoning.</p>				

		A	B	C	D	E
Statistics and probability	Understanding	<p><i>Understanding</i> is critical across all content strands in Mathematics.</p> <p>In Year 3, understanding of statistics and probability is not explicitly identified in the achievement standard. It appears in the content descriptions so there are opportunities to strengthen student understanding.</p>				
	Fluency	conduction of chance experiments, <b>identification and description</b> of possible outcomes <b>and recognition of variation in results</b>	conduction of chance experiments and <b>identification and description</b> of possible outcomes	conduction of chance experiments and listing of possible outcomes	<b>guided</b> conduction of chance experiments and listing of <b>aspects of</b> possible outcomes	<b>directed</b> conduction of chance experiments
	Problem-solving	conduction of data investigations for categorical variables <b>in unfamiliar situations</b>	conduction of data investigations for categorical variables <b>in complex familiar situations</b>	conduction of simple data investigations for categorical variables	<b>guided</b> organisation of <b>aspects of</b> data collection from a given question	<b>directed</b> organisation of <b>aspects of</b> data collection from a given question
	Reasoning	interpretation and comparison of data displays <b>in unfamiliar situations</b>	interpretation and comparison of data displays <b>in complex familiar situations</b>	interpretation and comparison of data displays	<b>partial</b> interpretation and <b>guided</b> comparison of data displays	<b>statements about</b> data displays
Key		<b>shading</b> emphasises the <b>qualities that discriminate between A–E descriptors</b>				

# Notes

## Australian Curriculum common dimensions

The SEs describe the qualities of achievement in the two dimensions common to all Australian Curriculum learning area achievement standards — understanding and skills.

Dimension	Description
<b>understanding</b>	the concepts underpinning and connecting knowledge in a learning area, related to a student's ability to appropriately select and apply knowledge to solve problems in that learning area
<b>skills</b>	the specific techniques, strategies and processes in a learning area

## Terms used in Year 3 Mathematics SEs

The following terms are used in the Year 3 Mathematics SEs. Definitions are drawn from the ACARA Australian Curriculum Mathematics glossary ([www.australiancurriculum.edu.au/f-10-curriculum/mathematics/glossary](http://www.australiancurriculum.edu.au/f-10-curriculum/mathematics/glossary)) and from other sources to ensure consistent understanding.

Term	Description
<b>aspects</b>	particular parts or features
<b>comparison; compare</b>	estimate, measure or note how things are similar or dissimilar
<b>complex familiar</b>	students are required to choose and apply procedures in a situation involving a number of elements, components or steps in a context that has been a focus of prior learning
<b>connection; connect</b>	establish a link
<b>description; descriptive; describe</b>	give an account of characteristics or features
<b>directed; direction</b>	following the instructions of the facilitator
<b>explanation; explanatory; explain</b>	provide additional information that demonstrates understanding of reasoning and/or application; in mathematics this could include showing working to justify a response
<b>fluency</b>	students develop skills in choosing appropriate procedures; carrying out procedures flexibly, accurately, efficiently and appropriately; and recalling factual knowledge and concepts readily; students are fluent when they calculate answers efficiently, when they recognise robust ways of answering questions, when they choose appropriate methods and approximations, when they recall definitions and regularly use facts, and when they can manipulate expressions and equations to find solutions; in Year 3, <i>fluency</i> includes such things as recalling multiplication facts, using familiar metric units to order and compare objects, identifying and describing outcomes of chance experiments, interpreting maps and communicating positions
<b>guided; guidance</b>	visual and/or verbal prompts to facilitate or support independent action

Term	Description
<b>interpretation; interpret</b>	explaining the meaning of information or actions; in the context of Mathematics, this involves giving meaning to information presented in various forms, e.g. words, symbols, diagrams, graphs
<b>modelling</b>	depicting a situation that expresses relationships, usually using concrete materials
<b>partial</b>	incomplete, half-done, unfinished
<b>problem-solving</b>	students develop the ability to make choices, interpret, formulate, model and investigate problem situations, and communicate solutions effectively; students formulate and solve problems when they use mathematics to represent unfamiliar or meaningful situations, when they design investigations and plan their approaches, when they apply their existing strategies to seek solutions, and when they verify that their answers are reasonable; in Year 3, <i>problem-solving</i> includes such things as formulating and modelling authentic situations involving planning methods of data collection and representation, making models of three-dimensional objects and using number properties to continue number patterns
<b>range</b>	covers the scope of relevant situations or elements
<b>reasoning</b>	students develop an increasingly sophisticated capacity for logical thought and actions, such as analysing, proving, evaluating, explaining, inferring, justifying and generalising; students are reasoning mathematically when they explain their thinking, when they deduce and justify strategies used and conclusions reached, when they adapt the known to the unknown, when they transfer learning from one context to another, when they prove that something is true or false and when they compare and contrast related ideas and explain their choices; in Year 3, <i>reasoning</i> includes such things as generalising from number properties and results of calculations, comparing angles and creating and interpreting variations in the results of data collections and data displays
<b>reasons; reasoned</b>	logical and sound; presented with justification
<b>reliable; reliability</b>	constant and dependable or consistent and repeatable
<b>represent</b>	use words, images, symbols or signs to convey meaning
<b>statement; state</b>	a sentence or assertion
<b>thorough</b>	demonstrating depth and breadth, inclusive of relevant detail
<b>understanding</b>	students build a robust knowledge of adaptable and transferable mathematical concepts; they make connections between related concepts and progressively apply the familiar to develop new ideas; they develop an understanding of the relationship between the 'why' and the 'how' of mathematics; students build understanding when they connect related ideas, when they represent concepts in different ways, when they identify commonalities and differences between aspects of content, when they describe their thinking mathematically and when they interpret mathematical information; in Year 3, <i>understanding</i> includes such things as connecting number representations with number sequences, partitioning and combining numbers flexibly, representing unit fractions, using appropriate language to communicate times, and identifying environmental symmetry

Term	Description
<b>unfamiliar</b>	students are required to choose and apply procedures in a situation involving a number of elements, components or steps in a context in which students have had limited prior experience
<b>use; use of</b>	to operate or put into effect