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|  | Year 2 standard elaborations — Australian Curriculum: Mathematics |

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| Purpose | The standard elaborations (SEs) provide additional clarity when using the Australian Curriculum achievement standard to make judgments on a five‑point scale. They can be used as a tool for:   * 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[[1]](#footnote-1) 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:  AP — unfamiliar, MC — complex familiar, WW — simple familiar, EX — some simple familiar, BA — 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 **working with (WW) 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. |
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| Year 2 Australian Curriculum: Mathematics achievement standard | |
| By the end of Year 2, students recognise increasing and decreasing number sequences involving 2s, 3s and 5s. They represent multiplication and division by grouping into sets. They associate collections of Australian coins with their value. Students identify the missing element in a number sequence. Students recognise the features of three-dimensional objects. They interpret simple maps of familiar locations. They explain the effects of one-step transformations. Students make sense of collected information.  Students count to and from 1000. They perform simple addition and subtraction calculations using a range of strategies. They divide collections and shapes into halves, quarters and eighths. Students order shapes and objects using informal units. They tell time to the quarter-hour and use a calendar to identify the date and the months included in seasons. They draw two-dimensional shapes. They describe outcomes for everyday events. Students collect, organise and represent data to make simple inferences. | |
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| **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) |

## Year 2 Mathematics standard elaborations

|  | | Applying (AP) | Making connections (MC) | Working with (WW) | Exploring (EX) | Becoming aware (BA) |
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|  | | The folio of a student’s work has the following characteristics: | | | | |
| Number and algebra | Understanding | recognition of increasing and decreasing number sequences involving 2s, 3s, 5s, 10s and other sequences from any starting point | recognition of increasing and decreasing number sequences involving 2s, 3s, 5s and 10s from any starting point | recognition of increasing and decreasing number sequences involving 2s, 3s and 5s | recognition of aspects of increasing and decreasing number sequences involving 2s, 3s and 5s | fragmented recognition of aspects of increasing and decreasing number sequences involving 2s, 3s and 5s |
| representation of multiplication and division by grouping into sets in unfamiliar situations | representation of multiplication and division by grouping into sets in complex familiar situations | representation of multiplication by grouping into sets, and division by grouping into sets | representation of aspects of multiplication by grouping into sets, and division by grouping into sets | directed representation of aspects of multiplication by grouping into sets, and division by grouping into sets |
| association of collections of Australian coins and notes with their value and ordering of collections according to their value | association of collections of Australian coins and notes with their value | association of collections of Australian coins with their value | association of aspects of collections of Australian coins with their value | directed association of aspects of collections of Australian coins with their value |
| division of collections and shapes into halves, quarters and eighths in unfamiliar situations and relating of the number of parts to the size of the fraction | division of collections and shapes into halves, quarters and eighths and relating of the number of parts to the size of the fraction | division of collections and shapes into halves, quarters and eighths | division of aspects of collections and shapes into halves, quarters and eighths | directed division of aspects of collections and shapes into halves, quarters and eighths |
| Number and algebra | Fluency | counting to and from 1000 and modelling, representing and ordering these numbers | counting to and from 1000 and modelling and representing these numbers | counting to and from 1000 | counting using aspects of the sequence of numbers to and from 1000 | directed counting using aspects of the sequence of numbers to and from 1000 |
| Problem-solving | identification of the missing element in a number sequence and description and representation of the pattern | identification of the missing element in a number sequence and description of the pattern | identification of the missing element in a number sequence | identification of the missing element in aspects of a number sequence | continuation of aspects of a number sequence |
| performing of simple addition and subtraction calculations using a range of strategies in unfamiliar situations | performing of simple addition and subtraction calculations using a range of strategies in complex familiar situations | performing of simple addition and subtraction calculations using a range of strategies | performing of simple addition and subtraction calculations using strategies | directed performing of simple addition and subtraction calculations |
| Reasoning | Reasoning is critical across all content strands in Mathematics.  In Year 2, 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. | | | | |
| Measurement and geometry | Understanding | use of a calendar in unfamiliar situations to:   * identify the date and locate specific information * identify the months included in seasons | use of a calendar to:   * identify the date and locate specific information * identify the months included in seasons | use of a calendar to:   * identify the date * identify the months included in seasons | guided use of a calendar to:   * identify the date * identify the months included in seasons | directed use of a calendar to:   * identify the date * identify the months included in seasons |
| telling and representation of time to the quarter hour and explanation of the relationship between units of time | telling and representation of time to the quarter hour | telling of time to the quarter hour | guided telling of time to the quarter hour | directed telling of time |
| recognition and description of the features of unfamiliar three-dimensional objects | recognition and description of the features of three‑dimensional objects | recognition of the features of three-dimensional objects | guided recognition of the features of three‑dimensional objects | directed recognition of the features of three‑dimensional objects |
| Fluency | ordering of shapes and objects using appropriate informal units accurately | ordering of shapes and objects using appropriate informal units | ordering of shapes and objects using informal units | guided ordering of shapes and objects using informal units | directed ordering of shapes and objects using informal units |
| drawing of two-dimensional shapes and comprehensive description of key features | drawing of two-dimensional shapes and listing of key features | drawing of two-dimensional shapes | drawing of aspects of  two-dimensional shapes | directed drawing of aspects of two-dimensional shapes |
| Problem-solving | interpretation of maps and use of key features to follow and give directions | interpretation of simple maps and use of key features to follow and give directions | interpretation of simple maps | interpretation of aspects of simple maps | directed interpretation of aspects of simple maps |
| explanation of the effects of one-step transformations including half and quarter turns in unfamiliar situations | explanation of the effects of one-step transformations including half and quarter turns | explanation of the effects of one-step transformations | guided explanation of the effects of one-step transformations | directed explanation of the effects of one-step transformations |
| Reasoning | Reasoning is critical across all content strands in Mathematics.  In Year 2, 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. | | | | |
| Statistics and probability | Understanding | making sense of collected information and identifying categories to classify and describe collected information | making sense of collected information and identifying categories to classify collected information | making sense of collected information | making sense of aspects of collected information | making statements about collected information |
| Fluency | Fluency is critical across all content strands in Mathematics.  In Year 2, fluency 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 fluency. | | | | |
| Problem-solving | collection, organisation and representation of data to make inferences in unfamiliar situations | collection, organisation and representation of data to make inferences in complex familiar situations | collection, organisation and representation of data to make simple inferences | collection, organisation and representation of aspects of data to make simple inferences | directed collection, organisation and representation of aspects of data |
| Reasoning | reasoned classification of outcomes of everyday events | classification of outcomes of everyday events | description of outcomes of everyday events | guided description of aspects of outcomes of everyday events | directed description of outcomes of aspects of everyday events |

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| Key | | shading emphasises the qualities that discriminate between the AP–BA descriptors |
|  | **AP**  **MC**  **WW**  **EX**  BA | 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  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 is beginning to transfer skills to new situations  works with the curriculum content; demonstrates understanding of the required knowledge; applies skills in situations familiar to them  exploring the curriculum content; demonstrates understanding of aspects of the required knowledge; uses a varying level of skills in situations familiar to them  becoming aware of the curriculum content; demonstrates a basic understanding of aspects of required knowledge; beginning to use skills in situations familiar to them |

## 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.

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| Dimension | Description |
| understanding | 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 |
| skills | the specific techniques, strategies and processes in a learning area |

### Terms used in Year 2 Mathematics SEs

The following terms are used in the Year 2 Mathematics SEs. Definitions are drawn from the ACARA Australian Curriculum Mathematics glossary ([www.australiancurriculum.edu.au/f-10-curriculum/mathematics/glossary](https://www.australiancurriculum.edu.au/f-10-curriculum/mathematics/glossary)) and from other sources to ensure consistent understanding.

| Term | Description |
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| aspects | particular parts or features |
| classify; classification | arrange into named categories in order to sort, group or identify |
| complex familiar | 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 |
| connection; connect | establish a link |
| description; descriptive; describe | give an account of characteristics or features |
| directed; direction | following the instructions of the facilitator |
| effective | meeting the assigned purpose in a considered and/or efficient manner to produce a desired or intended result |
| explanation; explanatory; explain | provide additional information that demonstrates understanding of reasoning and/or application; in mathematics this could include showing working to justify a response |
| fluency | 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 2, fluency includes such things as readily counting numbers in sequences, using informal units iteratively to compare measurements, using the language of chance to describe outcomes of familiar chance events and describing and comparing time durations |
| guided; guidance | visual and/or verbal prompts to facilitate or support independent action |
| interpretation; interpret | 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 |
| modelling | depicting a situation that expresses relationships, usually using concrete materials |
| partial | incomplete, half-done, unfinished |
| problem-solving | 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 2, problem-solving includes such things as formulating problems from authentic situations, making models and using number sentences that represent problem situations, and matching transformations with their original shape |
| range | covers the scope of relevant situations or elements |
| reasoning | 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 2, reasoning includes such things as using known facts to derive strategies for unfamiliar calculations, comparing and contrasting related models of operations and creating and interpreting simple representations of data |
| represent; representation | use words, images, symbols or signs to convey meaning |
| statement; state | a sentence or assertion |
| understanding | 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 2, understanding includes such things as connecting number calculations with counting sequences, partitioning and combining numbers flexibly and identifying and describing the relationship between addition and subtraction and between multiplication and division |
| unfamiliar | 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 |
| use; use of | to operate or put into effect |

1. 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. [↑](#footnote-ref-1)