The Australian Curriculum
Mathematics

Statistics and probability

Measurement and geometry

Number and algebra

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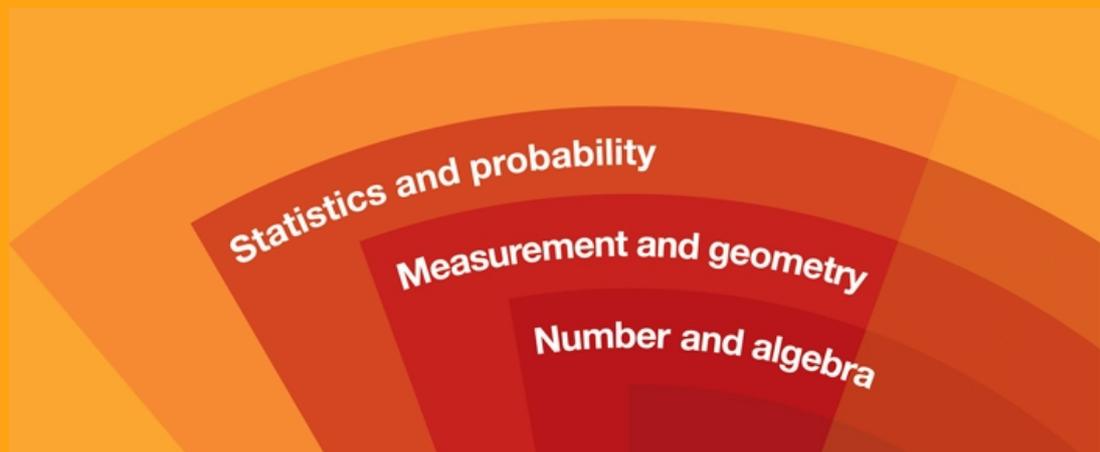
Mathematics

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Year 2

The proficiency strands **Understanding, Fluency, Problem Solving and Reasoning** are an integral part of mathematics content across the three content strands: **Number and Algebra, Measurement and Geometry,** and **Statistics and Probability**. The proficiencies reinforce the significance of working mathematically within the content and describe how the content is explored or developed. They provide the language to build in the developmental aspects of the learning of mathematics.

At this year level:

Understanding includes connecting number calculations with counting sequences, partitioning and combining numbers flexibly, identifying and describing the relationship between addition and subtraction and between multiplication and division

Fluency includes counting numbers in sequences readily, 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

Problem Solving includes formulating problems from authentic situations, making models and using number sentences that represent problem situations, and matching transformations with their original shape

Reasoning includes using known facts to derive strategies for unfamiliar calculations, comparing and contrasting related models of operations, and creating and interpreting simple representations of data

Number and Algebra

Number and place value	Elaborations
Investigate number sequences, initially those increasing and decreasing by twos, threes, fives and ten from any starting point, then moving to other sequences. (ACMNA026)	• developing fluency and confidence with numbers and calculations by saying number sequences • recognising patterns in number sequences, such as adding 10 always results in the same final digit
Recognise, model, represent and order numbers to at least 1000 (ACMNA027)	• recognising there are different ways of representing numbers and identifying patterns going beyond 100 • developing fluency with writing numbers in meaningful contexts
Group, partition and rearrange collections up to 1000 in hundreds, tens and ones to facilitate more efficient counting (ACMNA028)	• using an abacus to model and represent numbers • understanding three-digit numbers as comprised of hundreds, tens and ones/units • demonstrating and using models such as linking blocks, sticks in bundles, place-value blocks and Aboriginal bead strings and explaining reasoning
Explore the connection between addition and subtraction (ACMNA029)	• becoming fluent with partitioning numbers to understand the connection between addition and subtraction • using counting on to identify the missing element in an additive problem

Solve simple addition and subtraction problems using a range of efficient mental and written strategies (ACMNA030)	• becoming fluent with a range of mental strategies for addition and subtraction problems, such as commutativity for addition, building to 10, doubles, 10 facts and adding 10
	• modelling and representing simple additive situations using materials such as 10 frames, 20 frames and empty number lines
Recognise and represent multiplication as repeated addition, groups and arrays (ACMNA031)	• representing array problems with available materials and explaining reasoning
	• visualising a group of objects as a unit and using this to calculate the number of objects in several identical groups
Recognise and represent division as grouping into equal sets and solve simple problems using these representations (ACMNA032)	• dividing the class or a collection of objects into equal-sized groups
	• identifying the difference between dividing a set of objects into three equal groups and dividing the same set of objects into groups of three
Fractions and decimals	**Elaborations**
Recognise and interpret common uses of halves, quarters and eighths of shapes and collections (ACMNA033)	• recognising that sets of objects can be partitioned in different ways to demonstrate fractions
	• relating the number of parts to the size of a fraction
Money and financial mathematics	**Elaborations**
Count and order small collections of Australian coins and notes according to their value (ACMNA034)	• identifying equivalent values in collections of coins or notes, such as two five-cent coins having the same value as one 10-cent coin
	• counting collections of coins or notes to make up a particular value, such as that shown on a price tag
Patterns and algebra	**Elaborations**
Describe patterns with numbers and identify missing elements (ACMNA035)	• describing a pattern created by skip counting and representing the pattern on a number line
	• investigating features of number patterns resulting from adding twos, fives or 10s
Solve problems by using number sentences for addition or subtraction (ACMNA036)	• representing a word problem as a number sentence
	• writing a word problem to represent a number sentence

Measurement and Geometry

Using units of measurement	**Elaborations**

Compare and order several shapes and objects based on length, area, volume and capacity using appropriate uniform informal units (ACMMG037)	• comparing lengths using finger length, hand span or a piece of string
	• comparing areas using the palm of the hand or a stone
	• comparing capacities using a range of containers
Compare masses of objects using balance scales (ACMMG038)	• using balance scales to determine whether the mass of different objects is more, less or about the same, or to find out how many marbles are needed to balance a tub of margarine or a carton of milk
Tell time to the quarter-hour, using the language of 'past' and 'to' (ACMMG039)	• describing the characteristics of quarter-past times on an analogue clock, and identifying that the small hand is pointing just past the number and the big hand is pointing to the three
Name and order months and seasons (ACMMG040)	• investigating the seasons used by Aboriginal people, comparing them to those used in Western society and recognising the connection to weather patterns.
Use a calendar to identify the date and determine the number of days in each month (ACMMG041)	• using calendars to locate specific information, such as finding a given date on a calendar and saying what day it is, and identifying personally or culturally specific days

Shape	Elaborations
Describe and draw two-dimensional shapes, with and without digital technologies (ACMMG042)	• identifying key features of squares, rectangles, triangles, kites, rhombuses and circles, such as straight lines or curved lines, and counting the edges and corners
Describe the features of three-dimensional objects (ACMMG043)	• identifying geometric features such as the number of faces, corners or edges

Location and transformation	Elaborations
Interpret simple maps of familiar locations and identify the relative positions of key features (ACMMG044)	• understanding that we use representations of objects and their positions, such as on maps, to allow us to receive and give directions and to describe place
	• constructing arrangements of objects from a set of directions
Investigate the effect of one-step slides and flips with and without digital technologies (ACMMG045)	• understanding that objects can be moved but changing position does not alter an object's size or features
Identify and describe half and quarter turns (ACMMG046)	• predicting and reproducing a pattern based around half and quarter turns of a shape and sketching the next element in the pattern

Statistics and Probability

Chance	Elaborations
Identify practical activities and everyday events that involve chance. Describe outcomes as 'likely' or 'unlikely' and identify some events as 'certain' or 'impossible' (ACMSP047)	● classifying a list of everyday events according to how likely they are to happen, using the language of chance, and explaining reasoning

Data representation and interpretation	Elaborations
Identify a question of interest based on one categorical variable. Gather data relevant to the question (ACMSP048)	● determining the variety of birdlife in the playground and using a prepared table to record observations
Collect, check and classify data (ACMSP049)	● recognising the usefulness of tally marks ● identifying categories of data and using them to sort data
Create displays of data using lists, table and picture graphs and interpret them (ACMSP050)	● creating picture graphs to represent data using one-to-one correspondence ● comparing the usefulness of different data displays