The Australian Curriculum
Mathematics

Statistics and probability

Measurement and geometry
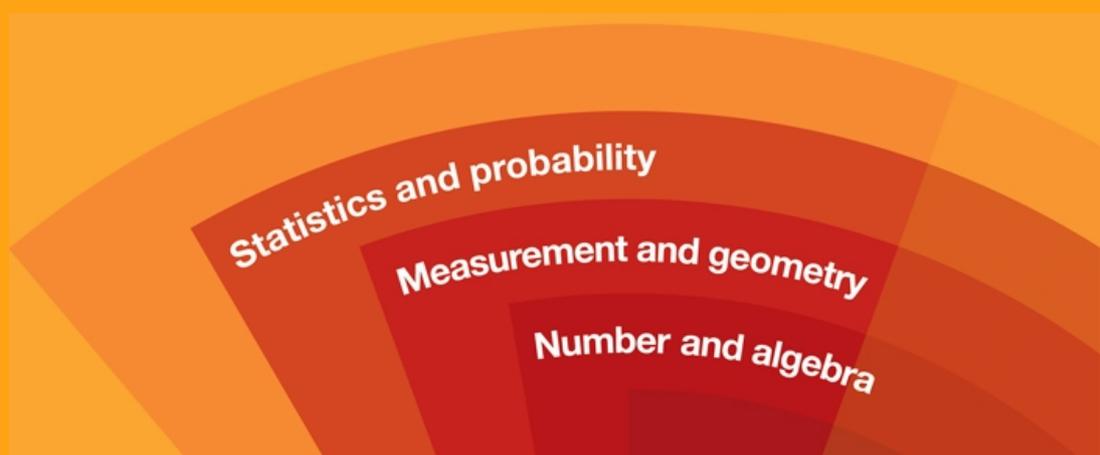
Number and algebra

Mathematics

Table of Contents

Year 3

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 representations with number sequences, partitioning and combining numbers flexibly, representing unit fractions, using appropriate language to communicate times, and identifying environmental symmetry

Fluency includes recalling multiplication facts, using familiar metric units to order and compare objects, identifying and describing outcomes of chance experiments, interpreting maps and communicating positions

Problem Solving includes 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

Reasoning includes using generalising from number properties and results of calculations, comparing angles, creating and interpreting variations in the results of data collections and data displays

Number and Algebra

Number and place value	Elaborations
Investigate the conditions required for a number to be odd or even and identify odd and even numbers (ACMNA051)	● identifying even numbers using skip counting by twos or by grouping even collections of objects in twos ● explaining why all numbers that end in the digits 0, 2, 4, 6 and 8 are even and that numbers ending in 1, 3, 5, 7 and 9 are odd
Recognise, model, represent and order numbers to at least 10 000 (ACMNA052)	● placing four-digit numbers on a number line using an appropriate scale ● reproducing numbers in words using their numerical representations and vice versa
Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems (ACMNA053)	● recognising that 10 000 equals 10 thousands, 100 hundreds, 1000 tens and 10 000 ones ● justifying choices about partitioning and regrouping numbers in terms of their usefulness for particular calculations
Recognise and explain the connection between addition and subtraction (ACMNA054)	● demonstrating the connection between addition and subtraction using partitioning or by writing equivalent number sentences

Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation (ACMNA055)	• recognising that certain single-digit number combinations always result in the same answer for addition and subtraction, and using this knowledge for addition and subtraction of larger numbers • combining knowledge of addition and subtraction facts and partitioning to aid computation (for example 57 + 19 = 57 + 20 – 1)
Recall multiplication facts of two, three, five and ten and related division facts (ACMNA056)	• establishing multiplication facts using number sequences
Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies (ACMNA057)	• writing simple word problems in numerical form and vice versa • using a calculator to check the solution and reasonableness of the answer

Fractions and decimals	Elaborations
Model and represent unit fractions including 1/2, 1/4, 1/3, 1/5 and their multiples to a complete whole (ACMNA058)	• partitioning areas, lengths and collections to create halves, thirds, quarters and fifths, such as folding the same sized sheets of paper to illustrate different unit fractions and comparing the number of parts with their sizes • locating unit fractions on a number line • recognising that in English the term 'one third' is used (order: numerator, denominator) but that in other languages this concept may be expressed as 'three parts, one of them' (order: denominator, numerator) for example Japanese

Money and financial mathematics	Elaborations
Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents (ACMNA059)	• recognising the relationship between dollars and cents, and that not all countries use these denominations and divisions (for example Japanese Yen)

Patterns and algebra	Elaborations
Describe, continue, and create number patterns resulting from performing addition or subtraction (ACMNA060)	• identifying and writing the rules for number patterns • describing a rule for a number pattern, then creating the pattern

Measurement and Geometry

Using units of measurement	Elaborations
Measure, order and compare objects using familiar metric units of length, mass and capacity (ACMMG061)	• recognising the importance of using common units of measurement • recognising and using centimetres and metres, grams and kilograms, and millilitres and litres

Tell time to the minute and investigate the relationship between units of time (ACMMG062)	● recognising there are 60 minutes in an hour and 60 seconds in a minute

Shape	Elaborations
Make models of three-dimensional objects and describe key features (ACMMG063)	● exploring the creation of three-dimensional objects using origami, including prisms and pyramids

Location and transformation	Elaborations
Create and interpret simple grid maps to show position and pathways (ACMMG065)	● creating a map of the classroom or playground
Identify symmetry in the environment (ACMMG066)	● identifying symmetry in Aboriginal rock carvings or art ● identifying symmetry in the natural and built environment

Geometric reasoning	Elaborations
Identify angles as measures of turn and compare angle sizes in everyday situations (ACMMG064)	● opening doors partially and fully and comparing the size of the angles created ● recognising that analogue clocks use the turning of arms to indicate time, and comparing the size of angles between the arms for familiar times

Statistics and Probability

Chance	Elaborations
Conduct chance experiments, identify and describe possible outcomes and recognise variation in results (ACMSP067)	● conducting repeated trials of chance experiments such as tossing a coin or drawing a ball from a bag and identifying the variations between trials

Data representation and interpretation	Elaborations
Identify questions or issues for categorical variables. Identify data sources and plan methods of data collection and recording (ACMSP068)	● refining questions and planning investigations that involve collecting data, and carrying out the investigation (for example narrowing the focus of a question such as 'which is the most popular breakfast cereal?' to 'which is the most popular breakfast cereal among Year 3 students in our class?')

Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies (ACMSP069)	● exploring meaningful and increasingly efficient ways to record data, and representing and reporting the results of investigations ● collecting data to investigate features in the natural environment
Interpret and compare data displays (ACMSP070)	● comparing various student-generated data representations and describing their similarities and differences