

# Mathematics

## Level 5

### Level 5 Description

In Level 5, students extend decimal fractions to thousandths, and explore the ideas of factors, multiples and divisibility.

Students use estimation and rounding for all four operations, with and without the use of technology for calculation. They involve addition, subtraction, multiplication and division by single digit divisors with remainders. Students represent, compare and decimal fractions, and represent them on a number line. They construct simple budgets for familiar events and act sentences involving division, and create number patterns involving fractions and decimals.

Students choose and use suitable metric and other units for measurement of length, angle, area, volume, capacity and perimeter and area of rectangles, and construct specified angles using protractors and other relevant technologies. Students use systems, with measurements and conversions to seconds. They use grid reference systems to describe location and coordinates with two-dimensional representations. They translate, reflect and rotate shapes with and without the use of technology symmetries. They explore similarity of familiar shapes through enlargement.

Students pose questions to collect categorical and numerical data by observation and survey, and represent the data in without the use of technology. They describe and interpret data sets in context. Students recognise that probabilities are (inclusive), and represent the probability of events from simple experiments using fractions.

### Level 5 Content Descriptions

#### Number and Algebra

##### Number and place value

Identify and describe factors and multiples of whole numbers and use them to solve problems (VCMNA181)

Use estimation and rounding to check the reasonableness of answers to calculations (VCMNA182)

Solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental, written strategies and technologies (VCMNA183)

Solve problems involving division by a one digit number, including those that result in a remainder (VCMNA184)

Use efficient mental and written strategies and apply appropriate digital technologies to solve problems (VCMNA185)

Recognise, represent and order numbers to at least hundreds of thousands (VCMNA186)

##### Fractions and decimals

Compare and order common unit fractions and locate and represent them on a number line (VCMNA187)

Investigate strategies to solve problems involving addition and subtraction of fractions with the same denominator (VCMNA188)

Recognise that the place value system can be extended beyond hundredths (VCMNA189)

Compare, order and represent decimals (VCMNA190)

## Money and financial mathematics

Create simple financial plans (VCMNA191)

## Patterns and algebra

Describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction

Use equivalent number sentences involving multiplication and division to find unknown quantities (VCMNA193)

Follow a mathematical algorithm involving branching and repetition (iteration) (VCMNA194)

## Level 5 Achievement Standard

### Number and Algebra

Students solve simple problems involving the four operations using a range of strategies including digital technology. They check the reasonableness of answers and approximate answers by rounding. Students identify and describe factors and multiples. Students order decimals and unit fractions and locate them on a number line. Students add and subtract fractions. They find unknown quantities in number sentences and continue patterns by adding or subtracting fractions and decimals.

### Measurement and Geometry

Students use appropriate units of measurement for length, area, volume, capacity and mass, and calculate perimeter, area, volume, and capacity of rectangular prisms. They convert between 12 and 24-hour time. Students use a grid reference system. They estimate angles, and use protractors and digital technology to construct and measure angles. Students connect their two-dimensional representations. They describe transformations of two-dimensional shapes and identify line and angle relationships.

### Statistics and Probability

Students pose questions to gather data and construct various displays appropriate for the data, with and without the use of technology. They compare and interpret different data sets. Students list outcomes of chance experiments with equally likely outcomes and calculate the probability of an event occurring as a number from 0 to 1.

