Year 4 Syllabus

Year Level Description

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. The achievement standards reflect the content and encompass the proficiencies.

At this year level:

- **understanding** includes making connections between representations of numbers, partitioning and combining numbers flexibly, extending place value to decimals, using appropriate language to communicate times and describing properties of symmetrical shapes
- **fluency** includes recalling multiplication tables, communicating sequences of simple fractions, using instruments to measure accurately, creating patterns with shapes and their transformations and collecting and recording data
- **problem-solving** includes formulating, modelling and recording authentic situations involving operations, comparing large numbers with each other, comparing time durations and using properties of numbers to continue patterns
- **reasoning** includes using generalising from number properties and results of calculations, deriving strategies for unfamiliar multiplication

and division tasks, comparing angles, communicating information using graphical displays and evaluating the appropriateness of different displays.

Number and Algebra

NUMBER AND PLACE VALUE

Investigate and use the properties of odd and even numbers (ACMNA071)

Numeracy

Recognise, represent and order numbers to at least tens of thousands (ACMNA072)

Literacy

Numeracy

Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist

Measurement and Geometry

USING UNITS OF MEASUREMENT

Use scaled instruments to measure and compare lengths, masses, capacities and temperatures (ACMMG084)

Numeracy

Compare objects using familiar metric units of area and volume (ACMMG290)

Numeracy

Convert between units of time (ACMMG085)

Numeracy

Statistics and Probability

CHANCE

Describe possible everyday events and order their chances of occurring (ACMSP092)

Literacy

Numeracy

Critical and creative thinking

Identify everyday events where one cannot happen if the other happens (ACMSP093)

Numeracy

Critical and creative thinking

calculations and solve problems (ACMNA073)

Literacy

Numeracy

Critical and creative thinking

Investigate number sequences involving multiples of 3, 4, 6, 7, 8, and 9 (ACMNA074)

Numeracy

Recall multiplication facts up to 10 × 10 and related division facts (ACMNA075)

Numeracy

Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder (ACMNA076)

Use 'am' and 'pm' notation and solve simple time problems (ACMMG086)

Literacy

Numeracy

SHAPE

Compare the areas of regular and irregular shapes by informal means (ACMMG087)

Numeracy

Compare and describe two dimensional shapes that result from combining and splitting common shapes, with and without the use of digital technologies (ACMMG088)

Literacy

Numeracy

Information and Communication Technology (ICT)

Identify events where the chance of one will not be affected by the occurrence of the other (ACMSP094)

Numeracy

Critical and creative thinking

DATA REPRESENTATION AND INTERPRETATION

Select and trial methods for data collection, including survey questions and recording sheets (ACMSP095)

Literacy

Numeracy

Critical and creative thinking

Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs

Literacy

Numeracy

Information and Communication Technology (ICT) capability

FRACTIONS AND DECIMALS

Investigate equivalent fractions used in contexts (ACMNA077)

Literacy

Numeracy

Critical and creative thinking

Count by quarters halves and thirds, including with mixed numerals. Locate and represent these fractions on a number line (ACMNA078)

Numeracy

Recognise that the place value system can be extended to

capability

Critical and creative thinking

LOCATION AND TRANSFORMATION

Use simple scales, legends and directions to interpret information contained in basic maps (ACMMG090)

Literacy

Numeracy

Critical and creative thinking

Create symmetrical patterns, pictures and shapes with and without digital technologies (ACMMG091)

Numeracy

Information and Communication Technology (ICT) capability

where one picture can represent many data values (ACMSP096)

Literacy

Numeracy

Information and Communication Technology (ICT) capability

Evaluate the effectiveness of different displays in illustrating data features including variability (ACMSP097)

Numeracy

Critical and creative thinking

tenths and hundredths. Make connections between fractions and decimal notation (ACMNA079)

Numeracy

Critical and creative thinking

MONEY AND FINANCIAL MATHEMATICS

Solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies (ACMNA080)

Literacy

Numeracy

Information and Communication Technology (ICT) capability

Critical and creative thinking

PATTERNS AND

GEOMETRIC REASONING

Compare angles and classify them as equal to, greater than, or less than, a right angle (ACMMG089)

Literacy

Numeracy

Critical and creative thinking

ALGEBRA

Explore and describe number patterns resulting from performing multiplication (ACMNA081)

Numeracy

Critical and creative thinking

Solve word problems by using number sentences involving multiplication or division where there is no remainder (ACMNA082)

Literacy

Numeracy

Critical and creative thinking

Find unknown quantities in number sentences involving addition and subtraction and identify equivalent

number sentences involving addition and subtraction (ACMNA083)

Numeracy

Year 4 Achievement Standard

Number and Algebra

At Standard, students use the properties of odd and even numbers. They recall multiplication facts to 10 x 10 and related division facts. Students continue number sequences involving multiples of single-digit numbers. They choose appropriate strategies for calculations involving multiplication and division. Students locate familiar fractions on a number line. They recognise common equivalent fractions in familiar contexts and make connections between fraction and decimal notations up to two decimal places. Students solve simple purchasing problems. They describe number patterns resulting from multiplication. Students identify and explain strategies for finding unknown quantities in number sentences.

Measurement and Geometry

Students use scaled instruments to measure temperatures, lengths, shapes and objects. They compare areas of regular and irregular shapes using informal units. Students solve problems involving time duration. They convert between units of time. Students interpret information contained in maps. They create symmetrical shapes and patterns. They classify angles in relation to a right angle.

Statistics and Probability

Students list the probabilities of everyday events. They identify dependent and independent events. Students describe different methods for data collection and representation and evaluate their effectiveness. They construct data displays from given or collected data.

Year Level Description

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. The achievement standards reflect the content and encompass the proficiencies.

At this year level:

- **understanding** includes making connections between representations of numbers, partitioning and combining numbers flexibly, extending place value to decimals, using appropriate language to communicate times and describing properties of symmetrical shapes
- **fluency** includes recalling multiplication tables, communicating sequences of simple fractions, using instruments to measure accurately, creating patterns with shapes and their transformations and collecting and recording data
- **problem-solving** includes formulating, modelling and recording authentic situations involving operations, comparing large numbers with

each other, comparing time durations and using properties of numbers to continue patterns

- **reasoning** includes using generalising from number properties and results of calculations, deriving strategies for unfamiliar multiplication and division tasks, comparing angles, communicating information using graphical displays and evaluating the appropriateness of different displays.