Year 5 Mathematics

Achievement Standard

By the end of Year 5, students solve simple problems involving the four operations using a range of strategies. They check the reasonableness of answers using estimation and rounding. Students identify and describe factors and multiples. They identify and explain strategies for unknown quantities in number sentences involving the four operations. They explain plans for simple budgets. Students connect three-dimensional objects with their two-dimensional representations. They describe transformations of two-dimensional shapes and identify line and rotational symmetry. Students interpret different data sets.

Students order decimals and unit fractions and locate them on number lines. They add and subtract fractions with the same denominator. Students continue patterns by adding and subtracting fractions and decimals. They use appropriate units of measurement for length, area, volume, capacity and mass, and calculate perimeter and area of rectangles. They convert between 12- and 24-hour time. Students use a grid reference system to locate landmarks. They measure and construct different angles. Students list outcomes of chance experiments with equally likely outcomes and assign probabilities between 0 and 1. Students pose questions to gather data, and construct data displays appropriate for the data.

Assessable Elements

An overall level of achievement in this subject is determined by the teacher's on-balance judgment of the evidence presented in students' summative assessment across the following strands:

- **Number and Algebra**
  Number and place value; Fractions and decimals; Money and financial mathematics; Patterns and algebra.

- **Measurement and Geography**
  Using units of measurement; Shape; Geometric reasoning; Location and transformation.

- **Statistics and probability**
  Chance; Data representation and interpretation

Delivery (mode, time requirements, lessons)

Students have access to three 1 hour scheduled lessons each week. Lessons are delivered via our learning management system. Students are also expected to undertake independent study to complete tasks and assessments in accordance with the Work Rate Calendar.

Student Requirements

Computer, internet access, email, printer, scanner, headset with microphone, stationery, manipulative materials, calculator, whiteboard and whiteboard markers.

Year 5 Mathematics (Semester 1)

Units, Learning Experiences and Summative Assessment		
Semester 1	Term 1	**Unit 1** **Number and place value** Make connections between factors and multiples, identify numbers that have 2, 3, 5 or 10 as factors, represent multiplication using the split and compensate strategy, choose appropriate procedures to represent the split and compensate strategy of multiplication, use a written strategy for addition and subtraction, round and estimate to check the reasonableness of answers, explore mental computation strategies for division, solve problems using mental computation strategies and informal recording methods, compare and evaluate strategies that are appropriate to different problems, make generalisations. **Fractions and decimals** Use models to represent fractions, count on and count back using unit fractions, identify and compare unit fractions using a range of representations, solve problems using unit fractions, add and subtract simple fractions with the same denominator. **Using units of measurement** Investigate time concepts and the measurement of time, read and represent 24-hour time, measure dimensions, estimate and measure the perimeters of rectangles, investigate metric units of area measurement, estimate and calculate area of rectangles. **Data representation and interpretation** Build an understanding of data, develop the skill of defining numerical and categorical data, generate sample questions, explain why data is either numerical or categorical, develop an understanding of why data is collected, choose appropriate methods to record data, interpret data, generalise by composing summary statements about data. Explore methods of data representation to construct and interpret data displays and reason with data.
		Summative Assessment: • **Assessment Task 1**: Interpreting data and posing questions to collect data. • **Assessment Task 2**: Solving number and fraction problems.
	Term 2	**Unit 2** **Number and place value** Round and estimate to check the reasonableness of answers; compare and evaluate strategies that are appropriate to different problems; explore and apply mental computation strategies for multiplication and division by solving problems with no remainders using informal recording methods; explore and identify factors and multiples. **Fractions and decimals** Make connections between fractional numbers and the place value system, represent, compare and order decimals. Apply decimal skills, recognise that the place value system can be extended beyond hundredths, compare order and represent decimals, locate decimals on a number line, extend the number system to thousandths and beyond. **Patterns and algebra** Create and continue patterns involving whole numbers, fractions and decimals; explore strategies to find unknown quantities. **Shape** Represent three- dimensional objects with two-dimensional representations; apply the properties of three-dimensional objects to make connections with a variety of two-dimensional representations of three-dimensional objects. **Geometric reasoning** Identify the components of angles; compare and estimate the size of angles; construct and measure angles. Estimate and measure angles, construct angles using a protractor. **Location and transformation** Create and describe transformations using symmetry; investigate and create reflection and rotational symmetry; transform shapes through enlargement and describe the features of the transformed shapes.
		Summative Assessment: • **Assessment Task 1**: Applying shape, angle and transformation concepts • **Assessment Task 2**: Fractions and decimals

Year 5 Mathematics (Semester 2)

Units, Learning Experiences and Summative Assessment		
Semester 2	Term 3	**Unit 3** **Number and place value** Round and estimate to check an answer is reasonable, use written strategies to add and subtract including the right-to- left strategy; multiply whole numbers, use an array to multiply one-digit and two-digit number; use divisibility rules to divide, dividing by a one-digit whole number with and without remainders; solve problems involving computation and apply computation to money problems. **Money and financial mathematics** Investigate income and expenditure, calculate costs, investigate savings and spending plans; explain plans for simple budgets **Patterns and algebra** Create, continue and identify the rule for patterns involving the addition and subtraction of fractions and decimals; explain strategies for finding unknown quantities in number sentences involving the four operations. **Using units of measurement** Choose appropriate units for length area, capacity and mass, measure length, area, capacity and mass, problem solve by calculating perimeter and area of rectangles. **Location and transformation** Explore mapping conventions, interpret simple maps, use alphanumeric grids to locate landmarks and plot points.
		Summative Assessment: • **Assessment Task 1**: Looking at location, continuing patterns and calculating money and numbers. • **Assessment Task 2**: Measurement Year 5s Great Garden
	Term 4	**Unit 4** **Chance** List possible outcomes of chance experiments, describe and order chance events, express probability on a numerical continuum, compare predictions with actual data, apply probability to games of chance, make predictions in chance experiments. **Number and place value** Use estimation and rounding to check reasonableness, use efficient mental and written strategies to solve addition, subtraction, multiplication and division problems; identify and use factors and multiples. **Using units of measurement** Read and represent 24-hour time, convert between 12-hour and 24-hour time. **Location and transformation** Explore maps and grids, use a grid to locate and describe locations, describe positions using landmarks and directional language. **Data representation and interpretation** Explore types of data, investigate an issue (design data-collection questions and tools, collect data, represent as a column graph or dot plot, interpret and describe data to draw a conclusion).
		Summative Assessment: • **Assessment Task 1**: Describing chance and probability • **Assessment Task 2**: Calculating time and identifying factors and multiples

Disclaimer All of the above information is accurate at the time of development.