Chapel Hill State School

Maths Curriculum and Assessment Overview 2024

YEAR 5

Curriculum Intent

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.

At this year level:

Understanding includes making connections between representations of numbers, using fractions to represent probabilities, comparing and ordering fractions and decimals and representing them in various ways, describing transformations and identifying line and rotational symmetry

Fluency includes choosing appropriate units of measurement for calculation of perimeter and area, using estimation to check the reasonableness of answers to calculations and using instruments to measure angles

Problem Solving includes formulating and solving authentic problems using whole numbers and measurements and creating financial plans

Reasoning includes investigating strategies to perform calculations efficiently, continuing patterns involving fractions and decimals, interpreting results of chance experiments, posing appropriate questions for data investigations and interpreting data sets.

Achievement Standards

Spiral Progression and Alignment

Developing the same concepts from one grade level to the next in increasing complexity and application.

YEAR 4	YEAR 5	YEAR 6
By the end of Year 4, students choose appropriate strategies for calculations involving multiplication and division. 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 identify and explain strategies for finding unknown quantities in number sentences. They describe number patterns resulting from multiplication. Students compare areas of regular and irregular shapes using informal units. They solve problems involving time duration. They interpret information contained in maps. Students identify dependent and independent events. They describe different methods for data collection and representation, and evaluate their effectiveness. Students use the properties of odd and even numbers. They recall multiplication facts to 10 x 10 and related division facts. Students locate familiar fractions on a number line. They continue number sequences involving multiples of single digit numbers. Students use scaled instruments to measure temperatures, lengths, shapes and objects. They convert between units of time. Students create symmetrical shapes and patterns. They classify angles in relation to a right angle. Students list the probabilities of everyday events. They construct data displays from given or collected data.	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 finding 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 times. 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.	By the end of Year 6, students recognise the properties of prime, composite, square and triangular numbers. They describe the use of integers in everyday contexts. They solve problems involving all four operations with whole numbers. Students connect fractions, decimals and percentages as different representations of the same number. They solve problems involving the addition and subtraction of related fractions. Students make connections between the powers of 10 and the multiplication and division of decimals. They describe rules used in sequences involving whole numbers, fractions and decimals. Students connect decimal representations to the metric system and choose appropriate units of measurement to perform a calculation. They make connections between capacity and volume. They solve problems involving length and area. They interpret timetables. Students describe combinations of transformations. They solve problems using the properties of angles. Students compare observed and expected frequencies. They interpret and compare a variety of data displays including those displays for two categorical variables. They interpret secondary data displayed in the media. Students locate fractions and integers on a number line. They calculate a simple fraction of a quantity. They add, subtract and multiply decimals and divide decimals where the result is rational. Students calculate common percentage discounts on sale items. They write correct number sentences using brackets and order of operations. Students locate an ordered pair in any one of the four quadrants on the Cartesian plane. They construct simple prisms and pyramids. Students describe probabilities using simple fractions, decimals and percentages.

Year 5	Maths Curriculum and Assessment Overview		Chapel Hill State School
Term 1	**Term 2**	**Term 3**	**Term 4**
Unit 2 (and Unit 3)	**Unit 1**	**Unit 4**	**Unit 3 & Financial**
Number and Algebra *Number and place value* • Round and estimate to check the reasonableness of answers • Explore and apply mental computation strategies for multiplication & division • Solve multiplication and division problems with no remainders • Solve problems using mental comp. strategies & informal recording methods • Compare and evaluate strategies that are appropriate to different problems • Explore and identify factors and multiples *Fractions and Decimals* • Make connections between fractional numbers and the place value system • Represent, compare and order decimals *Patterns and Algebra* • Create, continue patterns and identify the rule for patterns involving the addition and subtraction of fractions • Explore strategies and use number sentences to find unknown quantities involving multiplication and division **Measurement and Geometry** *Shape* • Apply the properties of 3D objects to make connections with a variety of 2D representations of 3D objects • Represent 3D objects with 2D representations *Location and Transformation* • Investigate and create reflection and rotation symmetry • Describe and create transformations using symmetry	**Number and Algebra** *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 split and compensate strategy • 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 and make generalisations *Fractions and Decimals* • Use models to represent fractions • Count on and count back using unit fractions • Identify, compare and solve problems using unit fractions • Add and subtract simple fractions with the same denominator **Statistics and Probability** *Chance* • Identify and describe possible outcomes • Describe equally likely outcomes • Represent probabilities of outcomes using fractions • Conduct a chance experiment and investigate the fairness of a game	**Number and Algebra** *Number and place value* • Apply mental & written strategies to solve addition, subtraction, multiplication and division problems • Identify and use factors and multiples • Apply computation skills • Use estimation and rounding to check reasonableness • Solve problems involving addition, subtraction, multiplication and division • Use efficient mental and written strategies to solve problems *Fractions and Decimals* • Apply decimal skills • Recognise that 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 **Measurement and Geometry** *Using Units of Measurement* • Read and represent 24-hour time • Convert between 12- and 24-hour times **Statistics and Probability** *Chance* • List possible outcomes of chance experiments • Describe and order chance events • Express probability on a numerical continuum • Compare predictions with actual data	**Number and Algebra** *Number and place value* • Round and estimate to check if an answer is reasonable • Use written strategies to add and subtract • Use an array to multiply 1 and 2 digit numbers • Use divisibility rules to divide • Solve problems involving computation to money problems • Add & subtract using mental & written strategies including right-to-left strategy • Multiply whole numbers and divide by a 1-digit whole number with and without remainders *Fractions and Decimals* • Make connections between fractions and decimals • Compare and order decimals *Money and Financial Mathematics* • Investigate income and expenditure • Calculate costs and investigate savings and spending plans • Calculate with money • Make financial decisions • Develop and explain simple financial plans. **Measurement and Geometry** *Using Units of Measurement* • Choose appropriate units for length, area, capacity and mass • Estimate and measure the perimeters of rectangles • Estimate and calculate area of rectangles • Measure length, area, capacity and mass • Problem solve & reason when applying measurement to answer a question

• Transform shapes through enlargement & describe features of transformed shapes • Explore mapping conventions • Explore maps and grids & use a grid to describe locations • Interpret simple maps • Use alphanumeric grids to locate landmarks and plot points • Describe positions using landmarks and directional language. *Geometric Reasoning* • Identifies the components of angles • Compare & estimate the size of angles to establish benchmarks • Estimate, measure & construct angles using a protractor	*Data Representation and Interpretation* • Build an understanding of data • Explore methods of data representations to construct & interpret data displays • Reason with data • Develop the skill of defining numerical & 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	• Apply probability to games of chance • Make predictions in chance experiments	•
Assessment			
U2 Applying Angles (Part A) *Written* Students measure and construct angles **U2 Applying Shape and Transformation (Part B)** *Written* Students make connections between 3D objects and their 2D representation. Students describe the symmetry and transformation of 2D shapes and identify line and rotational symmetry. **U3 Continuing Patterns** *Short answer questions* Students continue patterns by adding and subtracting fractions and decimals, and identify and explain strategies for finding unknown quantities in number sentences involving the four operations. * Includes Diagnostic Test	**U1 Solving Simple Multiplication and Division Problems (Part A)** *Short answer questions* Students solve multiplication and division problems by efficiently and accurately applying a range of strategies, checking the reasonableness of answers using estimation and rounding. **U1 Solving Simple Fraction Problems (Part B)** *Short answer questions* Students locate, represent, compare and order fractions and add and subtract fractions with the same denominator. * Includes Diagnostic Test **U1 Interpreting Data and Posing Questions to Collect Data** *Written* Students classify and interpret data and pose questions to gather data	**U4 Describing Chance and Probability** *Short answer questions* Students mathematically describe chance experiments involving equally likely outcomes and represent those outcomes. **U4 Calculating Time** *Short answer questions* Students convert between 12 and 24-hour time. * Includes Diagnostic Test **U4 Identifying Factors and Multiples** *Short answer questions* Students identify and describe factors and multiples of whole numbers. * Includes Diagnostic Test	**U3 Calculating with Money and Numbers - In ERP** Students identify and explain strategies for finding unknown quantities in number sentences involving the four operations. Students apply a range of computation strategies to solve money problems and to plan and calculate simple budgets. (Linked with HASS U5) **U3 Calculating with Measurement** *Short answer questions* Students choose appropriate units of measurement for length, area, volume, capacity and mass. They calculate perimeter and area of rectangles. * Includes Diagnostic Test

Achievement Standard – Elements Assessed			Version 8
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