Chapel Hill State School

Maths Curriculum and Assessment Year Level Plan 2025

Year 4

AC V9

Curriculum Intent

Year Level Description

In Year 4, learning in Mathematics builds on each student's prior learning and experiences. Students engage in a range of approaches to learning and doing mathematics that develop their understanding of and fluency with concepts, procedures and processes by making connections, reasoning, problem-solving and practice. Proficiency in mathematics enables students to respond to familiar and unfamiliar situations by employing mathematical strategies to make informed decisions and solve problems efficiently.

- Students further develop proficiency and positive dispositions towards mathematics and its use as they:
- draw on their proficiency with number facts, fractions and decimals to deepen their appreciation of how numbers work
- develop and use strategies for multiplication that are based on their understanding of multiplication as an operation and their knowledge of laws for arithmetic operations
- choose and use efficient strategies when modelling problems, communicating their solutions within the context of the situation
- use algorithms to generate sets of numbers, recognising and describing any patterns that emerge
- become aware of the importance of context and purpose when they make judgements and reflect on the reasonableness of measurements and the results of calculations, and how they choose to represent mathematics and mathematical information
- measure and estimate common attributes of objects using conventional instruments and appropriate metric units
- develop and use surveys to obtain data that is directly relevant to their statistical investigations
- draw on their reasoning skills to analyse, categorise and order chance events and identify independent and dependent events
- investigate variability by conducting repeated chance experiments and observing results

Achievement Standard

Spiral Progression and Alignment

YEAR 3

Number, Algebra
By the end of Year 3, students order and represent natural numbers beyond 10 000. They partition, rearrange and regroup two- and three-digit numbers in different ways to assist in calculations. Students extend and use single-digit addition and related subtraction facts and apply additive strategies to model and solve problems involving two- and three-digit numbers. They use mathematical modelling to solve practical problems involving single-digit multiplication and division, recalling multiplication facts for twos, threes, fours, fives and tens, and using a range of strategies. Students represent unit fractions and their multiples in different ways. They make estimates and determine the reasonableness of financial and other calculations. Students find unknown values in number sentences involving addition and subtraction. They create algorithms to investigate numbers and explore simple patterns.

Measurement, Space
Students use familiar metric units when estimating, comparing and measuring the attributes of objects and events. They identify angles as measures of turn and compare them to right angles. Students estimate and compare measures of duration using formal units of time. They represent money values in different ways. Students make, compare and classify objects using key features. They interpret and create two-dimensional representations of familiar environments.

Statistics, Probability
Students conduct guided statistical investigations involving categorical and discrete numerical data, and interpret their results in terms of the context. They record, represent and compare data they have collected. Students use practical activities, observation or experiment to identify and describe outcomes and the likelihood of everyday events explaining reasoning. They conduct repeated chance experiments and discuss variation in results.

YEAR 4

Number, Algebra
By the end of Year 4, students use their understanding of place value to represent tenths and hundredths in decimal form and to multiply natural numbers by multiples of 10. They use mathematical modelling to solve financial and other practical problems, formulating the problem using number sentences, solving the problem choosing efficient strategies and interpreting results in terms of the situation. Students use their proficiency with addition and multiplication facts to add and subtract, multiply and divide numbers efficiently. They choose rounding and estimation strategies to determine whether results of calculations are reasonable. Students use the properties of odd and even numbers. They recognise equivalent fractions and make connections between fraction and decimal notations. Students count and represent fractions on a number line. They find unknown values in numerical equations involving addition and subtraction. Students follow and create algorithms that generate sets of numbers and identify emerging patterns.

Measurement, Space
They use scaled instruments and appropriate units to measure length, mass, capacity and temperature. Students measure and approximate perimeters and areas. They convert between units of time when solving problems involving duration. Students compare angles relative to a right-angle using angle names. They represent and approximate shapes and objects in the environment. Students create and interpret grid references. They identify line and rotational symmetry in plane shapes and create symmetrical patterns.

Statistics, Probability
Students create many-to-one data displays, assess the suitability of displays for representing data and discuss the shape of distributions and variation in data. They use surveys and digital tools to generate categorical or discrete numerical data in statistical investigations and communicate their findings in context. Students order events or the outcomes of chance experiments in terms of likelihood and identify whether events are independent or dependent. They conduct repeated chance experiments and describe the variation in results.

YEAR 5

Number, Algebra
By the end of Year 5, students use place value to write and order decimals including decimals greater than one. They express natural numbers as products of factors and identify multiples. Students order and represent, add and subtract fractions with the same or related denominators. They represent common percentages and connect them to their fraction and decimal equivalents. Students use their proficiency with multiplication facts and efficient calculation strategies to multiply large numbers by one- and two-digit numbers and divide by single-digit numbers. They check the reasonableness of their calculations using estimation. Students use mathematical modelling to solve financial and other practical problems, formulating and solving problems, choosing arithmetic operations and interpreting results in terms of the situation. They apply properties of numbers and operations to find unknown values in numerical equations involving multiplication and division. Students create and use algorithms to identify and explain patterns in the factors and multiples of numbers.

Measurement, Space
They choose and use appropriate metric units to measure the attributes of length, mass and capacity, and to solve problems involving perimeter and area. Students convert between 12- and 24-hour time. They estimate, construct and measure angles in degrees. Students use grid coordinates to locate and move positions. They connect objects to their two-dimensional nets. Students perform and describe the results of transformations and identify any symmetries.

Statistics, Probability
They plan and conduct statistical investigations that collect nominal and ordinal categorical and discrete numerical data using digital tools. Students identify the mode and interpret the shape of distributions of data in context. They interpret and compare data represented in line graphs. Students conduct repeated chance experiments, list the possible outcomes, estimate likelihoods and make comparisons between those with and without equally likely outcomes.

Sequence of units	Semester 1		Semester 2	
	Unit 1	**Unit 2**	**Unit 3**	**Unit 4**
Unit description	Students further develop proficiency and positive dispositions towards mathematics and its use as they: **Number** • build understanding of number facts, fractions and decimals to deepen an appreciation of how numbers work together **Space** • use materials and digital tools to recognise line and rotational symmetry and create symmetrical patterns and pictures • create and interpret grid reference systems and directions on a map to locate and describe positions and pathways of locations of interest **Statistics** • develop and use surveys and digital tools to generate data and conduct a statistical investigation	Students further develop proficiency and positive dispositions towards mathematics and its use as they **Number and Algebra** • build understanding of odd and even numbers, number facts, addition and subtraction, fractions such as equivalent fractions and decimals to deepen an appreciation of how numbers work together • use a range of physical or virtual materials to develop mathematical thinking, such as materials to show the multiplicative relationship between place values • use strategies for multiplication and division based on the inverse relationship between them • choose and use efficient strategies when modelling financial and practical problems, communicating solutions within the context **Measurement** • solve everyday problems involving duration of time including converting units of time using relationships between units.	Students further develop proficiency and positive dispositions towards mathematics and its use as they **Number** • draw on proficiency with number facts, fractions and decimals such as two-tenths to deepen an appreciation of how numbers work together • choose and use efficient strategies when modelling practical problems, communicating solutions within the context (eg. a focus on decimals and everyday situations) **Space** • recognise approximate shapes and objects in the environment and represent or recreate these shapes and objects using physical and virtual materials **Measurement** • measure and estimate common attributes of objects using conventional instruments such as tape measures, measuring jugs and appropriate metric units • become aware of the importance of context and purpose when making judgements (eg. reflect on the reasonableness of measurements, the results of calculations and how they choose to represent the mathematics).	Students further develop proficiency and positive dispositions towards mathematics and its use as they **Number and Algebra** • draw build fluency with addition and multiplication facts to add and subtract, multiply and divide numbers efficiently • use algorithms to generate sets of numbers, recognising and describing any patterns that emerge • develop and use strategies for multiplicative thinking such as creating an algorithm that will generate number sequences involving multiples **Probability** • draw on reasoning skills to analyse, categorise and order chance events and identify independent and dependent events when conducting a chance experiment • investigate variability by conducting repeated chance experiments, observing and communicating results.
Curriculum links				

Assessment		Semester 1		Semester 2	
		Assessment task U1.1 Space *Identifying symmetry and using grid references*	**Assessment task U2.1 Number, Algebra** *Using odd and even numbers, rounding, estimation and mathematical modelling*	**Assessment task U3.1 Number** *Representing tenths and hundredths as decimals and using mathematical modelling to solve a problem*	**Assessment task U4.1 Number, Algebra** *Finding unknowns, creating algorithms and identifying emerging patterns*
Range and balance of assessment conventions	**Technique**	Short response Observed demonstration	Short response Observed demonstration	Short response Observed demonstration	Test Observed demonstration
	Mode	Written	Written	Written	Written
	Conditions	☒ Access to resources ☒ Individual task **or** ☐ Group task **Consideration of:** ☒ Time conditions ☒ Accessibility for all students	☒ Access to resources ☒ Individual task **or** ☐ Group task **Consideration of:** ☒ Time conditions ☒ Accessibility for all students	☒ Access to resources ☒ Individual task **or** ☐ Group task **Consideration of:** ☒ Time conditions ☒ Accessibility for all students	☒ Access to resources ☒ Individual task **or** ☐ Group task **Consideration of:** ☒ Time conditions ☒ Accessibility for all students
	Diagnostic	Includes Diagnostic Number Task	Includes Unit Diagnostic Number	Includes Unit Diagnostic Number	Includes Unit Diagnostic Number
Assessment		**Assessment task U1.2 Statistics** *Conducting a guided statistical investigation*	**Assessment task U2.2 Measurement** *Solving duration problems by converting units of time*	**Assessment task U3.2 Measurement, Space** *Measuring length, mass, capacity, temperature, perimeter and area*	**Assessment task U4.2 Probability** *Ordering likelihood of events and conducting chance experiments*
Range and balance of assessment conventions	**Technique**	Investigation Observed demonstration	Test Observed demonstration	Test Observed demonstration	Investigation Other
	Mode	Practical	Written	Practical	Practical
	Conditions	☒ Access to resources ☒ Individual task **or** ☐ Group task **Consideration of:** ☒ Time conditions ☒ Accessibility for all students	☒ Access to resources ☒ Individual task **or** ☐ Group task **Consideration of:** ☒ Time conditions ☒ Accessibility for all students	☒ Access to resources ☒ Individual task **or** ☒ Group task **Consideration of:** ☒ Time conditions ☒ Accessibility for all students	☒ Access to resources ☒ Individual task **or** ☒ Group task **Consideration of:** ☒ Time conditions ☒ Accessibility for all students
	Diagnostic				
Assessment					
Range and balance of assessment conventions	**Technique**	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.
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	Diagnostic				

Achievement Standard Elements Assessed / Elements Monitored				
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Students follow and create algorithms that generate sets of numbers and identify emerging patterns. **Measurement, Space** They use scaled instruments and appropriate units to measure length, mass, capacity and temperature. Students measure and approximate perimeters and areas. They convert between units of time when solving problems involving duration. Students compare angles relative to a right-angle using angle names. They represent and approximate shapes and objects in the environment. **Students create and interpret grid references. They identify line and rotational symmetry in plane shapes and create symmetrical patterns**. **Statistics, Probability** **Students create many-to-one data displays, assess the suitability of displays for representing data and discuss the shape of distributions and variation in data. They use surveys and digital tools to generate categorical** or discrete numerical **data in statistical investigations and communicate their findings in context**. Students order events or the outcomes of chance experiments in terms of likelihood and identify whether events are independent or dependent. They conduct repeated chance experiments and describe the variation in results.	**Number, Algebra** **By the end of Year 4**, students use their understanding of place value to represent tenths and hundredths in decimal form and to multiply natural numbers by multiples of 10. **They use mathematical modelling to solve financial** and other practical **problems, formulating the problem** using number sentences, solving the problem **choosing efficient strategies and interpreting results in terms of the situation**. Students use their proficiency with addition and multiplication facts to add and subtract, multiply and divide numbers efficiently. **They choose rounding and estimation strategies to determine whether results of calculations are reasonable. Students use the properties of odd and even numbers**. 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Disclaimer: Please use this Year Level Plan (Curriculum Map) as a guide. Due to professional judgement or circumstances beyond our control, it may be necessary to make changes to the published timetabling, delivery or instrument of an assessment