Year 5 Maths Overview

Cathcart Street Primary School 2023-2024

	Autumn 1	Spring 1	Summer 1
	Year 5 NC Objectives	**Year 5 NC Objectives**	**Year 5 NC Objectives**
Maths – 1st half term	**NUMBER: Place Value** • Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit • Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 • **S**olve number problems and practical problems that involve all of the above • Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 • Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals **NUMBER: Addition & Subtraction** • Add and subtract numbers mentally with increasingly large numbers • Add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction) • Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	**NUMBER: Multiplication and Division** • Multiply numbers up to four digits by a 1- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers. • Divide up to four digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context • Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign **NUMBER: Fractions** • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	**GEOMETRY: Shape** • Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles • Draw given angles, and measure them in degrees (°) • Identify angles at a point and 1 whole turn (total 360°) • Identify: angles at a point and 1 whole turn (total 360°); angles at a point on a straight line and half a turn (total 180°) • Use the properties of rectangles to deduce related facts and find missing lengths and angles • Distinguish between regular and irregular polygons based on reasoning about equal sides and angles • Identify 3-D shapes, including cubes and other cuboids, from 2-D representations **Geometry: Position and Direction** • Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed
	Autumn 2	**Spring 2**	**Summer 2**

Maths – 2nd half term

NUMBER: Multiplication and Division
- Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
- Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes
- Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers
- Establish whether a number up to 100 is prime and recall prime numbers up to 19
- Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})
- Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000
- Multiply and divide numbers mentally, drawing upon known facts

NUMBER: Fractions
- Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
- Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number
- Compare and order fractions whose denominators are all multiples of the same number
- Add and subtract fractions with the same denominator, and denominators that are multiples of the same number

NUMBER: Decimals and Percentages
- Read, write, order and compare numbers with up to 3 decimal places
- Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
- Read and write decimal numbers as fractions
- Solve problems which require knowing percentage and decimal equivalents of 1/ 2 , 1/ 4 , 1/ 5 , 2/ 5 , 4/ 5 and those fractions with a denominator of a multiple of 10 or 25.
- Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- Solve problems involving numbers up to 3 decimal places
- Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place
- Recognise the per cent symbol (%) and understand that per cent relates to "number of parts per 100", and write percentages as a fraction with denominator 100, and as a decimal fraction

Measurement: Perimeter and Area
- Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
- Calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm2) and square metres (m2), and estimate the area of irregular shapes

Statistics
- Complete, read and interpret information in tables, including timetables
- Solve comparison, sum and difference problems using information presented in a line graph

NUMBER: Decimals and Percentages
- Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- Solve problems involving number up to 3 decimal places
- Read, write, order and compare numbers with up to 3 decimal places
- Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000

NUMBER: Negative Numbers
- Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero

MEASUREMENT: Converting Units
- Convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre]
- Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
- Solve problems involving converting between units of time
- Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

MEASUREMENT: Volume
- Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity
- Estimate volume and capacity [for example, using water]

Key vocabulary Building on KS1 and lower KS2 maths vocabulary

	Number and Place Value	Addition and Subtraction	Multiplication and Division	Measure	Geometry (Position and Direction)	Geometry (Properties of Shape)	Fraction, Decimals and Percentages
Vocabulary	powers of 10 numbers to 1,000,000 Roman numerals to 1000 = M	efficient written methods	factor pairs composite numbers, prime number, prime factors, square number, cubed number formal written methods	volume imperial units (such as inches, pounds and pints) convert between different metric units (kilometre, metre; centimetre and metre; gram and kilogram; litre and millilitre)	reflex angle dimensions	regular and irregular polygons degrees whole turn = 360°	proper fractions, improper fractions, mixed numbers percentage half, quarter, fifth, two fifths, four fifths ratio, proportion