Carr Hill Community Primary School
Maths Curriculum- Year 3

Code used	Bold font – Programme of study Non-bold font – Non-statutory guidance Italics – Gateshead guidance
Number and place value	• **Read and write numbers up to 1000 in numerals and words** • **Compare and order number up to 1000** • *Use the vocabulary of comparing and ordering numbers including use of G,q symbols..* • Continue to count in ones, tens and hundreds, using a variety of representations, including those related to measures, to become fluent in the order and place value of numbers to 1000. • **Identify, represent and estimate numbers using different representations** • **Recognise the place value of each digit in a three-digit number (hundreds, tens and ones)** • Apply partitioning related to place value using varied and increasingly complex problems e.g. 146 = 100 + 40 + 6 and 146 = 130 + 16 • *Apply understanding of the number system to solve problems and puzzles involving numbers, money or measures. Explain methods and reasoning orally and in writing, including using diagrams and symbol.* • Continue to use multiples of 2, 3, 5 and 10 • **Count from 0 in multiples of 4, 8, 50 and 100** • **Find 10 or 100 more or less than a given number** • *Recognise patterns in sequences of multiples and connections between them e.g. explore patterns on a 12 x 12 multiplication grid* • *Recognise and extend number sequences formed by counting from any number in steps of constant size* • *Apply understanding of number properties to solve routine and non-routine problems and puzzles involving numbers, money or measure.* • *Explore and discuss patterns, properties and relationships that arise in the number system using appropriate mathematical vocabulary.* • *Develop lines of enquiry through conjecturing relationships and generalisations and testing ideas. •Identify examples for which a statement is true or false.*
Number – addition and subtraction	• *Continue to practice recall of addition and subtraction facts to 20; use these known facts and understanding of place value to quickly derive sums and differences using two-digit numbers* • **Add and subtract numbers mentally including** • **a three-digit number and ones** • **a three-digit number and tens** • **a three-digit number and hundreds** • Addition and subtraction of two digit numbers including additions with answers exceeding 100 • *Use and explain a range of mental strategies appropriate to the numbers involved, sometimes supporting explanations with jottings or informal recording* • **Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction** • **Estimate the answer to a calculation and use inverse operations to check answers** • *Understand and use the principles of the arithmetic laws; commutative and associative* • **Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction** • *Solve calculation problems using information from a range of tables and charts* • *Apply understanding of number operations to solve number puzzles and non-routine problems and explain reasoning* • Use and explain the equals sign to indicate equivalence, including in missing number problems (e.g. 6 + 8 = 7 + 7; 33 = 38 - Δ)
Number – multiplication and division	• **Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.** Continue to practice 2, 5 and 10 tables and connect the 2, 4 and 8 multiplication tables through doubling. • Develop efficient mental methods for example using commutativity and associativity e.g. 4 x 12 x 5 = 20 x 12 = 240 and multiplication and division facts e.g.

	using 3 x 2 = 6, 6 ÷ 3 = 2 and 2 = 6 ÷ 3 = 2 to derive related facts such as 30 x 2 = 60, 60 ÷ 3 = 20 and 20 = 60 ÷ 3 • **Write and calculate mathematical statements for multiplication and division using the multiplication tables that are known, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods** • *Use informal recording methods such as the grid method, linked to understanding of arrays to support the development of formal methods as appropriate* • **Solve problems, including missing number problems, involving multiplications and division,** including measuring contexts and **positive integer scaling problems** (e.g. four times as high, 8 times as long) **and correspondence problems in which n objects are connected to m objects** (e.g. 3 hats and 4 coats, how many different outfits, 4 cakes shared equally between 8 children) • *Use rounding, estimation and inverse operations to check answers to calculations and determine, in the context of a problem, levels of accuracy* • *Solve calculation problems using information from a range of tables and charts* • *Apply understanding of number operations to solve number puzzles, routine and non –routine problems and explain reasoning* • *Use and explain the equals sign to indicate equivalence, including in missing number problems (e.g. 2 x 12 = 4 x 6; 30 = 5 x ◊)*
Number – fractions	• Continue to recognise fractions in the context of parts of a whole, numbers, measurements, a shape, and unit fractions as a division of a quantity • **Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.** • Understand the relation between unit fractions as operators (fractions of), and division by integers • **Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.** Use them on a number line and deduce relations between them such as size and equivalence. Go beyond the 0 – 1 interval, including relating this to measure • **Compare and order unit fractions, and fractions with the same denominators** • **Recognise and show, using diagrams, equivalent fractions with small denominators** • **Add and subtract fractions with the same denominator within one whole e.g. 5/7 + 1/7 = 6/7** • **Count up and down in tenths** • **Recognise that tenths arise from dividing an object into ten equal parts and in dividing one-digit numbers or quantities by 10,** connecting them to place value, decimal measures and division by 10. • *Apply understanding of fractions to solve routine and non-routine problems and puzzles involving numbers, shapes, money or measures. Explain methods and reasoning orally and in writing, including using diagrams and symbols.*
Measurement	• Continue to measure using appropriate tools and units • **Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g): volume/ capacity (l/ml),** including • Comparing and using mixed units e.g. 1kg and 200g • Simple equivalents of mixed units e.g. 5m = 500cm. • Comparisons involving simple scaling by integers e.g. a given quantity is twice as long or 5 times as high. This should be connected to multiplication. • **Measure the perimeter of simple 2-D shapes** • Continue to become fluent in recognising the value of coins; **add and subtract amounts of money to give change, using both £ and p in practical contexts.** Record £ and p separately. • **Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and the 12-hour and 24-hour clocks.** Use the digital 12 hour clock. • **Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight** • **Know the number of seconds in a minute and the number of days in each month, a year and leap year** • **Compare duration of events e.g. the time taken by a particular event or task** • *Use all four operations to solve problems including scaling problems involving measure (e.g. length, mass, volume, money). Information required to solve a problem is often drawn from tables, including timetables, graphs and charts* • *Apply measuring skills to an appropriate degree of accuracy , alongside the skills of thinking mathematically to solve problems. These should include practical problems and might involve construction of shapes or artefacts, often in a cross curricular context* • *Make and explain connections between number, measures and shape*

Geometry – properties of shapes	• *Continue to develop use of correct mathematical vocabulary(including parallel and perpendicular) to describe, identify, compare and sort 2-D and 3-D shapes,* • Extend knowledge of the properties of shapes to symmetrical and non-symmetrical polygons and polyhedra • **Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them** • **Recognise angles as a property of shape or a description of turn** • **Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater or less than a right angle** and use the language of acute and obtuse • **Identify horizontal and vertical lines and pairs of perpendicular and parallel lines** • *Solve problems, involving reasoning about shapes and their properties. Explain solutions orally or using writing, diagrams, practical materials or dynamic geometry ICT tools*
Geometry – position and direction	• *Continue to use mathematical language to describe position, direction and movement including movement in a straight line and quarter, half, three quarter and full turns both clockwise and anti-clockwise* • *Recognise and use the four compass directions N, E, S, W*
Statistics	• **Interpret and present data using bar charts, pictograms and tables** • Understand and use simple scales e.g. 2, 5, 10 units per cm in pictograms and bar charts with increasing accuracy • **Solve one and two-step questions e.g. 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables** • *Pose their own questions that can be answered using information presented in different bar charts pictograms and tables* • *Understand and use Venn and Carroll diagrams to support reasoning about numbers or shapes* • *Apply the skills of collecting, representing and interpreting statistical data across the curriculum within and beyond mathematic, sometimes in response to an enquiry of interest to and suggested by pupils.*