Moorland Primary School – Progression of Knowledge in Maths

Year 4	Place value	Addition and subtraction	Multiplication and division	Fractions/ Decimals and percentages	Measurement
	COUNTING Count backwards through zero to include negative numbers. Count in multiples of 6, 7, 9, 25 and 1 000. Find 1 000 more or less than a given number. Count backwards through zero to include negative numbers. Count in multiples of 6, 7, 9, 25 and 1 000. Find 1 000 more or less than a given number. **COMPARING NUMBERS** Order and compare numbers beyond 1 000. Compare numbers with the same number of decimal places up to two decimal places. **IDENTIFYING, REPRESENTING AND ESTIMATING NUMBERS** Identify, represent and estimate numbers using different representations. **READING AND WRITING NUMBERS** Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. **UNDERSTANDING PLACE VALUE** Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the	**WRITTEN METHODS** Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. **INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS** Estimate and use inverse operations to check answers to a calculation. **PROBLEM SOLVING** Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	**MULTIPLICATION & DIVISION FACTS** Count in multiples of 6, 7, 9, 25 and 1 000 (copied from Number and Place Value). Recall multiplication and division facts for multiplication tables up to 12 × 12. **MENTAL CALCULATION** Use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1; dividing by 1; multiplying together three numbers. Recognise and use factor pairs and commutativity in mental calculations **WRITTEN CALCULATION** Multiply two-digit and threedigit numbers by a one-digit number using formal written layout. **MULTIPLES, FACTORS, PRIMES, SQUARE AND CUBE NUMBERS** Recognise and use factor pairs and commutativity in mental calculations. **INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS** Estimate and use inverse operations to check answers to a calculation **PROBLEM SOLVING** Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	**COUNTING IN FRACTIONAL STEPS** Count up and down in hundredths. **RECOGNISING FRACTIONS** Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. **COMPARING DECIMALS** compare numbers with the same number of decimal places up to two decimal places. **ROUNDING INCLUDING DECIMALS** Round decimals with one decimal place to the nearest whole number. **EQUIVALENCE** Recognise and show, using diagrams, families of common equivalent fractions. Recognise and write decimal equivalents of any number of tenths or hundredths. Recognise and write decimal equivalents to 1/4; 1/2; 3/4. **ADDITION AND SUBTRACTION** Add and subtract fractions with the same denominator. **MULTIPLICATION & DIVISION OF DECIMALS** Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. **PROBLEM SOLVING** Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number. Solve simple measure and money problems involving fractions and decimals to two decimal places	**COMPARING AND ESTIMATING** Estimate, compare and calculate different measures, including money in pounds and pence **MEASURING & CALCULATING** Estimate, compare and calculate different measures, including money in pounds and pence (appears also in Comparing). Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Find the area of rectilinear shapes by counting squares. **TELLING THE TIME** Read, write and convert time between analogue and digital 12 and 24-hour clocks Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days **CONVERTING** Convert between different units of measure (e.g. kilometre to metre; hour to minute) Read, write and convert time between analogue and digital 12 and 24-hour clocks. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days

	digits in the answer as units, tenths and hundredths . ***ROUNDING*** Round any number to the nearest 10, 100 or 1 000. Round decimals with one decimal place to the nearest whole number (copied from Fractions) Round any number to the nearest 10, 100 or 1 000. Round decimals with one decimal place to the nearest whole number ***PROBLEM SOLVING*** Solve number and practical problems that involve all the above and with increasingly large positive numbers.				

Year 4	Geometry	Statistics	Algebra
	Describe positions on a 2-D grid as coordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left/right and up/down. Plot specified points and draw sides to complete a given polygon. Identify acute and obtuse angles. Compare and order angles up to 2 right angles by size. Compare and classify geometric shapes including quadrilaterals and triangles, based on their properties and size. Identify lines of symmetry in 2D shapes presented in different orientations.	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	Perimeter can be expressed algebraically as $2(a + b)$ where a and b are the dimensions in the same unit.