Callowell Primary School – Progression of Maths skills

Year	Counting	Addition and Subtraction	Multiplication and Division	Fractions
Birth to 3	Combine objects like stacking blocks and cups. Put objects inside others and take them out again. Take part in finger rhymes with numbers. React to changes of amount in a group of up to three items. Compare amounts, saying 'lots', 'more' or 'same'. Develop counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence. Count in everyday contexts, sometimes skipping numbers - '1-2-3-5.'			
3 & 4 Year olds	Develop fast recognition of up to 3 objects, without having to count them individually ('subitising') Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). Show 'finger numbers' up to 5. Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. Recite numbers past 5. Say one number for each item in order: 1,2,3,4,5. Experiment with their own symbols and marks as well as numerals.	Solve real world mathematical problems with numbers up to 5. Compare quantities using language: 'more than', 'fewer than'.		
Rec	Count objects, actions and sounds. Subitise. Link the number symbol (numeral) with its cardinal number value. Count beyond ten. Compare numbers.	Understand the 'one more than/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10. Automatically recall number bonds for numbers 0–10. Have a deep understanding of numbers to ten, including the composition of each number.		

	Subitise (recognising quantities without counting) up to 5. Verbally count beyond 20, recognising the pattern of the counting system. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.	Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.		
1	Count, read and write numbers to 100 in numerals Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Count in multiples of twos, fives and tens Say 1 more and 1 less Use a number line Use the language of: equal to, more than, less than (fewer), most, least Read and write numbers from 1 to 20 in numerals and words	Write mathematical statements involving addition (+), subtraction (–) and equals (=) signs Use number bonds and related subtraction facts within 20 Add and subtract one-digit and two-digit numbers to 20, including zero Solve problems that involve addition and subtraction, using concrete objects and pictures Complete missing number problems such as 7 = ? – 9	Solve problems involving multiplication and division, by calculating the answer using concrete objects or pictures (e.g. arrays) Count in multiples of twos, fives and tens	Recognise, find and name a half and a quarter as equal parts of an object, shape or quantity
2	Count in steps of 2, 3, 5 from 0, and in tens from any number, forward and backward Recognise the place value of each digit in a two-digit number (tens, ones) Use a number line Compare and order numbers from 0 up to 100 Use <, > and = signs Read and write numbers to at least 100 in numerals and in words Use place value and number facts to solve problems	Solve problems with addition and subtraction Use mental and written methods Use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Add and subtract numbers using objects, pictures and mentally, including: a two-digit number and ones a two-digit number and tens two two-digit numbers adding three one-digit numbers Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot Use the inverse relationship between addition and subtraction to check calculations and solve missing number problems	Use multiplication and division facts for the 2, 5 and 10 multiplication tables Calculate within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts	Recognise, find, name and write fractions ⅓, ¼, ½ (or two quarters) and ¾ of a length, shape, set of objects or quantity Write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of two quarters and ½
3	Count from 0 in multiples of 4, 8, 50 and 100 Find 10 or 100 more or less than a given number	Add and subtract numbers mentally, including: Three-digit number and ones Three-digit number and tens Three-digit number and hundreds	Use multiplication and division facts for the 2,3,4,5 and 8 multiplication tables Calculate mathematical statements for multiplication and division using the multiplication tables that they know, including	Count up and down in tenths Understand what tenths are Find fractions of a discrete set of objects Use fractions as numbers Recognise and show equivalent fractions

	Recognise the place value of each digit in a three-digit number Compare and order numbers up to 1000 Read and write numbers up to 1000 in numerals and in words Solve number problems and practical problems	Add and subtract numbers with up to three digits, using formal written methods of column addition and subtraction Estimate the answer to a calculation and use inverse operations to check answers Solve problems, including missing number problems, using number facts, place value, and addition and subtraction Add multiples of 10 and 100 mentally to 2 and 3 digit numbers	for two-digit numbers times one-digit numbers and two-digit numbers divided by one-digit numbers Solve problems, including missing number problems, involving multiplication and division	Add and subtract fractions with the same denominator Compare and order unit fractions, and fractions with the same denominators
4	Count in multiples of 6, 7, 9, 25 and 1000 Find 1000 more or less than a given number Count backwards through zero to include negative numbers Recognise the place value of each digit in a four-digit number Order and compare numbers beyond 1000 Round any number to the nearest 10, 100 or 1000 Read Roman numerals to 100 (I to C)	Add and subtract numbers with up to 4 digits using the formal written methods of column addition and subtraction Estimate and use inverse operations to check answers to a calculation Add and subtract simple decimals, including mentally Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	Know multiplication tables up to 12 × 12 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 Multiply two-digit and three-digit numbers by a one-digit number using formal written layout Divide 3-digit numbers by a 1-digit number using short division Use the distributive law to multiply two digit numbers by one digit	Use common equivalent fractions Count up and down in hundredths Add and subtract fractions with the same denominator Recognise and write decimal equivalents of any number of tenths or hundredths Know the decimal equivalents 0.25, 0.5 and 0.75 Find the effect of dividing a one- or two-digit number by 10 and 100 Round decimals with one decimal place to the nearest whole number Compare numbers with the same number of decimal places up to two decimal places

5	Read, write, order and compare numbers to at least 1 000 000 Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 Read Roman numerals to 1000 (M) and recognise years written in Roman numerals Partition decimal numbers	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction also including decimals) Add and subtract numbers mentally with increasingly large numbers 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	Identify multiples and factors using known tables to 12x12 Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers Know whether a number up to 100 is prime and recall prime numbers up to 19 Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers Multiply and divide numbers mentally Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders Multiply and divide whole numbers and decimals by 10, 100 and 1000 Recognise and use square numbers and cube numbers and the notation Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes Solve problems involving addition, subtraction, multiplication and division Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	Compare and order fractions Know equivalent fractions of a given fraction Recognise mixed numbers and improper fractions and convert from one form to the other Add and subtract fractions Multiply proper fractions and mixed numbers by whole numbers Read and write decimal numbers as fractions Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Round decimals with two decimal places to the nearest whole number and to one decimal place Read, write, order and compare numbers with up to three decimal places Solve problems involving number up to three decimal places Recognise the per cent symbol (%) and write percentages as a fraction and as a decimal
6	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit Round any whole number to a required degree of accuracy Use negative numbers in context, and calculate intervals across zero	Perform mental calculations with mixed operations and large numbers Use knowledge of the order of operations to carry out calculations Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Solve problems involving addition and subtraction	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division and interpret remainders Divide numbers up to 4 digits by a two-digit number using the formal written method of short division, interpreting remainders Complete above using numbers with up to three decimal places Identify common factors, common multiples and prime numbers Solve problems involving multiplication and division Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy	use common factors to simplify fractions Compare and order fractions, including fractions > 1 Add and subtract fractions with different denominators Multiply simple pairs of proper fractions, writing the answer in its simplest form Divide proper fractions by whole numbers Associate a fraction with division and calculate decimal fraction equivalents Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places Multiply one-digit numbers with up to two decimal places by whole numbers Use written division methods in cases where the answer has up to two decimal places Solve problems which require answers to be rounded to specified degrees of accuracy Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts