Barford St. Peter's C.E. (V.A.) Primary School

Together we love; together we learn

Maths Knowledge and Skills Progression for: MULTIPLICATION AND DIVISION

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Multiplication & division facts	• Automatically recall some double facts	• count in multiples of twos, fives and tens	• count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward • recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	• count from 0 in multiples of 4, 8, 50 and 100 • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	• count in multiples of 6, 7, 9, 25 and 1 000 • recall multiplication and division facts for multiplication tables up to 12 × 12	• count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	
Mental calculations	• represent double facts		• show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	• write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times onedigit numbers, using mental and progressing to formal written methods	• 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	• multiply and divide numbers mentally drawing upon known facts • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	• perform mental calculations, including with mixed operations and large numbers • associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3 /8)

Barford St. Peter's C.E. (V.A.) Primary School

Together we love; together we learn

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Written calculations			• calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	• write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental methods and progressing to formal written methods	• multiply two-digit and three-digit numbers by a onedigit number using formal written layout	• 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 • divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	• 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 short division where appropriate for the context divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context • use written division methods in cases where the answer has up to two decimal places

Barford St. Peter's C.E. (V.A.) Primary School

Together we love; together we learn

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Properties of numbers: multiples, factors, prime, square and cube numbers					• recognise and use factor pairs and commutativity in mental calculations	• identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • 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})	• identify common factors, common multiples and prime numbers • use common factors to simplify fractions; use common multiples to express fractions in the same denomination • calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3
Order of operations							• use their knowledge of the order of operations to carry out calculations involving the four operations

Barford St. Peter's C.E. (V.A.) Primary School

Together we love; together we learn

Inverse operations, estimating and checking answers				• estimate the answer to a calculation and use inverse operations to check answers	• estimate and use inverse operations to check answers to a calculation		• use estimation to check answers to calculations and determine (in a problem) levels of accuracy
	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Problem solving		• solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	• solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	• solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected with m objects	• 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	• 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 and a combination of these, including understanding the meaning of the equals sign • solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	• solve problems involving addition, subtraction, multiplication and division • solve problems involving similar shapes where the scale factor is known or can be found