	Curriculum 2014 Progression chart **Multiplication and division**
	*Problem solving in **bold***
Y1	*Pupils should be taught to:* • **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.**
Y2	*Pupils should be taught to:* • recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • calculate mathematical statements for multiplication and division 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, including problems in contexts.**
Y3	*Pupils should be taught to:* • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • 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 and progressing to formal written methods • **solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which n objects are connected to m objects.**
Y4	*Pupils should be taught to:* • recall multiplication and division facts for multiplication tables up to 12 × 12 • 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 two-digit and three-digit numbers by a one-digit number using formal written layout • **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.**
Y5	*Pupils should be taught to:* • identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. • **solve problems involving multiplication and division where larger numbers are used by decomposing them into their factors** • 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 • 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 drawing upon known facts • 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 and divide whole numbers and those involving decimals by 10, 100 and 1000 • recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) • **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.**
Y6	<mark>**NB Addition, subtraction, multiplication and division**</mark> *Pupils should be taught to:* • 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 as whole number remainders, fractions, or by rounding, as appropriate for the context • perform mental calculations, including with mixed operations and large numbers. • identify common factors, common multiples and prime numbers • use their knowledge of the order of operations to carry out calculations involving the four operations • **solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why** • **solve problems involving addition, subtraction, multiplication and division** • use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.