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| **Foundation Stage**  **Recall of facts** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| They solve problems, including doubling, halving and sharing. | 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. | Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot  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  Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. | 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 positive integer scaling problems and correspondence problems in which n objects are connected to m objects. | Recall multiplication and division facts for multiplication tables up to 12 × 12 (facts for 6,7,9,11,12 are new)  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. | 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)  multiply and divide numbers mentally drawing upon known facts  multiply and divide whole numbers and those involving decimals by 10, 100 and 1000  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  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. | Use their knowledge of the order of operations to carry out calculations involving the four operations  identify common factors, common multiples and prime numbers  Perform mental calculations, including with mixed operations and large numbers  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  divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context  Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.  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 |

**Laws of Arithmetic**

**Multiplication and Division – National Curriculum 2014**

**Solving Problems**

**Properties**

**Written Calculation**

**Mental Calculation**