# Number: Multiplication and Division 

| MULTIPLICATION \& DIVISION FACTS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| count in multiples of twos, fives and tens (copied from Number and Place Value) | count in steps of 2, 3, and 5 from 0 , and in tens from any number, forward or backward (copied from Number and Place Value) | count from 0 in multiples of 4, 8,50 and 100 (copied from Number and Place Value) | count in multiples of 6 , $7,9,25$ and 1000 (copied from Number and Place Value) | count forwards or backwards in steps of powers of 10 for any given number up to 1000000 <br> (copied from Number and Place Value) |  |
|  | recall and use multiplication and division facts for the 2,5 and 10 multiplication tables, including recognising odd and even numbers | recall and use multiplication and division facts for the 3,4 and 8 multiplication tables | recall multiplication and division facts for multiplication tables up to $12 \times 12$ |  |  |
| MENTAL CALCULATION |  |  |  |  |  |
|  |  | 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 (appears also in 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 | multiply and divide numbers mentally drawing upon known facts | perform mental calculations, including with mixed operations and large numbers |
|  | show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot |  | recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers) | multiply and divide whole numbers and those involving decimals by 10,100 and 1000 | associate a fraction with division and calculate decimal fraction equivalents (e.g. $0.375)$ for a simple fraction (e.g. ${ }^{3} / 8$ ) (copied from Fractions) |

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| WRITTEN CALCULATION |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|  | calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication $(x)$, division ( $\div$ ) 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 and progressing to formal written methods (appears also in Mental 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 | 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 one-digit number using the formal written method of short division and interpret remainders appropriately for the context | 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 (copied from Fractions (including decimals)) |

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PROPERTIES OF NUMBERS: MULTIPLES, FACTORS, PRIMES, SQUARE AND CUBE NUMBERS


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## Number: Multiplication and Division

| ORDER OF OPERATIONS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|  |  |  |  |  | use their knowledge of the order of operations to carry out calculations involving the four operations |
| INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS |  |  |  |  |  |
|  |  | estimate the answer to a calculation and use inverse operations to check answers (copied from Addition and Subtraction) | estimate and use inverse operations to check answers to a calculation (copied from Addition and Subtraction) |  | use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy |

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## Number: Multiplication and Division

| PROBLEM SOLVING |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| 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 to mobjects | 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 mobjects | 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 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 similar shapes where the scale factor is known or can be found (copied from Ratio and Proportion) |

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