



**Evercreech CofE Primary School**

**Maths Progression of Skills – multiplication and division**

|   | EYFS | KS1  |   | KS2   |   |   |        |
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|   | EYFS | Year 1   | Year 2  | Year 3  | Year 4  | Year 5  | Year 6 |
| <b><u>Multiplication and division facts</u></b> |      |  |   |   |   |   |        |
|   |      | <p><i>Count in multiples of twos, fives and tens.</i><br/>(copied from Number and Place Value)</p> | <p><i>Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward.</i><br/>(copied from Number and Place Value)</p> <p>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd</p> | <p><i>Count from 0 in multiples of 4, 8, 50 and 100.</i><br/>(copied from Number and Place Value)</p> <p>Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.</p> | <p><i>Count in multiples of 6, 7, 9, 25 and 1000.</i><br/>(copied from Number and Place Value)</p> <p>Recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math>.</p> | <p><i>Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.</i><br/>(copied from Number and Place Value)</p> |        |

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|                            |  |  | and even numbers.  |  |   |   |   |
| <b>Mental calculation</b>  |  |  |  |  |   |   |   |
|                            |  |  | 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 one-digit 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.<br><br>Recognise and use factor pairs and commutativity in mental calculations ( <i>appears also in Properties of Numbers</i> ) | Multiply and divide numbers mentally drawing upon known facts.<br><br>Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. | Perform mental calculations, including with mixed operations and large numbers.<br><br><i>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)</i> |
| <b>Written calculation</b> |  |  |  |  |   |   |   |
|                            |  |  | Calculate mathematical statements for multiplication and division within the multiplication                                  | Write and calculate mathematical statements for multiplication and division using the  | Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.   | Multiply numbers up to 4 digits by a one- or two-digit number using a formal  | Multiply multi-digit numbers up to 4 digits by a two-digit whole number   |

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|  |  |  | <p>tables and write them using the multiplication (<math>\times</math>), division (<math>\div</math>) and equals (=) signs.</p> | <p>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).</p> |  | <p>written method, including long multiplication for two-digit numbers.</p> <p>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.</p> | <p>using the formal written method of long multiplication.</p> <p>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,</p> |
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|   |  |  |  |  |  |   | <p>as appropriate for the context.</p> <p><i>Use written division methods in cases where the answer has up to two decimal places (copied from Fractions (including decimals))</i></p>                                  |
| <b>Properties of numbers: multiples, factors, primes, square and cube numbers</b> |  |  |  |  |  |   |  |
|   |  |  |  |  | <p>Recognise and use factor pairs and commutativity in mental calculations (repeated).</p> | <p>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</p> <p>Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.</p> | <p>Identify common factors, common multiples and prime numbers.</p> <p><i>Use common factors to simplify fractions; use common multiples to express fractions in the same denomination (copied from Fractions)</i></p> |

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|   |  |  |  |  |  | <p>Establish whether a number up to 100 is prime and recall prime numbers up to 19.</p> <p>Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).</p> | <p><i>Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units such as mm<sup>3</sup> and km<sup>3</sup> (copied from Measures).</i></p> |
| <b><u>Order of operations</u></b>                                 |  |  |  |  |  |   |  |
|   |  |  |  |  |  |   | <p>Use their knowledge of the order of operations to carry out calculations involving the four operations.</p>   |
| <b><u>Inverse operations, estimating and checking answers</u></b> |  |  |  |  |  |   |  |

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|                        |  |  |  | <i>Estimate the answer to a calculation and use inverse operations to check answers (copied from Addition and Subtraction).</i>  | Estimate and use inverse operations to check answers to a calculation (copied from Addition and Subtraction).   |  | <i>Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.</i>   |
| <b>Problem solving</b> |  |  |  |  |   |  |  |
|                        |  | 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 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.<br><br>Solve problems involving addition, subtraction, multiplication and division and a combination | Solve problems involving addition, subtraction, multiplication and division.<br><br><i>Solve problems involving similar shapes where the scale factor is known or can be found (copied from Ratio and Proportion).</i> |

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|  |  |  |  |  |  | <p>of these, including understanding the meaning of the equals sign.</p> <p>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</p> |  |
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