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| **Progression of Skills in: Multiplication and Division** |

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|  | **MULTIPLICATION & DIVISION FACTS** | | | | | | | |
| **Skill** | **Reception** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | | **Year 5** | **Year 6** |
| **Multiplication and division facts** | *Recognizing doubles of given numbers to 10 using concrete resources to aid* | *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 1 000*  (copied from Number and Place Value) | | *count forwards or backwards in steps of powers of 10 for any given number up to*  *1 000 000*  (copied from Number and Place Value) |  |
| Know half of any given number to 10 using concrete materials to aid |  | 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 × 12 | |  |  |
|  | **MENTAL CALCULATION** | | | | | | | |
| **Mental calculation** | **Reception** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | | **Year 5** | **Year 6** |
| Calculate all doubles to 5 mentally |  |  | 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 | | multiply and divide numbers mentally drawing upon known facts | perform mental calculations, including with mixed operations and large numbers |
| Explore and represent double facts to 10 |  | 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) |
|  | **WRITTEN CALCULATION** | | | | | | | |
| **Written calculation** | **Reception** | **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 (×), 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 and progressing to formal written methods (appears also in Mental Methods) | 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 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)) |
|  | **PROPERTIES OF NUMBERS: MULTIPLES, FACTORS, PRIMES, SQUARE AND CUBE NUMBERS** | | | | | | | |
| **Properties of numbers: Multiples, factors, Primes** | **Reception** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | | **Year 5** | **Year 6** |
|  |  | recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. | 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 rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy | use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. |
|  | **PROBLEM SOLVING** | | | | | | | |
| **Problem Solving** | **Reception** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | | **Year 5** | **Year 6** |
|  | solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as  7 = 🗆 - 9 | solve problems with addition and subtraction:   * using concrete objects and pictorial representations, including those involving numbers, quantities and measures * applying their increasing knowledge of mental and written methods | solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction | solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why | | solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why | solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why |
|  |  | *solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change* (copied from Measurement) |  |  | |  | Solve problems involving addition, subtraction, multiplication and division |