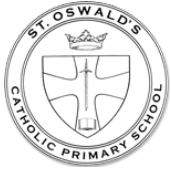


St Oswald's Catholic Primary School – Progression Map 2023-2024

Number: Multiplication and Division

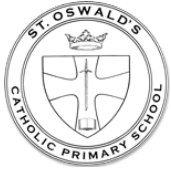
| MULTIPLICATION & DIVISION FACTS | | | | | | |
|---------------------------------|---|--|--|---|---|---|
| EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | Count in multiples of twos, fives and tens (also in Number and Place Value) | Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward (also in Number and Place Value) | Count from 0 in multiples of 4, 8, 50 and 100 (also in Number and Place Value) | Count in multiples of 6, 7, 9, 25 and 1000 (also in Number and Place Value) | Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 (also in Number and Place Value) | Understand that 2 numbers can be related multiplicatively, and quantify multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number). 6AS/MD- 1 |
| | | Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers 2MD-1 | Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables 3NF- 2 | Recall multiplication and division facts for multiplication tables up to 12×12 4NF-1 | Secure fluency in multiplication table facts, and corresponding division facts, through continued practice. 5NF-1 | Use a given multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding. 6AS/MD- 2 |
| | | | | Understand and apply the distributive property of multiplication. | | |



St Oswald's Catholic Primary School – Progression Map 2023-2024

Number: Multiplication and Division

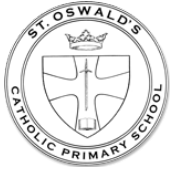
| 4MD- 3 | | | | | | |
|--------------------|--|---|---|--|--|---|
| MENTAL CALCULATION | | | | | | |
| | | | Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental 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 |
| | | Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot | Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10). 3NF-3 | Recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers) 4MD-2 | Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. Understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size. 5MD- 1 (10 and 100) | Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$) (copied from Fractions) |
| | | | | Apply place-value knowledge to | Apply place-value knowledge to known | |



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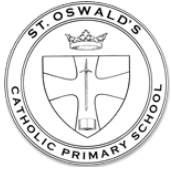
| | | | | | | |
|----------------------------|---------------|---|--|--|--|--|
| | | | | known additive and multiplicative number facts (scaling facts by 100) 4NF-3 | additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth). 5NF-2 | |
| WRITTEN CALCULATION | | | | | | |
| EYFS | 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 (\times), 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 one-digit number using formal written layout | Multiply numbers up to 4 digits by a one-using a formal written method, 5MD- 3 | Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication |
| | | | | | Multiply numbers two-digit number using a formal written method, including long multiplication for two-digit numbers | |
| | | | | Solve division problems, with two- | Divide numbers up to 4 digits by a one-digit | Divide numbers up to 4-digits by a two-digit |



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Number: Multiplication and Division

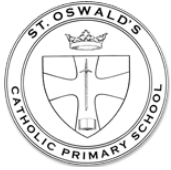
| | | | | | | |
|---|--------|--------|--------|---|--|---|
| | | | | digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context. 4NF-2 | number using the formal written method of short division and interpret remainders appropriately for the context 5MD- 4 | 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 |
| | | | | | | <i>Use written division methods in cases where the answer has up to two decimal places (also in Fractions (including decimals))</i> |
| PROPERTIES OF NUMBERS: MULTIPLES, FACTORS, PRIMES, SQUARE AND CUBE NUMBERS | | | | | | |
| EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |



St Oswald's Catholic Primary School – Progression Map 2023-2024

Number: Multiplication and Division

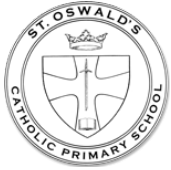
| | | | | | | |
|--|--|--|--|---|--|---|
| | | | | Recognise and use factor pairs and commutativity in mental calculations (repeated) 4MD- 2 | Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors. 5MD-2 | Identify common factors, common multiples and prime 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 | <i>Use common factors to simplify fractions; use common multiples to express fractions in the same denomination (copied from Fractions)</i> |



St Oswald's Catholic Primary School – Progression Map 2023-2024

Number: Multiplication and Division

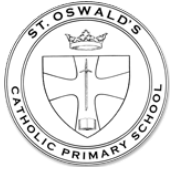
| | | | | | | |
|--|--|--|--|--|---|--|
| | | | | | Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) | <i>Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3 (also in Measures)</i> |
|--|--|--|--|--|---|--|



St Oswald's Catholic Primary School – Progression Map 2023-2024

Number: Multiplication and Division

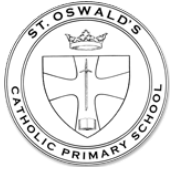
| ORDER OF OPERATIONS | | | | | | |
|---|--------|--------|--|---|--------|--|
| EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | | | | | | Use their knowledge of the order of operations to carry out calculations involving the four operations |
| INVERSE OPERATIONS, ESTIMATING AND CHECKING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



St Oswald's Catholic Primary School – Progression Map 2023-2024

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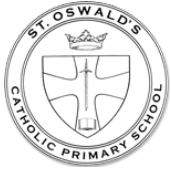
| | PROBLEM SOLVING | | | | | |
|------|---|---|---|--|--|---|
| EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the 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 m objects 3MD-1 | 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 | Solve problems involving addition, subtraction, multiplication and division |



St Oswald's Catholic Primary School – Progression Map 2023-2024

Number: Multiplication and Division

| | | | | | | |
|--|--|---|--|--|--|---|
| | | Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotative division). 2MD-2 | | | Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign | <i>Solve problems involving similar shapes where the scale factor is known or can be found (also in Ratio and Proportion)</i> |
|--|--|---|--|--|--|---|



St Oswald's Catholic Primary School – Progression Map 2023-2024

Number: Multiplication and Division

| | | | | | | |
|--|--|--|--|--|---|--|
| | | | | | Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates | |
|--|--|--|--|--|---|--|