



# Curriculum Progression Ladder

## Mathematics

**Early Years**  
**Molly the Mathematician**

- ✓ I enjoy a variety of counting activities.
- ✓ I am developing an understanding of the composition of numbers up to 10.
- ✓ I can subitise amounts.
- ✓ I enjoy exploring shapes and patterns.
- ✓ I like to use a variety of concrete resources to support my learning.

**Key Stage 1**  
**Molly the Mathematician**

- ✓ I enjoy counting to and exploring numbers to 100 and beyond.
- ✓ I can add and subtract numbers.
- ✓ I can multiply and share amounts.
- ✓ I can name and talk about 2D and 3D shapes.
- ✓ I can measure using a range of units.
- ✓ I enjoy solving maths problems and puzzles.

**Key Stage 2**  
**Molly the Mathematician**

- ✓ I am excited by problem solving opportunities.
- ✓ I have a good understanding of how to read, write and order a range of numbers.
- ✓ I can effectively use methods for all four operations + - x ÷.
- ✓ I can describe shapes and their properties.
- ✓ I can recognise and use a range of different measurements.
- ✓ I can collect, present and interpret data in different ways.

### Place Value - Counting

| EYFS  | Year 1   | Year 2  | Year 3  | Year 4   | Year 5   | Year 6 |
|---|--|---|---|--|--|--------|
| <ul style="list-style-type: none"> <li>• Sing number rhymes and songs</li> <li>• Count to 20 forwards and backwards</li> <li>• Count sets of objects to 20</li> </ul> | <ul style="list-style-type: none"> <li>• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</li> <li>• Count, read and write numbers to 100 in numerals</li> <li>• count in multiples of twos, fives and tens</li> </ul> | <ul style="list-style-type: none"> <li>• Count in 2, 3, and 5 from 0, and in tens from any number, forward, backward</li> </ul> | <ul style="list-style-type: none"> <li>• Count from 0 in multiples of 4, 8, 50 and 100;</li> <li>• Find 10 or 100 more or less than a given number</li> </ul>   | <ul style="list-style-type: none"> <li>• Count in multiples of 6, 7, 9, 25 and 1000</li> <li>• Count backwards through zero to include negative numbers</li> </ul> | <ul style="list-style-type: none"> <li>• Count forwards or backwards in steps of 10 for any given number up to 1 million</li> <li>• count forwards and backwards with positive and negative whole numbers, including through zero</li> </ul> |        |
| Number, Zero, one, two, three to twenty, None<br>Count Before, after More, less, least, greater, ones tens, numeral   | number numeral zero one, two, three ... twenty teens numbers, eleven, twelve ... twenty twenty-one, twenty-two ... one hundred none how many ...? count, count (up) to, count on (from, to), count back (from, to) forwards backwards count in ones, twos, fives, tens | Tens, Units/ones, Digit, numeral, Hundreds, Partition, Recombine, more/less, compare,   | count, count (up) to, count on (from, to), count back (from, to) forwards backwards count in ones, twos, fives, tens, threes, fours, eights, fifties and so on to hundreds equal to equivalent to is the same as more, less most, least |  |  |        |

### Place Value – Representing

| EYFS   | Year 1  | Year 2  | Year 3   | Year 4   | Year 5   | Year 6  |
|--|---|---|--|--|--|---|
| <ul style="list-style-type: none"> <li>• Count sets of objects to 10 with accurate 1:1 correspondence</li> <li>• Make marks to represent numbers and quantities</li> <li>• Read and write numbers from 1-20</li> </ul> | <ul style="list-style-type: none"> <li>• Identify and represent numbers using objects and pictorial representation</li> <li>• Read and write numbers from 1 to 20 in numerals and words.</li> </ul> | <ul style="list-style-type: none"> <li>• Read and write numbers to at least 100 in numerals and in words</li> <li>• Identify, represent and estimate numbers using different representations including the number line</li> </ul> | <ul style="list-style-type: none"> <li>• Identify, represent and estimate numbers using different representations</li> <li>• Read and write numbers up to 1000 in numerals and in words</li> </ul> | <ul style="list-style-type: none"> <li>• Identify, represent and estimate numbers using different representations</li> <li>• Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value</li> </ul> | <ul style="list-style-type: none"> <li>• Read, write (order and compare) number to at least 1 million and determine the value of each digit</li> <li>• Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</li> </ul> | <ul style="list-style-type: none"> <li>• Read, write, order and compare numbers up to 10 million and determine the value of each digit</li> </ul> |

|   |  |                                |  |  |  |  |
|---|--|--------------------------------|--|--|--|--|
| zero, number, one, two, three ... to twenty and beyond teens numbers, eleven, twelve ... twenty nine how many ...? count, count (up) to, count on (from, to), count back (from, to) count in ones, twos, fives, tens is the same as more, less odd, even few pattern pair |  | number names and digits to 100 | ones tens, hundreds digit one-, two- or three-digit number place, place value stands for, represents |  |  | Increase, decrease, equal to, rounding, nearest, negative number, compare, order, partitioning, place value, part, part whole, ones, tens, hundreds, thousands, ten thousands, hundred thousands, millions, ten millions |
|---|--|--------------------------------|--|--|--|--|

## Place Value – Using Place Value and Comparing Numbers

| EYFS  | Year 1   | Year 2  | Year 3   | Year 4   | Year 5   | Year 6  |
|---|--|---|--|--|--|---|
|   | <ul style="list-style-type: none"> <li>Given a number, identify one more and one less</li> <li>Order groups of numbers according to size</li> </ul>  | <ul style="list-style-type: none"> <li>Recognise the place value of each digit in a two-digit number (tens, ones)</li> <li>Compare and order numbers from 0 up to 100;</li> <li>use &lt;, &gt; and = signs to compare numbers to 100</li> </ul> | <ul style="list-style-type: none"> <li>Recognise the place value of each digit in a three-digit number (hundred, tens, ones)</li> <li>Compare and order numbers up to 1000, use &lt;, &gt; and = signs to compare numbers to 1000</li> </ul>   | <ul style="list-style-type: none"> <li>Find 1000 more or less than a given number</li> <li>Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)</li> <li>Order and compare numbers beyond 1000, use &lt;, &gt; and = signs to compare numbers to 10,000</li> </ul> | <ul style="list-style-type: none"> <li>Read, write, order and compare numbers to at least 1 million and determine the value of each digit</li> </ul> | <ul style="list-style-type: none"> <li>Read, write, order and compare numbers up to 10 million</li> <li>Recognise the value of each digit in numbers up to 10 million</li> <li>Compose and decompose numbers up to 10 million using standard and non-standard partitioning</li> </ul> |
| ones, tens, digit, the same number as, as many as more, larger, bigger, greater fewer, smaller, less fewest, smallest, least most, biggest, largest, greatest | equal to equivalent to is the same as more, less most, least many odd, even multiple of few pattern pair ones tens digit the same number as, as many as more, larger, bigger, greater fewer, smaller, less fewest, smallest, least most, biggest, largest, greatest one more, ten more one less, ten less equal to one more, ten more one less, ten less compare order size first, second, third... twentieth last, last but one before, after next between above, below | equal to equivalent to is the same as more, less most, least many odd, even multiple of few pattern pair<br><br>first, second, third... twentieth last, last but one before, after next between half-way between above, below                   | odd, even multiple of, factor of sequence continue predict few pattern pair, rule relationship > greater than < less than<br><br>the same number as, as many as more, larger, bigger, greater fewer, smaller, less fewest, smallest, least most, biggest, largest, greatest one more, ten more, one hundred more one less, ten less, one hundred less equal to compare order |  |  | Increase, decrease, equal to, rounding, nearest, negative number, compare, order, partitioning, place value, part, part whole, ones, tens, hundreds, thousands, ten thousands, hundred thousands, millions, ten millions  |

## Place Value – Problems and Rounding

| EYFS | Year 1  | Year 2   | Year 3   | Year 4  | Year 5   | Year 6  |
|------|---|--|--|---|--|---|
|      | <ul style="list-style-type: none"> <li>Use place value and number facts to solve problems.</li> </ul> | <ul style="list-style-type: none"> <li>Solve number problems and practical problems involving these ideas</li> </ul> | <ul style="list-style-type: none"> <li>Solve number problems and practical problems involving these ideas</li> </ul> | <ul style="list-style-type: none"> <li>Round any number to the nearest 10, 100 or 1000</li> <li>Solve number and practical problems that involve all of the above and with increasingly large positive numbers</li> </ul> | <ul style="list-style-type: none"> <li>Interpret negative numbers in context</li> <li>Round any number up to 1 million to the nearest 10, 100, 1000, 10 000 and 100 000</li> <li>Solve number problems and practical problems that involve all of the above</li> </ul> | <ul style="list-style-type: none"> <li>Round any whole number to a required degree of accuracy and understand that this is for the purpose of eliminating unnecessary levels of detail</li> <li>Use negative numbers in context, and calculate intervals across zero</li> <li>Solve number and practical problems that involve place value</li> </ul> |

## Number – Calculation - Addition

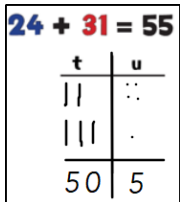
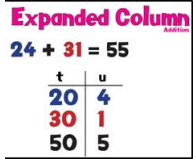
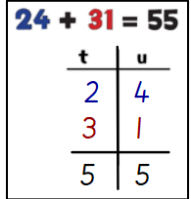
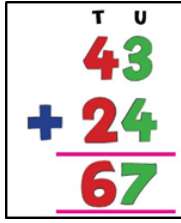
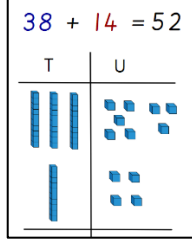
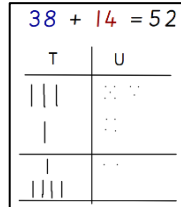
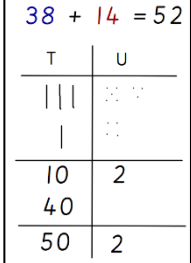
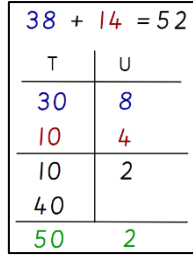
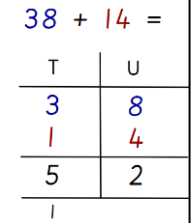
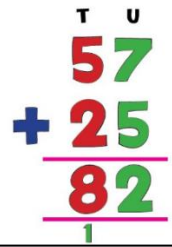
| EYFS  | Year 1  | Year 2   | Year 3   | Year 4  | Year 5   | Year 6  |
|---|---|--|--|---|--|---|
| <p><b>Nursery</b></p> <ul style="list-style-type: none"> <li>Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same.</li> <li>Finds the total number of items in two groups by counting all of them.</li> <li>Says the number that is one more than a given number.</li> <li>Finds one more or one less from a group of up to five objects, then ten objects</li> </ul> <p><b>Reception</b></p> <ul style="list-style-type: none"> <li>In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting.</li> <li>Records, using marks that they can interpret and explain.</li> </ul> | <p><b>Recall, Represent, Use</b></p> <ul style="list-style-type: none"> <li>Read, write and interpret mathematical statements involving (+) and (=) signs</li> <li>Represent and use number bonds within 20</li> </ul> <p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>Add two 1-digit numbers to 10</li> <li>Add 1-digit and 2-digit numbers to 20, including zero</li> <li>Solve one-step problems that involve addition using concrete objects and pictorial representations, and missing number problems</li> </ul> | <p><b>Recall, Represent, Use</b></p> <ul style="list-style-type: none"> <li>Recall and use addition facts to 20 fluently</li> <li>Derive and use related facts up to 100</li> <li>Understand that addition of two numbers can be done in any order (commutative)</li> <li>Apply their increasing knowledge of mental and written methods</li> </ul> <p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>Add numbers using concrete objects, pictorial and mentally to 100 including:               <ol style="list-style-type: none"> <li>Add 1-digit and 2-digit number (15 + 4)</li> <li>add 2-digit number and tens (35 + 20)</li> <li>two 2-digit numbers (22+ 31)</li> <li>add three 1-digit numbers (5 + 9 + 3)</li> </ol> </li> </ul> | <p><b>Recall, Represent, Use</b></p> <ul style="list-style-type: none"> <li>Estimate the answer to a calculation</li> </ul> <p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>Add numbers mentally, including:               <ol style="list-style-type: none"> <li>a three-digit number and ones</li> <li>a three-digit number and tens</li> <li>a three-digit number and hundreds</li> </ol> </li> <li>Add numbers with up to three digits, using formal written methods of columnar addition</li> <li>Solve problems, including missing number problems, using number facts and place value,</li> </ul> | <p><b>Recall, Represent, Use</b></p> <ul style="list-style-type: none"> <li>Estimate and use inverse operations to check answers to a calculation</li> </ul> <p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>Add numbers with up to 4 digits using the formal written method of columnar addition</li> <li>Solve addition two-step problems in contexts, deciding which operation and method to use and why.</li> </ul> | <p><b>Recall, Represent, Use</b></p> <ul style="list-style-type: none"> <li>Use rounding to check answers to calculations and determine levels of accuracy</li> </ul> <p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>Add whole numbers with more than 4 digits, including using formal written methods (columnar addition)</li> <li>Add numbers mentally with increasingly large numbers</li> <li>Solve addition multi-step problems in contexts, deciding which methods to use and why.</li> </ul> | <p><b>Recall, Represent, Use</b></p> <ul style="list-style-type: none"> <li>Perform mental calculations, including with mixed operations and large numbers</li> </ul> <p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>Use their knowledge of the order of operations to carry out calculations involving the four operations - BODMAS</li> <li>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</li> <li>Solve problems involving addition, subtraction, multiplication and division</li> <li>Use estimation to check answers to calculations and determine, in the context of a problem, an</li> </ul> |

|   |  |  |   |   |   |   |
|---|--|--|---|---|---|---|
| <ul style="list-style-type: none"> <li>Using quantities and objects, they add two single-digit numbers and count on to find the answer. They solve problems, including doubling.</li> </ul> |  |  |   |   |   | appropriate degree of accuracy.   |
| add, more, and, make, sum, total, altogether, double, one more, two more ... ten more, how many more to make ...?, how many more is ... than ...?, how much more is ...?                    | Addition: add, more, and, make, altogether, total, equal to, equals, double, most, count on, number line, sum, tens, ones, partition, addition | addition, add, more, and, make, sum, total, altogether, double, near double, one more, two more ... ten more ... one hundred more, how many more to make ...?, how many more is ... than ...?, how much more is ...? | addition, add, more, and, make, sum, total, altogether, double, near double, half, halve, one more, two more ... ten more ... one hundred more, how many more to make ...?, how many more is ... than ...?, how much more is ...?, number bonds/pairs/facts | addition, add, more, and, make, sum, total, altogether, double, near double, half, halve, one more, two more ... ten more ... one hundred more, how many more to make ...?, how many more is ... than ...?, how much more is ...?, number bonds/pairs/facts | addition, add, more, and, make, sum, total, altogether, double, near double, half, halve, one more, two more ... ten more ... one hundred more, how many more to make ...? how many more is ... than ...? how much more is ...? | addition, add, more, and, make, sum, total, altogether, double, near double, half, halve, one more, two more ... ten more ... one hundred more, how many more to make ...? how many more is ... than ...? how much more is ...? |

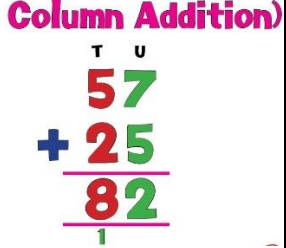
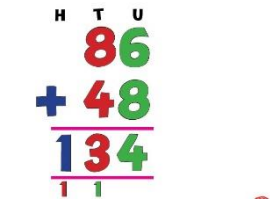
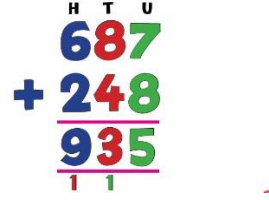
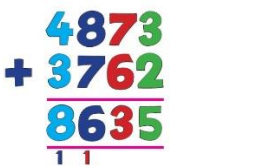

| Year 1 Addition Calculation Methods |  |                       |                     |  |                    |
|-------------------------------------|--|-----------------------|---------------------|--|--------------------|
|                                     |  |                       |                     |  |                    |
| Year 1                              | Year 1                                       | Year 1                | Year 1              | Year 2   | Year 2             |
| Combining objects and pictures      | Adding sets starting with the largest number | Adding by counting on | Part – Whole Models | representing Base 10 jottings and adding using place value | Partition Jottings |

| Year 2 Addition Calculation Methods  |  |   |  |   |                                  |   |   |
|--|--|---|--|---|----------------------------------|---|---|
| adding 2 digit and 2-digit numbers with no carrying  |  |   |  |   |                                  |   |   |
|  |  |   |  |   |                                  |   |   |
| Year 2   | Year 2   | Year 2  | Year 2   | Year 2  | Year 2 / 3                       | Year 3  | Year 3  |
| Step 1<br>Concrete Partitioning using base 10 equipment<br>Adding 2 digit number and 10s<br>Adding 2-digit and 2-digit numbers – no carrying | Step 2<br>Partition using jottings 2 digit and 1-digit<br><br>Base 10 jottings | Step 3<br>partition jottings<br><br>Adding a 2-digit number and 10s<br>Base 10 jottings | Step 4<br><br>Partitioning<br><br>Adding 2-digit and 10s | Step 5<br>Partition Jotting<br><br>Adding 2-digit and 2 digit no carrying | Step 6<br>Expanded Column Method | Step 7<br>Column Method 2-digit add 2-digit no carrying | Step 8<br>Short Column Method 2-digit add 2-digit no carrying |

### Year 3 Addition Calculation Methods

| adding 2 digit and 2-digit numbers with no carrying                               |   |   |   |   | adding 2 digit and 2-digit numbers with carrying                                     |  |   |   |   |
|---|---|---|---|---|--|--|---|---|---|
|  |  |  |  |                   |   |   |                        |            |  |
| Year 2  | Year 2 /3   | Year 3  | Year 3  | Year 3  | Year 3   | Year 3   | Year 3  | Year 3  | Year 3/4  |
| Step 5<br>Partition Jotting<br><br>Adding 2-digit and 2 digit<br>no carrying      | Step 6<br>Expanded Column<br>Method   | Step 7<br>Column Method<br>2-digit add 2-digit<br>no carrying                     | Step 8<br>Short Column<br>Method<br>2-digit add 2-digit<br>no carrying            | Step 9 Concrete<br>Partitioning using<br>base 10 equipment<br>with practical<br>carrying/exchanging | Step 10<br>Pictorial Partitioning<br>2-digit add 2 digit<br>numbers –<br>crossing 10 | Step 11<br>Pictorial Partitioning<br>2-digit add 2 digit<br>numbers – crossing<br>10 | Step 12<br>Expanded<br>Partitioning with<br>exchanging<br>2-digit add 2 digit<br>numbers – crossing<br>10 | Step 13<br>Column method<br>with exchanges<br>2-digit add 2 digit<br>numbers – crossing<br>10 | Step 14 Formal<br>Column Method<br>with carrying                                    |

### Key Stage 2 – Year 4, 5 and 6 Addition Methods

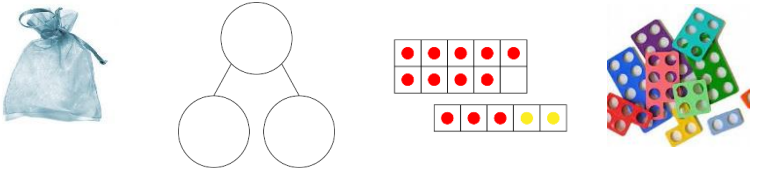
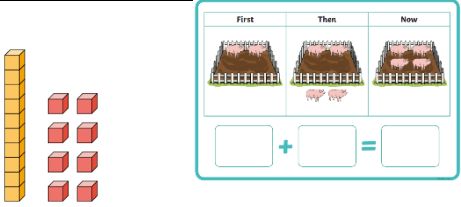
| adding 2 digits with and without exchange  |  | adding 3 digits with and without carrying  |  | adding 4 digits with and without varying  |  | adding 5 or more<br>digits with and<br>without carrying  |
|--|--|--|--|---|--|--|
|  |  |   |  |   |  |    |
| Year 3/4   | Year 4   | Year 4   | Year 4   | Year 4/5  | Year 5   | Year 6   |
| Step 14<br>Formal Column Method<br>2-digits to 2-digits<br>with exchange           | Step 15<br>Formal Column Method 2-<br>digits to 2-digits<br>with exchange          | Step 16<br>add whole numbers with<br>up to 4 digits using a<br>formal written method -<br>columnar addition – no<br>exchange | Step 17<br>add whole numbers with<br>up to 3 digits using a<br>formal written method -<br>columnar addition with<br>carrying | Step 18<br>add whole numbers<br>with up to 4 digits<br>using a formal written<br>method -columnar<br>addition – no carrying | Step 19<br>add whole numbers<br>with no more than 4<br>digits using a formal<br>written method -<br>columnar addition<br>with carrying | Step 20<br>add whole numbers with<br>more than 4 digits using a<br>formal written method -<br>columnar addition with<br>and without carrying |

# Number – Calculations - Subtraction

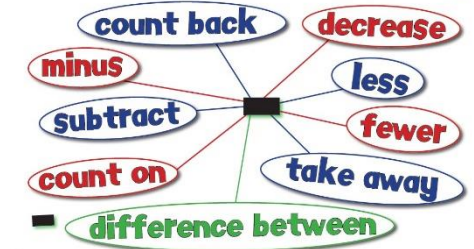
| EYFS  | Year 1  | Year 2  | Year 3  | Year 4   | Year 5  | Year 6  |
|---|---|---|---|--|---|---|
| <p><b>Nursery</b><br/>comparisons between</p> <p>roup of things changes in something is added or taken</p> <ul style="list-style-type: none"> <li>Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same.</li> </ul> <p><b>Reception</b></p> <ul style="list-style-type: none"> <li>Finds one more or one less from a group of up to five objects, then ten objects.</li> <li>In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting.</li> <li>Records, using marks that they can interpret and explain.</li> <li>Begins to identify own mathematical problems based on own interests and fascinations.</li> </ul> | <p><b>Recall, Represent, Use</b></p> <ul style="list-style-type: none"> <li>Read, write and interpret mathematical statements involving (-) and (=) signs</li> <li>Recognise subtraction facts within 20</li> </ul> <p><b>Calculation</b></p> <ul style="list-style-type: none"> <li>Subtract 1-digit and 2-digit numbers to 20, including zero</li> </ul> <p><b>Solve Problems</b></p> <ul style="list-style-type: none"> <li>Solve one-step problems that involve subtraction, using concrete objects, pictorial representations, and missing number problems such as <math>\square - 9</math></li> </ul> | <p><b>Recall, Represent, Use</b></p> <ul style="list-style-type: none"> <li>Recall and use subtraction facts to 20 fluently, and derive and use related facts up to 100</li> <li>Show that subtraction of one number from can only be done with the largest number first</li> <li>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems</li> </ul> <p><b>Calculation</b></p> <ul style="list-style-type: none"> <li>Subtract numbers using concrete objects, pictorial representations, and mentally, including:               <ol style="list-style-type: none"> <li>a 2-digit and 1 digit number</li> <li>a 2-digit number and a 10s number</li> <li>two 2-digit numbers</li> </ol> </li> </ul> <p><b>Solve Problems</b></p> <ol style="list-style-type: none"> <li>using concrete objects and pictorial representations, including numbers, quantities and measures</li> <li>applying their increasing knowledge of mental and written methods for subtraction</li> </ol> | <p><b>Recall, Represent, Use</b></p> <ul style="list-style-type: none"> <li>Estimate the answer to a calculation and use inverse operations to check answers</li> </ul> <p><b>Calculation</b></p> <ul style="list-style-type: none"> <li>Subtract numbers mentally, including:               <ol style="list-style-type: none"> <li>subtract 3-digit number and 1-digit number</li> <li>subtract 3-digit number and a 10s number</li> <li>subtract a 3-digit number and 100s</li> </ol> </li> <li>Subtract numbers with up to three digits, using formal written methods of column subtraction</li> </ul> <p><b>Solve Problems</b></p> <ul style="list-style-type: none"> <li>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</li> </ul> | <p><b>Recall, Represent, Use</b></p> <ul style="list-style-type: none"> <li>Estimate and use inverse operations to check answers to a calculation</li> </ul> <p><b>Calculation</b></p> <ul style="list-style-type: none"> <li>Subtract numbers with up to 4 digits using the formal written method of column subtraction</li> <li>Solve subtraction two-step problems in contexts, deciding which operations and methods to use and why.</li> </ul> <p><b>Solve Problems</b></p> <ul style="list-style-type: none"> <li>Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</li> </ul> | <p><b>Recall, Represent, Use</b></p> <ul style="list-style-type: none"> <li>Use rounding to check answers to calculations and determine levels of accuracy</li> </ul> <p><b>Calculation</b></p> <ul style="list-style-type: none"> <li>Subtract whole numbers with more than 4 digits, including using formal written methods (column subtraction)</li> <li>Subtract numbers mentally with increasingly large numbers</li> <li>Subtract numbers with up to 3 decimal places</li> <li>Solve subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li> </ul> <p><b>Solve Problems</b></p> <ul style="list-style-type: none"> <li>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li> </ul> | <p><b>Recall, Represent, Use</b></p> <ul style="list-style-type: none"> <li>Perform mental calculations, including with mixed operations and large numbers</li> </ul> <p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>Use their knowledge of the order of operations to carry out calculations involving the four operations</li> </ul> <p><b>Solve Problems</b></p> <ul style="list-style-type: none"> <li>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</li> <li>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</li> </ul> |
| <p>take away, how many are left/left over? how many have gone? one less, two less, ten less ... how many fewer is ... than ...? how much less is ...? difference between</p>  | <p>Subtraction: less, minus, subtract, take away, leaves, difference between, count back.<br/>Equals: symbol, balances, makes, total, same as, number sentence, value.</p>  | <p>subtract, take away, how many are left/left over? how many have gone? one less, two less, ten less ... one hundred less, how many fewer is ... than ...? how much less is ...? difference between, equals, is the same as, number bonds/pairs/facts</p>  | <p>subtract, take away, how many are left/left over? how many have gone? one less, two less, ten less ... one hundred less, how many fewer is ... than ...? how much less is ...? difference between, equals, is the same as, number bonds/pairs/facts, missing number, tens boundary, hundreds boundary</p>  | <p>subtract, take away, how many are left/left over? how many have gone? one less, two less, ten less ... one hundred less, how many fewer is ... than ...? how much less is ...? difference between, equals, is the same as, number bonds/pairs/facts, missing number, tens boundary, hundreds boundary, inverse</p>  | <p>difference between, equals, is the same as, number bonds/pairs/facts, missing number, tens boundary, hundreds boundary, inverse</p>  | <p>difference between, equals, is the same as, number bonds/pairs/facts, missing number, tens boundary, hundreds boundary, ones boundary, tenths boundary, inverse</p>  |




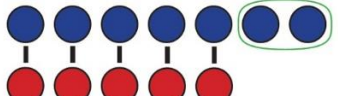
### Reception Subtraction Calculation Methods

|   |  |
|---|--|
|    |  |
| <p><b>Concrete and Pictorial Representations</b><br/>Counting Pouches, Five/Ten Frame, Coloured Counters, Part Whole Model, Base Ten and Ones</p> | <p><b>Reception Vocabulary</b> - First, then, now.</p>                             |

### Subtraction Vocabulary



### Key Stage 1 Progression in Subtraction Calculation Methods

|  |  |  |  |
|--|--|--|--|
| <p><b>Objects</b></p>  <p><b>7 - 3 = 4</b></p> <p><small>*What do I get if I take 3 away from 7? Answer: 4*</small></p> | <p><b>What's the Difference?</b></p>  <p><b>7 - 5 = 2</b></p> <p><small>*How many more is 7 than 5? What is the difference?*</small></p> | <p><b>Expanded Column)</b></p> $87 - 23 = 64$ $\begin{array}{r} 80 & 7 \\ - 20 & 3 \\ \hline 60 & 4 \end{array}$ | <p><b>Column Subtraction</b></p> $\begin{array}{r} \text{T} & \text{U} \\ 87 \\ - 23 \\ \hline 64 \end{array}$ |
| <p><b>Year 1</b></p>   | <p><b>Year 1</b></p>   | <p><b>Year 2</b></p>   | <p><b>Year 2</b></p>   |
| <p>Crossing Out</p>  | <p>Finding difference by matching</p>  | <p><b>Step 1</b><br/>Simple expanded column method no exchanging</p>   | <p><b>Step 2</b><br/>Simple Column Method<br/>2-digits – 2-digits no exchanging</p>                            |

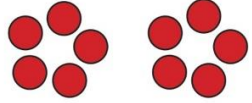
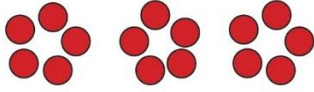
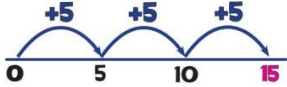
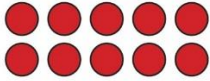
### Key Stage 2 Year 3, 4, 5 and 6 Progression in Subtraction Calculation Methods

|  |  |  |  |   |   |
|--|--|--|--|---|---|
| <p><b>Column Subtraction</b></p> $\begin{array}{r} \text{T} & \text{U} \\ 87 \\ - 23 \\ \hline 64 \end{array}$ | <p><b>Column Subtraction</b></p> $\begin{array}{r} \text{T} & \text{U} \\ 75 \\ - 37 \\ \hline 38 \end{array}$ | <p><b>Column Subtraction</b></p> $\begin{array}{r} \text{H} & \text{T} & \text{U} \\ 0 & 12 & 1 \\ 132 \\ - 56 \\ \hline 76 \end{array}$ | <p><b>Column Subtraction</b></p> $\begin{array}{r} \text{H} & \text{T} & \text{U} \\ 6 & 11 & 1 \\ 723 \\ - 356 \\ \hline 367 \end{array}$ | <p><b>Column Subtraction</b></p> $\begin{array}{r} 4 & 9 & 13 & 1 \\ 5042 \\ - 1776 \\ \hline 3266 \end{array}$ | <p><b>Column Subtraction</b></p> $\begin{array}{r} 3 & 1 & 7 & 12 & 1 \\ 742831 \\ - 427358 \\ \hline 315473 \end{array}$ |
| <p><b>Year 2</b></p>   | <p><b>Year 3</b></p>   | <p><b>Year 3</b></p>   | <p><b>Year 3/4</b></p>   | <p><b>Year 4/5</b></p>  | <p><b>Year 5</b></p>  |
| <p><b>Step 2</b><br/>Column Method<br/>2-digits – 2-digits<br/>no exchanging</p>                               | <p><b>Step 3</b><br/>Column subtraction<br/>2-digits – 2-digits<br/>with exchanging</p>                        | <p><b>Step 4</b><br/>Column subtraction<br/>3-digits – 2-digits<br/>with exchanging</p>  | <p><b>Step 5</b><br/>Column subtraction<br/>3-digits – 3-digits<br/>with exchanging</p>  | <p><b>Step 6</b><br/>Column subtraction<br/>4 digits<br/>with exchanging</p>                                    | <p><b>Step 7</b><br/>Column subtraction<br/>more than 4 digits with<br/>exchanging</p>                                    |

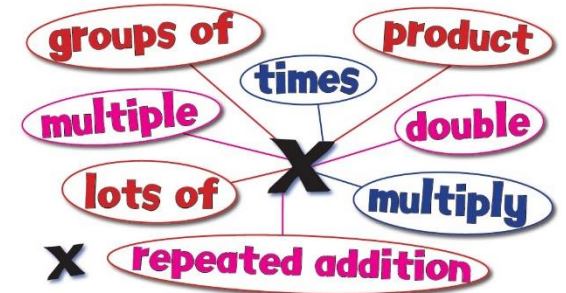
# Number Multiplication - Calculations

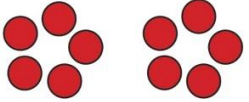

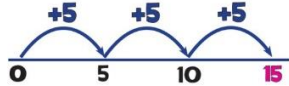
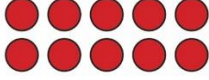
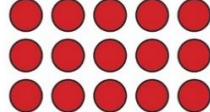
| EYFS  | Year 1  | Year 2   | Year 3   | Year 4   | Year 5  | Year 6  |
|---|---|--|--|--|---|---|
| <p><b>Reception</b></p> <ul style="list-style-type: none"> <li>Count by rote in 2's, tens and five's</li> <li>Practically count multiple sets of numbers</li> </ul> | <p><b>Problem Solve</b></p> <ul style="list-style-type: none"> <li>Solve one-step problems involving multiplication by calculating the answer using concrete objects, pictorial representation and arrays with the support of the teacher.</li> </ul> | <p><b>Recall Represent and use</b></p> <ul style="list-style-type: none"> <li>Recall and use multiplication facts for the 2, 5 and 10 multiplication tables</li> <li>Recognise odd and even numbers</li> <li>Understand that multiplication of two numbers can be done in any order (commutative)</li> </ul> <p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>Calculate mathematical statements for multiplication within the multiplication tables and write them using the (×), (÷) and (=) signs</li> </ul> <p><b>Problem Solve</b></p> <p>Solve one step problems involving multiplication using:</p> <ol style="list-style-type: none"> <li>Materials</li> <li>Arrays</li> <li>repeated addition</li> <li>mental methods,</li> <li>multiplication facts</li> <li>Problems in contexts</li> </ol> | <p><b>Recall Represent and use</b></p> <ul style="list-style-type: none"> <li>Recall and use multiplication facts for the 3, 4 and 8 multiplication tables</li> </ul> <p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>Write and calculate mathematical statements for multiplication using the multiplication tables that they know, including             <ol style="list-style-type: none"> <li>2-digit x 1-digit numbers</li> </ol> </li> <li>using mental and progressing to formal written methods – expanded and short method</li> </ul> <p><b>Problem Solve</b></p> <ul style="list-style-type: none"> <li>Solve problems, including missing number problems, involving multiplication</li> </ul> | <p><b>Recall Represent and use</b></p> <ul style="list-style-type: none"> <li>Recall multiplication facts for multiplication tables up to 12 × 12</li> <li>Use place value, known and derived facts to multiply mentally, including: multiplying by 0 and 1 and multiplying together three numbers</li> <li>Recognise and use factor pairs and commutability in mental calculations</li> </ul> <p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>Multiply 2-digit x 1-digit number</li> <li>Multiply 3-digit x 1-digit number using a formal written method</li> </ul> <p><b>Problem Solve</b></p> <ul style="list-style-type: none"> <li>Solve problems involving multiplication and adding, including the distributive law to multiply 2-digit numbers by 1-digit</li> </ul> | <p><b>Recall Represent and use</b></p> <ul style="list-style-type: none"> <li>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</li> <li>Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</li> <li>Establish whether a number up to 100 is prime and recall prime numbers up to 19</li> <li>Recognise and use square numbers and cube numbers, and the notation (<sup>2</sup>) and (<sup>3</sup>)</li> </ul> <p><b>Calculations</b></p> <ol style="list-style-type: none"> <li>Multiply 4 digits by 1 digit</li> <li>Multiply 2-digits by 2 digits</li> <li>Multiply 3 digits by 2 digits</li> <li>Multiply 4 digits by 2 digits using a formal written method, including long multiplication</li> </ol> <ul style="list-style-type: none"> <li>Multiply numbers mentally drawing upon known facts</li> <li>Multiply whole numbers and those involving decimals by 10, 100 and 1000</li> </ul> <p><b>Problem Solve</b></p> <ul style="list-style-type: none"> <li>Solve problems involving multiplication including using their knowledge of factors and multiples, squares and cubes</li> <li>Solve problems involving multiplication including scaling by simple fractions and problem solving involving simple rates</li> <li>Solve problems involving +, -, × and ÷ and a combination of these, including understanding the meaning of the = sign</li> </ul> | <p><b>Recall Represent and use</b></p> <ul style="list-style-type: none"> <li>Identify common factors, common multiples and prime numbers</li> <li>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy</li> </ul> <p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>Multiply multi-digit numbers up to 4 digits by a 2-digit whole number using the formal written method of long multiplication</li> <li>Perform mental calculations, including with mixed operations and large numbers</li> </ul> <p><b>Problem Solve</b></p> <ul style="list-style-type: none"> <li>Use their knowledge of the order of operations (BODMAS) to carry out calculations involving the four operations</li> </ul> |
| doubling, number patterns   | Multiply, multiplication, groups, lots of, repeated addition, array, times.   | multiplication, multiply, multiplied by, multiple, groups of, times, once, twice, three times ... ten times, repeated addition, grouping, doubling<br><br>array, row, column, number patterns, multiplication table, multiplication fact   | multiplication, multiply, multiplied by, multiple, factor, groups of, times, product, once, twice, three times ... ten times, repeated addition,<br><br>doubling, array, row, column, number patterns, multiplication table, multiplication fact   | multiplication, multiply, multiplied by, multiple, factor, groups of, times, product, doubling, array, row, column, number patterns, multiplication table, multiplication fact, inverse, square, squared, cube, cubed  | factor, groups of, times, product, once, twice, three times ... ten times, repeated addition, doubling,, array, row, column, number patterns, multiplication table, multiplication fact, inverse, square, squared, cube, cubed  | factor, groups of, times, product, once, twice, three times ... ten times, repeated addition, doubling, array, row, column, number patterns, multiplication table, multiplication fact, inverse, square, squared, cube, cubed   |

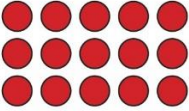

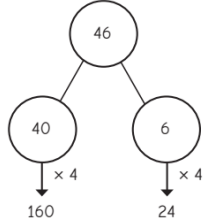
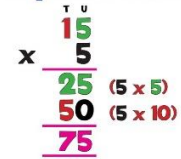



| Year 1 Multiplication Calculation Methods  |   |  |  |
|--|---|--|--|
| <p><b>Groups)</b></p>  <p>"2 groups of 5 counters makes 10 counters altogether"</p> | <p><b>Repeated Addition</b><br/>(Groups)</p>  <p><math>5 \times 3 = 5 + 5 + 5 = 15</math><br/><small>"5 multiplied by 3" means "5, 3 times", which gives "3 lots of 5"</small></p> | <p><b>Repeated Addition</b><br/>(Number Line)</p>  <p><math>5 \times 3 = 5 + 5 + 5 = 15</math><br/><small>"5 times 3" means "5, 3 times"</small></p> | <p><b>Arrays)</b></p>  <p>"2 groups of 5 counters" or "5 groups of 2 counters" - "10 counters altogether"</p> |
| <b>Year 1</b>  | <b>Year 1</b>   | <b>Year 2</b>  | <b>Year 2</b>  |
| Partitioning groups and counting in multiples of 2, 5 and 10   | understanding multiplication as repeated addition   | repeated addition using a number line  | Using pictorial Arrays   |

## Multiplication Vocabulary



| Year 2 Multiplication Calculation Methods  |   |  |  |  |
|--|---|--|--|--|
| <p><b>Groups)</b></p>  <p>"2 groups of 5 counters makes 10 counters altogether"</p> | <p><b>Repeated Addition</b><br/>(Groups)</p>  <p><math>5 \times 3 = 5 + 5 + 5 = 15</math><br/><small>"5 multiplied by 3" means "5, 3 times", which gives "3 lots of 5"</small></p> | <p><b>Repeated Addition</b><br/>(Number Line)</p>  <p><math>5 \times 3 = 5 + 5 + 5 = 15</math><br/><small>"5 times 3" means "5, 3 times"</small></p> | <p><b>Arrays)</b></p>  <p>"2 groups of 5 counters" or "5 groups of 2 counters" - "10 counters altogether"</p> | <p><b>Arrays</b></p>  <p><math>3 \times 5 = 15</math> or <math>5 \times 3 = 15</math></p> |
| <b>Year 1</b>  | <b>Year 1</b>   | <b>Year 2</b>  | <b>Year 2</b>  | <b>Year 3</b>  |
| Partitioning groups and counting in multiples of 2, 5 and 10   | understanding multiplication as repeated addition   | repeated addition using a number line  | Using pictorial Arrays   | Using arrays to illustrate associative law   |

| Year 3 Multiplication Calculation Methods  |  |   |  |   |  |
|--|--|---|--|---|--|
| <p><b>Arrays</b></p>  <p><math>3 \times 5 = 15</math> or <math>5 \times 3 = 15</math></p> | <p><b>Multi Boing!</b></p>  <p><math>10 \times 5 = 50</math><br/><math>5 \times 5 = 25</math><br/><math>50 + 25 = 75</math></p> |  <p>46<br/>40      6<br/>↓ × 4    ↓ × 4<br/>160      24</p> | <p><b>Partitioning</b></p> <p><math>15 \times 5 = 75</math><br/><math>10 \times 5 = 50</math><br/><math>5 \times 5 = 25</math><br/><math>50 + 25 = 75</math></p> | <p><b>Expanded Column)</b></p>  <p><math>15 \times 5 = 75</math></p> | <p><b>Column Multiplication</b></p>  <p><math>15 \times 5 = 75</math></p> |
| <b>Year 2 and 3</b>  | <b>Year 3</b>  | <b>Year 3</b>   | <b>Year 3</b>  | <b>Year 3</b>   | <b>Year 3</b>  |
| Arrays   | Multi Boing!   | Part whole model  | Partitioning   | Expanded Colum  | Simple formal method<br>2-digit x 1-digit  |

### Year 4 Multiplication Calculation Methods

|   |  |   |  |   |
|---|--|---|--|---|
| <b>Expanded Column)</b><br>$\begin{array}{r} \text{T U} \\ 15 \\ \times 5 \\ \hline 25 \text{ (5 x 5)} \\ 50 \text{ (5 x 10)} \\ \hline 75 \end{array}$ | <b>Column Multiplication</b><br>$\begin{array}{r} \text{T U} \\ 15 \\ \times 5 \\ \hline 75 \\ \hline 2 \end{array}$ | <b>Column Multiplication</b><br>$\begin{array}{r} \text{H T U} \\ 43 \\ \times 6 \\ \hline 258 \\ \hline 1 \end{array}$ | <b>Column Multiplication</b><br>$\begin{array}{r} \text{H T U} \\ 147 \\ \times 4 \\ \hline 588 \\ \hline 1 \quad 2 \end{array}$ | <b>Column Multiplication</b><br>$\begin{array}{r} 3647 \\ \times 4 \\ \hline 14588 \\ \hline 2 \quad 1 \quad 2 \end{array}$ |
| Year 3  | Year 3   | Year 4  | Year 4   | Year 5  |
| Expanded Colum  | Simple formal method<br>2-digit x 1-digit  | Formal method<br>2-digit x 1-digit  | Formal Method<br>3-digits x 1 digits   | Formal Method<br>4 digits x 1 digit   |

### Year 5 Multiplication Calculation Methods

|  |   |  |  |   |
|--|---|--|--|---|
| <b>Column Multiplication</b><br>$\begin{array}{r} \text{H T U} \\ 147 \\ \times 4 \\ \hline 588 \\ \hline 1 \quad 2 \end{array}$ | <b>Column Multiplication</b><br>$\begin{array}{r} 3647 \\ \times 4 \\ \hline 14588 \\ \hline 2 \quad 1 \quad 2 \end{array}$ | <b>Long Multiplication</b><br>$\begin{array}{r} 43 \\ \times 65 \\ \hline 215 \text{ (5 x 43)} \\ + 2580 \text{ (60 x 43)} \\ \hline 2795 \end{array}$ | <b>Long Multiplication</b><br>$\begin{array}{r} 243 \\ \times 68 \\ \hline 1944 \text{ (8 x 243)} \\ + 14580 \text{ (60 x 243)} \\ \hline 16524 \end{array}$ | <b>Jump!</b><br>$\begin{array}{r} \times 1000 \quad 63400 \\ \times 100 \quad 6340 \\ \times 10 \quad 634 \\ +10 \quad 63.4 \\ +100 \quad 6.34 \\ +1000 \quad 0.634 \\ \hline 0.0634 \end{array}$ |
| Year 4   | Year 5  | Year 5   | Year 5   | Year 5  |
| Year 4 Formal Method<br>3-digits x 1 digits  | Formal Method<br>4 digits x 1 digit   | Long Multiplication<br>2-digits x 2-digits   | Long Multiplication<br>3-digits x 2 digits   | Multiplying by 10, 100 and 1000   |

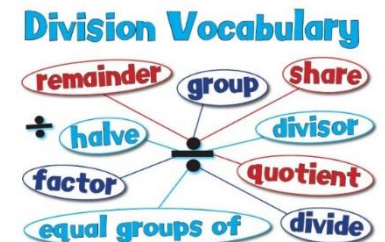
### Year 6 Multiplication Calculation Methods

|   |  |  |   |  |  |
|---|--|--|---|--|--|
| <b>Column Multiplication</b><br>$\begin{array}{r} 3647 \\ \times 4 \\ \hline 14588 \\ \hline 2 \quad 1 \quad 2 \end{array}$ | <b>Long Multiplication</b><br>$\begin{array}{r} 43 \\ \times 65 \\ \hline 215 \text{ (5 x 43)} \\ + 2580 \text{ (60 x 43)} \\ \hline 2795 \end{array}$ | <b>Long Multiplication</b><br>$\begin{array}{r} 243 \\ \times 68 \\ \hline 1944 \text{ (8 x 243)} \\ + 14580 \text{ (60 x 243)} \\ \hline 16524 \end{array}$ | <b>Jump!</b><br>$\begin{array}{r} \times 1000 \quad 63400 \\ \times 100 \quad 6340 \\ \times 10 \quad 634 \\ +10 \quad 63.4 \\ +100 \quad 6.34 \\ +1000 \quad 0.634 \\ \hline 0.0634 \end{array}$ | <b>Long Multiplication</b><br>$\begin{array}{r} 3786 \\ \times 48 \\ \hline 30288 \text{ (8 x 3786)} \\ + 151440 \text{ (40 x 3786)} \\ \hline 181728 \end{array}$ | <b>Column Multiplication</b><br>$\begin{array}{r} \text{T U} = \frac{1}{10} \\ 3.6 \\ \times 4 \\ \hline 14.4 \\ \hline 2 \end{array}$ |
| Year 5  | Year 5   | Year 5   | Year 5  | Year 6   | Year 6   |
| Formal Method<br>4 digits x 1 digit   | Long Multiplication<br>2-digits x 2-digits   | Long Multiplication<br>3-digits x 2 digits   | Multiplying by 10, 100 and<br>1000  | Long Multiplication<br>4 digits x 2 digits   | Multiplying Decimals   |

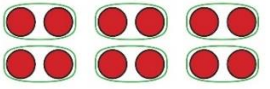
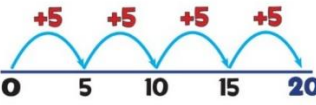
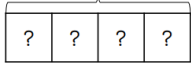
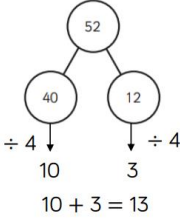
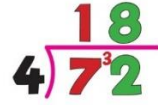
# Number Division - Calculations

| EYFS   | Year 1  | Year 2   | Year 3  | Year 4  | Year 5  | Year 6  |
|--|---|--|---|---|---|---|
| <b>Reception</b> <ul style="list-style-type: none"> <li>Understand the concept of division as sharing fairly in a practical context</li> <li>Use vocabulary associated with sharing</li> </ul> | <ul style="list-style-type: none"> <li>Solve one-step sharing /division problems based on everyday experience, by calculating the answer using concrete objects and pictorial representations with the support of the teacher.</li> </ul> | <ul style="list-style-type: none"> <li>Understand how to share an amount into groups without remainders</li> <li>Complete calculations for division using pictorial methods and write them using the (÷) and (=) signs</li> <li>Begin to understand that division cannot be done in any order (commutative)</li> <li>Solve problems involving division, using materials, arrays, mental methods and division facts, and problems in contexts.</li> </ul> | <ul style="list-style-type: none"> <li>Recall and use division facts for the 3, 4 and 8 multiplication tables</li> <li>Write and calculate mathematical statements for division using the multiplication tables that they know, including for two-digit numbers divided by one-digit and progressing to a formal written method</li> <li>Solve problems, including missing number problems, involving division</li> </ul> | <ul style="list-style-type: none"> <li>Recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math></li> <li>Use place value, known and derived facts to divide mentally, including dividing by 1;</li> </ul> | <ul style="list-style-type: none"> <li>Divide numbers up to 4 digits by a one-digit number using the formal written method (stop) of short division and interpret remainders appropriately for the context</li> <li>Divide whole numbers and those involving decimals by 10, 100 and 1000</li> <li>Solve problems involving division</li> </ul> | <ul style="list-style-type: none"> <li>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</li> <li>Use their knowledge of the order of operations to carry out calculations involving the four operations BODMAS</li> <li>Solve problems involving addition, subtraction, multiplication and division</li> <li>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy</li> </ul> |
| sharing, halving, number patterns  | division, dividing, sharing, halving, array, number patterns  | division, dividing, divide, divided by, divided into, sharing, share, share equally, left, left over, equal groups of, halving, number patterns, division fact   | division, dividing, divide, divided by, divided into, sharing, share, share equally, left, left over, equal groups of, halving, number patterns, division fact, remainder   | division, dividing, divide, divided by, divided into, sharing, share, share equally, left, left over, equal groups of, halving, number patterns, division fact, remainder, inverse  | division, dividing, divide, divided by, divided into, sharing, share, share equally, left, left over, equal groups of, halving, number patterns, division fact, remainder   | division, dividing, divide, divided by, divided into, sharing, share, share equally, left, left over, equal groups of, halving, number patterns, division fact, remainder   |

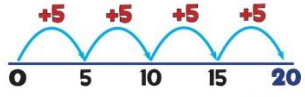
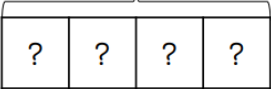
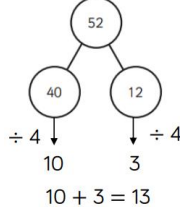
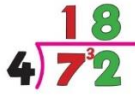
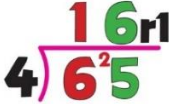
| Year 1/2 Division Calculation Methods |  |   |   |            |
|---------------------------------------|--|---|---|------------|
| <p><b>Grouping (Concept)</b></p>      | <p><b>Division as Sharing</b></p> <p><math>12 \div 2 = 6</math></p> <p>"If I share 12 into 2 equal amounts, how many in each group?" Answer: 6</p> | <p><b>Division as Grouping</b></p> <p><math>12 \div 2 = 6</math></p> <p>"How many groups of 2 can I fit into 12?" Answer: 6</p> | <p><b>Grouping on a Number Line</b></p> | <p>52</p>  |
| Year 1                                | Year 2   | Year 2/3  | Year 2/3                                | Year 3     |
| Grouping                              | Division as grouping   | Division as grouping  | Grouping on a numberline                | Bar Models |




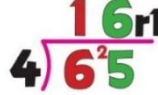


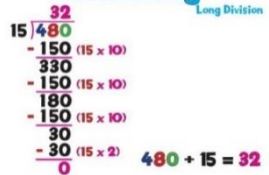
### Year 3 Division Calculation Methods

|   |   |   |   |  |
|---|---|---|---|--|
| <p><b>Division as Grouping</b></p> $12 \div 2 = 6$ <p><small>*How many groups of 2 can I fit into 12? Answer: 6</small></p>  | <p><b>Grouping on a Number Line</b></p>  $20 \div 5 = 4$ <p><small>*How many 5s in 20? Answer: 4</small></p> | <p>52</p>  |  | <p><b>Short Division)</b></p> $72 \div 4 = 18$  |
| Year 2 /3   | Year 2 /3   | Year 3  | Year 3  | Year 4   |
| Division as grouping  | Grouping on a numberline  | Bar Models  | Part whole Models   | Formal method<br>Simple Short Division ( Bus Stop)   |

### Year 4 Division Calculation Methods

|   |   |   |  |  |
|---|---|---|--|--|
| <p><b>Grouping on a Number Line</b></p>  $20 \div 5 = 4$ <p><small>*How many 5s in 20? Answer: 4</small></p> | <p>52</p>  |  | <p><b>Short Division)</b></p> $72 \div 4 = 18$  | <p><b>Short Division)</b></p> $65 \div 4 = 16r1$  |
| Year 2 /3   | Year 3  | Year 3  | Year 4   | Year 4   |
| Grouping on a numberline  | Bar Models  | Part whole Models   | Step 1<br>Formal method<br>Simple Short Division ( Bus Stop)   | Step 2<br>Formal method<br>Simple Short Division with remainders ( Bus Stop)   |

### Year 5 Division Calculation Methods

|  |  |   |  |   |
|--|--|---|--|---|
| <p><b>Short Division)</b></p> $72 \div 4 = 18$  | <p><b>Short Division)</b></p> $65 \div 4 = 16r1$  | <p><b>Short Division</b></p> $136 \div 4 = 34$  | <p><b>Short Division</b></p> $394 \div 6 = 65r4$  | <p><b>Chunking</b><br/><small>Long Division</small></p>  |
| Year 4   | Year 4   | Year 4/5  | Year 5   | Year 6  |
| Step 1<br>Formal method<br>Simple Short Division ( Bus Stop)   | Step 2<br>Formal method<br>Simple Short Division with remainders ( Bus Stop)   | Step 3<br>Formal Method<br>Short Division with larger numbers   | Step 4<br>Formal Method<br>Short Division with larger numbers and remainders   | Step 5<br>Formal Method<br>Introduction to chunking   |



## Year 6 Division Calculation Methods

|   |  |   |   |   |   |
|---|--|---|---|---|---|
| <p><b>Short Division</b></p> $136 \div 4 = 34$                | <p><b>Short Division</b></p> $394 \div 6 = 65\text{r}4$                      | <p><b>Chunking</b><br/><small>Long Division</small></p> | <p><b>Chunking</b><br/><small>Long Division</small></p> | <p><b>Long Division</b><br/><small>Chunking Method</small></p>      | <p><b>D10i: Short Division</b></p> $87.5 \div 7 = 12.5$ |
| Year 5  | Year 5   | Year 6  | Year 6  | Year 6  | Year 6  |
| Step 3<br>Formal Method<br>Short Division with larger numbers | Step 4<br>Formal Method<br>Short Division with larger numbers and remainders | Step 5<br>Formal Method<br>Introduction to chunking     | Step 6<br>Formal Method<br>Introduction to chunking     | Step 7<br>Formal Method<br>Introduction to chunking with remainders | Formal Method<br>Short Division using Decimals          |

## Number Fractions – recognise, write and compare

| EYFS   | Year 1  | Year 2   | Year 3   | Year 4  | Year 5  | Year 6   |
|--|---|--|--|---|---|--|
| <ul style="list-style-type: none"> <li>Practically experience sharing objects and amounts into halves and quarters</li> <li>Understand that sharing should be equal /fair</li> </ul> | <ul style="list-style-type: none"> <li>Recognise, find and name a half as 1 of 2 equal parts of an object, shape, quantity</li> <li>Recognise, find, name a quarter as 1 of 4 equal parts of an object, shape or quantity.</li> </ul> | <ul style="list-style-type: none"> <li>Recognise, find, name and write fractions <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity</li> <li>Compare and recognise equivalent fractions <math>\frac{1}{2}</math> and <math>\frac{2}{4}</math></li> </ul> | <ul style="list-style-type: none"> <li>Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10</li> <li>Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</li> <li>Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</li> <li>Recognise and show, using diagrams, equivalent fractions with small denominators</li> <li>Compare and order unit fractions, and fractions with the same denominators</li> </ul> | <ul style="list-style-type: none"> <li>Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten</li> <li>Recognise and show, using diagrams, families of common equivalent fractions</li> </ul> | <ul style="list-style-type: none"> <li>Identify, name, write equivalent fractions of a given fraction represented visually inc <math>\frac{1}{10}</math> and <math>\frac{1}{100}</math></li> <li>Recognise mixed numbers and improper fractions and convert from one form to the other</li> <li>write mathematical statements <math>&gt; 1</math> as a mixed number</li> </ul> <div style="text-align: center; margin-top: 10px;"> </div> | <ul style="list-style-type: none"> <li>Use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li>Compare and order fractions, including fractions <math>&gt; 1</math></li> </ul> |

|   |   |  |   |   |  |   |
|---|---|--|---|---|--|---|
| Share, equal, equal sharing, parts, whole, halves, half, quarters | Share, equal, equal sharing, parts, whole, halves, half, quarters (one/two/three), $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{3}{4}$ , parts of the whole | Share, equal, equal sharing, parts, whole, halves, half, quarters (one/two/three), $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{3}{4}$ , parts of the whole, Fraction, numerator, denominator, | Fraction, equivalent fraction, mixed number, numerator, denominator, equal part, equal grouping, equal sharing, parts of a whole, half, two halves, one of two equal parts, quarter, two quarters, three quarters, one of four equal parts, one third, two thirds, one of three equal parts, sixths, sevenths, eighths, tenths. | Fraction, equivalent fraction, mixed number, numerator, denominator, equal part, equal grouping, equal sharing, parts of a whole, half, two halves, one of two equal parts, quarter, two quarters, three quarters, one of four equal parts, one third, two thirds, one of three equal parts, sixths, sevenths, eighths, tenths. | fraction, proper/improper fraction, equivalent fraction, mixed number, numerator, denominator equivalent, reduced to, cancel, equal part, equal grouping, equal sharing, parts of a whole half, two halves, one of two equal parts, quarter, two quarters, three quarters, one of four equal parts, one third, two thirds sixths, sevenths, eighths, tenths ..., hundredths, thousandths, addition, subtraction, common denominator, common multiple | fraction, proper/improper fraction, equivalent fraction, numerator, denominator, common multiple, mixed number, numerator, denominator, equivalent, reduced to, equal part, equal grouping, equal sharing, parts of a whole, half, two halves, one of two equal parts, quarter, two quarters, three quarters, one of four equal parts, one third, two thirds, one of three equal parts, sixths, sevenths, eighths, tenths ..., hundredths, thousandths, decimal, decimal fraction |
|---|---|--|---|---|--|---|

## Fractions – Calculations and Solving Problems

| EYFS | Year 1 | Year 2  | Year 3  | Year 4   | Year 5   | Year 6   |
|------|--------|---|---|--|--|--|
|      |        | <ul style="list-style-type: none"> <li>Write simple fractions for example <math>\frac{1}{2}</math> of 6 = 3 <math>\frac{1}{4}</math> of 12 is 4.</li> </ul> | <ul style="list-style-type: none"> <li>Add and subtract fractions with the same denominator within one whole</li> </ul> $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ <ul style="list-style-type: none"> <li>Solve problems that involve all of the above.</li> </ul> | <ul style="list-style-type: none"> <li>Add and subtract fractions with the same denominator</li> <li>Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number</li> <li>Solve simple measure and money problems involving fractions</li> </ul> | <ul style="list-style-type: none"> <li>Add and subtract fractions with the same denominator and denominators that are multiples of the same number</li> <li>Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</li> </ul> $\frac{2}{5} + \frac{4}{5} = \frac{6}{5}$ | <ul style="list-style-type: none"> <li>Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</li> <li>Multiply simple pairs of proper fractions, writing the answer in its simplest form</li> </ul> $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ <ul style="list-style-type: none"> <li>Divide proper fractions by whole numbers</li> </ul> $\frac{1}{3} \div 2 = \frac{1}{6}$ <ul style="list-style-type: none"> <li>Associate a fraction with division and calculate decimal fraction equivalents</li> </ul> |



|  |  |   |   |  |  |   |
|--|--|---|---|--|--|---|
|  |  | <ul style="list-style-type: none"> <li>Share, equal, equal sharing, parts, whole, halves, half, quarters (one/two/three), <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{3}{4}</math>, parts of the whole</li> </ul> | Fraction, equivalent fraction, mixed number, numerator, denominator, equal part, equal grouping, equal sharing, parts of a whole, half, two halves, one of two equal parts, quarter, two quarters, three quarters, one of four equal parts, one third, two thirds, one of three equal parts, sixths, sevenths, eighths, tenths. | fraction, equivalent fraction, mixed number, numerator, denominator, equal part, equal grouping, equal sharing, parts of a whole, half, two halves, one of two equal parts, quarter, two quarters, three quarters, one of four equal parts, one third, two thirds, one of three equal parts, sixths, sevenths, eighths, tenths | fraction, proper/improper fraction, equivalent fraction, mixed number, numerator, denominator equivalent, reduced to, cancel, equal part, equal grouping, equal sharing, parts of a whole half, two halves, one of two equal parts, quarter, two quarters, three quarters, one of four equal parts, one third, two thirds sixths, sevenths, eighths, tenths ..., hundredths, thousandths, addition, subtraction, common denominator, common multiple | fraction, proper/improper fraction, equivalent fraction, numerator, denominator, common multiple, mixed number, numerator, denominator, equivalent, reduced to, equal part, equal grouping, equal sharing, parts of a whole, half, two halves, one of two equal parts, quarter, two quarters, three quarters, one of four equal parts, one third, two thirds, one of three equal parts, sixths, sevenths, eighths, tenths ..., hundredths, thousandths, decimal, decimal fraction |
|--|--|---|---|--|--|---|

## Decimals

| EYFS | Year 1 | Year 2 | Year 3 | Year 4   | Year 5   | Year 6  |
|------|--------|--------|--------|--|--|---|
|      |        |        |        | <p><b>Read and Write Decimals</b></p> <ul style="list-style-type: none"> <li>Count up and down in tenths/ hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.</li> <li>Recognise and write decimal equivalents of any number of tenths or hundredths</li> </ul> <p><b>Decimals as Fractions of amounts</b></p> <ul style="list-style-type: none"> <li>recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math> and <math>\frac{3}{4}</math></li> </ul> <p><b>Ordering/Rounding Decimals</b></p> <ul style="list-style-type: none"> <li>Round decimals with one decimal place to the nearest whole number</li> <li>Compare numbers with the same number of decimal places up to <b>two</b> decimal places</li> </ul> <p><b>Calculating with Decimals</b></p> <ul style="list-style-type: none"> <li>Find the effect of dividing a one- or two-</li> </ul> | <p><b>Read and Write Decimals</b></p> <ul style="list-style-type: none"> <li>Read and write decimal numbers as fractions [for example, <math>0.71 = \frac{71}{100}</math>]</li> </ul> <p><b>Ordering/Rounding Decimals</b></p> <ul style="list-style-type: none"> <li>recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> <li>round decimals with <b>two</b> decimal places to the nearest whole number and to one decimal place <ul style="list-style-type: none"> <li>Read, write, order and compare numbers with up to three decimal places</li> </ul> </li> </ul> <p><b>Calculating with Decimals</b></p> <ul style="list-style-type: none"> <li>solve problems involving number up to three decimal places</li> <li>solve problems which require knowing percentage and decimal equivalents of <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{2}{5}</math>, <math>\frac{4}{5}</math> and those</li> </ul> | <p><b>Read and Write Decimals</b></p> <ul style="list-style-type: none"> <li>Associate a fraction with division and calculate decimal fraction equivalents [for example, <math>0.375</math>] for a simple fraction</li> <li>identify the value of each digit in numbers given to three decimal places</li> </ul> <p><b>Order/Compare Decimals</b></p> <ul style="list-style-type: none"> <li>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</li> </ul> <p><b>Calculating with Decimals</b></p> <ul style="list-style-type: none"> <li>multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places</li> <li>multiply one-digit number with up to two decimal places by whole numbers</li> <li>use written division methods in cases where</li> </ul> |

|  |  |  |  |  |  |   |
|--|--|--|--|--|--|---|
|  |  |  |  | digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths <ul style="list-style-type: none"> <li>Solve simple measure and money problems involving fractions and decimals to two decimal Place</li> </ul> | fractions with a denominator of a multiple of 10 or 25   | the answer has up to two decimal places <ul style="list-style-type: none"> <li>Solve problems which require answers to be rounded to specified degrees of accuracy</li> </ul> |
|  |  |  |  | tenths, hundredths, decimal, fraction, proper/improper fraction, decimal point, decimal place value, decimal equivalent, mixed number, numerator, denominator,   | Multiplying, dividing, addition, subtraction, total, hundred, ten, thousand, decimal point, place holder, tenths, thousandths, hundredths, calculation, decimal place, mixed number, numerator, denominator, | equivalent, tenth, hundredth, thousandth decimal, decimal fraction decimal point, decimal place percentage, mixed number, numerator, denominator,                             |

### Key Stage 2 Year 5 and 6 Addition Methods - Decimals

| adding 2 digits with and without carrying  |   | adding 3 digits with and without carrying  |  | adding 4 digits with and without carrying  |        |
|--|---|--|--|--|--------|
| <b>Column Addition</b><br>$\begin{array}{r} \text{U} \cdot \frac{1}{10} \\ 4.8 \\ + 3.8 \\ \hline 8.6 \\ \hline \end{array}$ | <b>Column Addition</b><br>$\begin{array}{r} \text{U} \cdot \frac{1}{10} \cdot \frac{1}{100} \\ 5.65 \\ + 3.29 \\ \hline 8.94 \\ \hline \end{array}$ | <b>Column Addition</b><br>$\begin{array}{r} \text{T} \text{ U} \cdot \frac{1}{10} \\ 76.7 \\ + 58.5 \\ \hline 135.2 \\ \hline \end{array}$ | <b>Column Addition</b><br><i>With Money</i><br>$\begin{array}{r} \text{£}38.25 \\ + \text{£}27.46 \\ \hline \text{£}65.71 \\ \hline \end{array}$ | $\begin{array}{r} \text{T} \text{ U} \cdot \frac{1}{10} \cdot \frac{1}{100} \\ 73.4 \\ + 5.67 \\ \hline 79.07 \\ \hline \end{array}$ |        |
| Year 5   | Year 5  | Year 5   | Year 5   | Year 5   | Year 5 |
| adding decimals to one decimal place using column method   | adding decimals to 2 decimal places using column method   | Adding decimals  | Adding money   | adding decimals with mixed decimal places  |        |

### Key Stage 2 Progression in Subtraction Calculation Methods

| Subtraction with Decimals  |   |  |
|--|---|--|
| <b>Column Subtraction</b><br>$\begin{array}{r} \text{T} \text{ U} \cdot \frac{1}{10} \\ 12.4 \\ - 8.7 \\ \hline 4.7 \\ \hline \end{array}$ | <b>Column Subtraction</b><br>$\begin{array}{r} \text{T} \text{ U} \cdot \frac{1}{10} \cdot \frac{1}{100} \\ 72.43 \\ - 47.85 \\ \hline 24.58 \\ \hline \end{array}$ | $12.4 - 5.97 = 6.43$<br>$\begin{array}{r} \text{T} \text{ U} \cdot \frac{1}{10} \cdot \frac{1}{100} \\ 12.40 \\ - 5.97 \\ \hline 6.43 \\ \hline \end{array}$ |
| Year 5   | Year 6  | Year 6   |
| Column Subtraction with decimals 1 – decimal place   | Column Subtraction with decimals 2 – decimal places   | Column Subtraction with decimals mixed decimal places  |

# Percentages

| EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5  | Year 6  |
|------|--------|--------|--------|--------|---|---|
|      |        |        |        |        | <ul style="list-style-type: none"> <li>recognise the % symbol and understand that percent relates to 'number of parts per 100'</li> <li>write percentages as a fraction with the denominator 100</li> </ul> | <ul style="list-style-type: none"> <li>Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.</li> </ul> |
|      |        |        |        |        | Percent, fraction, decrease, increase, estimate, whole, bar model, fractions, decimals, units   | Percent, fraction, decrease, increase, estimate, whole, bar model, fractions, decimals, units   |

# Number - Fractions, Decimals and Percentages

| EYFS | Year 1 | Year 2 | Year 3 | Year 4   | Year 5   | Year 6   |
|------|--------|--------|--------|--|--|--|
|      | •      | •      | •      | <ul style="list-style-type: none"> <li>Solve simple measure and money problems involving fractions and decimals to 2 decimal places</li> </ul> | <ul style="list-style-type: none"> <li>solve problems which require knowing percentage and decimal equivalents of<br/> <math>\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}</math></li> <li>know percentage and decimal equivalents for fraction with a denominator of 10 or 25</li> </ul>                        | <ul style="list-style-type: none"> <li>associate a fraction with division and calculate decimal fraction equivalents</li> <li>e.g. 0.375 for a simple fraction <math>\frac{3}{8}</math></li> <li>recall and use equivalences between simple fractions, decimals and percentages including in different contexts</li> </ul>   |
|      |        |        |        | tenths, hundredths, decimal, fraction, decimal point, decimal place value, decimal equivalent.   | fraction, proper/improper fraction, equivalent fraction, mixed number, numerator, denominator, equivalent, equal, parts of a whole, ... of ... equal parts, tenths, hundredths, thousandths, decimal, decimal fraction, decimal point, decimal place, decimal equivalent, proportion, in every, for every, percentage, per cent, % | part, equal parts, unequal parts fraction, proper / improper fraction mixed number numerator, denominator equivalent, reduced to, cancel one whole half, quarter, eighth third, sixth, ninth, twelfth fifth, tenth, twentieth, hundredth, thousandth proportion, ratio in every, for every to every, as many as decimal, decimal fraction decimal point, decimal place percentage, per cent, % integer |

## Ratio and Proportion

| EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6   |
|------|--------|--------|--------|--------|--------|--|
|      |        |        |        |        |        | <ul style="list-style-type: none"> <li>▪ Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</li> <li>▪ Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison</li> <li>▪ Solve problems involving similar shapes where the scale factor is known or can be found</li> <li>▪ Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</li> </ul> |
|      |        |        |        |        |        | proportion, in every, for every ratio  |

## Algebra

| EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6   |
|------|--------|--------|--------|--------|--------|--|
|      |        |        |        |        |        | <ul style="list-style-type: none"> <li>• Use simple formulae</li> <li>• Generate and describe linear number sequences</li> <li>• Express missing number problems algebraically</li> <li>• Find pairs of numbers that satisfy an equation with two unknowns</li> <li>• Enumerate possibilities of combinations of two variables.</li> </ul> |

|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
|  |  |  |  |  |  | Formulae Linear number sequence Equation Enumerate Variables Missing numbers, lengths, coordinates, angles Equivalent expressions Number patterns, puzzles |
|--|--|--|--|--|--|--|

## Measurement: Length

| EYFS  | Year 1   | Year 2   | Year 3   | Year 4   | Year 5   | Year 6  |
|---|--|--|--|--|--|---|
| <ul style="list-style-type: none"> <li>Begin to compare length and height and use appropriate vocabulary to describe</li> <li>Make comparative measurement of length using nonstandard units</li> </ul> | <ul style="list-style-type: none"> <li>Compare, describe and solve practical problems for: lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]</li> <li>Measure and begin to record lengths and heights using standard units</li> </ul> | <ul style="list-style-type: none"> <li>Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm)</li> <li>Compare and order lengths using <math>&gt;</math>, <math>&lt;</math> and <math>=</math></li> </ul> | <ul style="list-style-type: none"> <li>Measure length with accuracy using m, cm and mm</li> <li>Compare lengths m, cm and mm</li> <li>Compare and order lengths using <math>&gt;</math>, <math>&lt;</math> and <math>=</math></li> <li>add and subtract: lengths (m/cm/mm)</li> </ul>  | <ul style="list-style-type: none"> <li>Measure length with accuracy using m, cm and mm</li> <li>Convert between different units of measure (for example, kilometre and metre),</li> <li>Estimate, compare and calculate different measures</li> </ul>  | <ul style="list-style-type: none"> <li>Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre)</li> <li>Understand and use approximate equivalences between metric units and common imperial units such as inches</li> <li>Use all four operations to solve problems involving measure and using decimal notion and scaling</li> </ul>   | <ul style="list-style-type: none"> <li>Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</li> <li>Use, read, write and convert between standard units, converting measurements of length from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places</li> <li>Convert between miles and kilometres</li> </ul>  |
| Long, longer, longest, short, shorter shortest, tall, taller, tallest, high, higher, highest  | Estimate, measure, centimetres, metres, longer, shorter, equal, ruler, length, height, width, long, short and tall   | Estimate, measure, centimetres, metres, longer, shorter, equal, ruler, length, height, width, long, short and tall.  | millimetre, centimetre, metre, kilometre, mile, length, height, width, depth, long, short, tall, high, low, wide, narrow, thick, thin, longer, shorter, taller, higher ... and so on, longest, shortest, tallest, highest ... and so on, far, further, furthest, near, close, distance apart ... between ... to ... from, perimeter, ruler, metre stick, tape measure. | millimetre, centimetre, metre, kilometre, mile, length, height, width, depth, breadth, wide, narrow, thick, thin, longer, shorter, taller, higher longest, shortest, tallest, highest ... and so on, far, further, furthest, near, close, distance apart ... between ... to ... from, edge, perimeter, area, covers, square centimetre (cm <sup>2</sup> ), ruler, metre stick, tape measure. | millimetre, centimetre, metre, kilometre, mile length, height, width, depth, breadth long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher ... and so on longest, shortest, tallest, highest ... and so on far, further, furthest, near, close distance apart ... between ... to ... from edge, perimeter area, covers square centimetre (cm <sup>2</sup> ), square metre (m <sup>2</sup> ), square millimetre (mm <sup>2</sup> ) ruler metre stick, tape measure | centimetre, metre, millimetre, kilometre, mile, yard, foot, feet, inch, inches length, height, width, depth, breadth long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher ... and so on longest, shortest, tallest, highest ... and so on far, further, furthest, near, close distance apart ... between ... to ... from edge, perimeter, circumference area, covers square centimetre (cm <sup>2</sup> ), square metre (m <sup>2</sup> ), square millimetre (mm <sup>2</sup> ) ruler metre stick, tape measure |

## Measurement – Area and Perimeter

| EYFS | Year 1 | Year 2 | Year 3  | Year 4   | Year 5   | Year 6  |
|------|--------|--------|---|--|--|---|
|      |        |        | <ul style="list-style-type: none"> <li>Recognise what is the perimeter of a 2D shape</li> <li>Calculate the perimeter of simple 2-D shapes using length x height</li> </ul> | <ul style="list-style-type: none"> <li>Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</li> <li>Find the area of rectilinear shapes by counting squares</li> </ul> | <ul style="list-style-type: none"> <li>Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</li> <li>Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes</li> </ul> | <ul style="list-style-type: none"> <li>Recognise that shapes with the same areas can have different perimeters and vice versa</li> <li>Recognise when it is possible to use formulae for area and volume of shapes</li> <li>Calculate the area of parallelograms and triangles</li> </ul> |
|      |        |        | millimetre, centimetre, metre, kilometre, length, height, width, depth, breadth, perimeter, ruler, metre stick, tape measure.   | millimetre, centimetre, metre, kilometre, length, height, width, depth, breadth, perimeter, area, covers, square centimetre (cm <sup>2</sup> ), ruler, metre stick, tape measure.  | length, height, width, square centimetre (cm <sup>2</sup> ), square metre (m <sup>2</sup> ), square millimetre (mm <sup>2</sup> ), area, perimeter, units, formula   | Area, length, width, factors, perimeter, distance, triangles, rectangles, formula, rectilinear, estimate, parallelogram, estimate, approximate, right angle   |

## Measurement – Mass

| EYFS  | Year 1   | Year 2   | Year 3  | Year 4   | Year 5  | Year 6   |
|---|--|--|---|--|---|--|
| <ul style="list-style-type: none"> <li>Orders two items by weight or capacity.</li> </ul> <p><b>ELG</b></p> <ul style="list-style-type: none"> <li>Children use everyday language to talk about size and weight, to compare quantities and objects and to solve problems.</li> <li>They explore characteristics of everyday objects and shapes and use mathematical language to describe them.</li> </ul> | <p>Compare, describe and solve practical problems for mass and weight [e.g.: heavy/light, heavier]</p> <ul style="list-style-type: none"> <li>Measure and begin to record mass/weight</li> </ul> | <ul style="list-style-type: none"> <li>Choose and use appropriate standard units to estimate and measure mass (kg/g)</li> <li>Use balance scales to compare the mass of objects</li> <li>Compare and order mass and record the results using &gt;, &lt; and =</li> </ul> | <ul style="list-style-type: none"> <li>Recognise the appropriate units used to measure mass</li> <li>Use scales to practically measure the weight of objects using g and kg</li> <li>Read the weight of objects on a variety of scales</li> <li>Compare a variety of familiar objects by weight</li> <li>Compare and order mass using &gt;,&lt; and =</li> <li>Complete problems to add and subtract mass (kg/g)</li> </ul> | <ul style="list-style-type: none"> <li>Convert between different units of measure [for example, kilometre to metre]</li> </ul> | <ul style="list-style-type: none"> <li>Convert between different units of metric measure (for example, gram and kilogram)</li> <li>Understand / use approximate equivalences between metric and imperial units</li> </ul> | <ul style="list-style-type: none"> <li>Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</li> <li>Use, read, write and convert between standard units, converting mass from a smaller unit of measure to a larger unit, and vice versa, using notation to up to three places</li> </ul> |
| Weigh, weighs, balances<br>Heavy, heavier, heaviest, light, lighter, lightest   | Weigh, weighs, balance, heavy, scales, heaviest, heavier than, lighter, light, lightest, equal. measure,   | Weigh, weighs, balance, heavy, scales, heaviest, heavier than, lighter, light, lightest, equal. measure, gram, kilogram, units of measure, compare, record   | kilogram, half kilogram, gram, weigh, weighs, balances, heavy, light, heavier than, lighter than, heaviest, lightest, scales.   | kilogram, half kilogram, gram, weigh, weighs, balances, heavy, light, heavier than, lighter than, heaviest, lightest, scales.  | kilogram, half kilogram, gram, tonne, convert, weigh, weighs, balances, heavy, light, heavier than, lighter than, heaviest, lightest, scales.   | kilogram, half kilogram, gram, tonne, concert, weigh, weighs, balances, heavy, light, heavier than, lighter than, heaviest, lightest, scales.  |



# Measurement – Capacity and Volume

| EYFS   | Year 1  | Year 2   | Year 3  | Year 4   | Year 5   | Year 6   |
|--|---|--|---|--|--|--|
| <ul style="list-style-type: none"> <li>Children experience capacity and volume measures in real life contexts, Enjoys filling and emptying containers.</li> <li>Orders two items by weight or capacity.</li> <li>use everyday language to talk about size and capacity,</li> <li>to compare quantities and objects and to solve problems. them.</li> </ul> | <ul style="list-style-type: none"> <li>Children experience capacity and volume measures in real life contexts, Compare, describe and solve practical problems for capacity and volume</li> <li>Measure and begin to record capacity and volume</li> </ul> | <ul style="list-style-type: none"> <li>Children experience capacity and volume measures in real life contexts, using appropriate apparatus and equipment.</li> <li>Choose and use appropriate standard units to estimate and measure capacity (litres/ml) to the nearest appropriate unit</li> <li>Use measuring vessels to measure capacity</li> <li>Compare and order volume/capacity and record the results using &gt;, &lt; and =</li> </ul> | <ul style="list-style-type: none"> <li>Children experience measures in real life contexts, using appropriate apparatus and equipment.</li> <li>Accurately measure amounts using litres and millilitres</li> <li>Understand the difference between volume and capacity</li> <li>Compare and order the volume and capacity of containers</li> <li>Understand equivalence in capacity e.g. 100ml = 1 litre</li> <li>Add and subtract volume/capacity (l/ml)</li> </ul> | <ul style="list-style-type: none"> <li>Convert between different units of volume and capacity measure litres and millilitres</li> <li>Understand equivalence in capacity e.g. 100ml = 1 litre</li> </ul> | <ul style="list-style-type: none"> <li>Convert between different units of metric measure (for example, litre and millilitre)</li> <li>Understand and use approximate equivalences between metric units and common imperial units such as pints</li> <li>Estimate volume – e.g. using 1 cm<sup>3</sup> blocks to build cuboids and capacity – e.g. water</li> </ul> | <ul style="list-style-type: none"> <li>Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</li> <li>Use, read, write and convert between standard units, converting measurements of volume from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places</li> <li>Recognise when it is possible to use formulae for volume of shape</li> <li>Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units</li> </ul> |
| Full, half full, empty, Holds, container   | litre, half litre capacity volume full empty more than less than half full quarter full holds container   | Equal, measure, units of measure, compare, record, litres, millilitres, capacity, volume,  | litre, half litre, millilitre, capacity, volume, full, empty, more than, less than, half full, quarter full, holds, contains, container.  | litre, half litre, millilitre, capacity, volume, full, empty, more than, less than, half full, quarter full, holds, contains, container, measuring, cylinder,  | litre, half litre, millilitre, capacity, volume, full, empty, more than, less than, half full, quarter full, holds, contains, container, measuring, cylinder, pint, gallon, formula,   | litre, half litre, millilitre, centilitre, cubic centimetres (cm <sup>3</sup> ), cubic metres (m <sup>3</sup> ), cubic millimetres (mm <sup>3</sup> ), capacity, volume, estimate, equivalent, approximate, formula  |

# Measurement - Money

| EYFS  | Year 1  | Year 2  | Year 3   | Year 4   | Year 5   | Year 6  |
|---|---|---|--|--|--|---|
| <ul style="list-style-type: none"> <li>Play and sort with coins of different denominations</li> <li>Use money in role play</li> </ul> | <ul style="list-style-type: none"> <li>Understand the concept of unitising – that one item can represent different amounts</li> <li>Recognise and know the value of different denominations of coins and notes</li> <li>Sort coins and notes into sets</li> <li>Order coins and notes according to their value</li> <li>Compare the value of coins using &lt;, &gt;, =</li> <li>Make amounts of money using knowledge of 2, 5 and 10</li> </ul> | <ul style="list-style-type: none"> <li>Recognise and use symbols for pounds (£) and pence (p);</li> <li>combine amounts to make a particular monetary value</li> <li>Find different combinations of coins that equal the same amounts of money</li> <li>Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change</li> </ul> | <ul style="list-style-type: none"> <li>Understand the exchange of (£) and (p). 100p =£1</li> <li>Record amounts of money using formal notation £3.30 / 78p</li> <li>Find different combinations of coins that equal the same amounts of money</li> <li>Add and subtract amounts of money to give change, using both £ and p in practical contexts</li> </ul> | <ul style="list-style-type: none"> <li>Estimate, compare and calculate different measures, including money in pounds and pence</li> </ul>  | <ul style="list-style-type: none"> <li>Use all four operations to solve problems involving money using decimal notation</li> </ul>   | <ul style="list-style-type: none"> <li>Solve problems involving the calculation and conversion of units of money, using decimal notation up to two decimal places where appropriate</li> </ul>                            |
| Money, coin, penny, pence, pound, price, cost, pay<br><br>How much? How many? Total   | money, coin, penny, pence, pound, price, cost, buy, bought, sell, sold, spend, spent, pay, change, costs more, costs less, costs the same as, how much ...?, how many ...?, total.  | money, coin, penny, pence, pound, price, cost, buy, bought, sell, sold, spend, spent, pay, change, costs more, costs less, costs the same as, how much ...?, how many ...?, total.  | money, coin, penny, pence, pound, price, cost, buy, bought, sell, sold, spend, spent, pay, change, dear, costs more, cheap, costs less, cheaper, costs the same as, how much ...?, how many ...?, total.   | money, coin, penny, pence, pound, price, cost, buy, bought, sell, sold, spend, spent, pay, change, dear, costs more, cheap, costs less, cheaper, costs the same as, how much ...?, how many ...?, total. | money coin penny, pence, pound price, cost buy, bought, sell, sold spend, spent pay change dear, costs more cheap, costs less, cheaper costs the same as how much ...? how many ...? total discount currency | money coin penny, pence, pound price, cost buy, bought, sell, sold spend, spent pay change dear, costs more cheap, costs less, cheaper costs the same as how much ...? how many ...? total discount currency profit, loss |

# Measures - Time

| EYFS  | Year 1   | Year 2  | Year 3  | Year 4  | Year 5  | Year 6  |
|---|--|---|---|---|---|---|
| <ul style="list-style-type: none"> <li>sequence familiar events in chronological order</li> <li>use a range of vocabulary to describe when things happen</li> <li>use vocabulary to describe when things happen during the day – morning, afternoon and night</li> <li>say the days of the week in order and begin to use vocabulary such as yesterday, today and tomorrow</li> </ul> | <ul style="list-style-type: none"> <li>Sequence familiar events in chronological order</li> <li>use language to describe when things happen [e.g. before and after, next, first, today, tomorrow, morning, afternoon and evening]</li> <li>Recognise and use language relating to dates (know the days of the week, weeks, months of the year and years)</li> <li>Tell the time on an analogue clock face to the hour and half past the hour and draw the</li> </ul> | <ul style="list-style-type: none"> <li>Measure and begin to record time (hours, minutes, seconds)</li> <li>Compare and sequence intervals of time</li> <li>Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times</li> <li>Know the number of minutes in an hour and the number of hours in a day.</li> </ul> | <ul style="list-style-type: none"> <li>Tell and write the time from an analogue clock, including using Roman numerals from I to XII</li> <li>Tell and write the time on 12-hour and 24-hour clocks</li> <li>Estimate and read time with increasing accuracy to the nearest minute</li> <li>Record and compare time in seconds, minutes and hours;</li> <li>Use vocabulary such as o'clock, a.m./p.m., morning, afternoon, midnight, midday, noon</li> <li>Know the number of seconds in a minute</li> </ul> | <ul style="list-style-type: none"> <li>Read, write and convert time between analogue and digital 12- and 24-hour clocks</li> <li>Begin to solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</li> </ul> | <ul style="list-style-type: none"> <li>Begin to solve problems involving converting between units of time e.g. hours to minutes; minutes to seconds; years to months; weeks to days.</li> <li>Begin to use, read, write, convert between standard units of time from a smaller unit of measure to a larger unit and vice versa</li> </ul> | <ul style="list-style-type: none"> <li>Solve problems involving converting between units of time e.g. hours to minutes; minutes to seconds; years to months; weeks to days.</li> <li>Use, read, write, convert between standard units of time from a smaller unit of measure to a larger unit and vice versa</li> </ul> |

|   |  |   |  |   |  |   |
|---|--|---|--|---|--|---|
|   | hands on a clock face to show these times.   |   | <ul style="list-style-type: none"> <li>Know the number of days in each month, year and leap year</li> <li>Compare durations of events [e.g. calculate the time taken by particular events].</li> </ul>   |   |  |   |
| Time<br>Days of the week: Monday, Tuesday, etc.<br>Seasons<br>Day, weekend, morning, afternoon, bedtime, dinnertime, playtime | Measure, time, minutes, hours, minute hand, hour hand, o'clock, quarter past, half past, quarter to, clock, clock face, numbers 1-12, longer, shorter, compare, Today, yesterday, tomorrow | time, clock, minute hand, hour hand, big hand, small hand, hour, minute, second, intervals, past, to, o'clock, half past, quarter past, quarter to, before, after, next, last, earlier, later, morning, afternoon, evening, midnight, hour, days, duration, days of the week, how long is.. | analogue, digital, time, clock, minute hand, hour hand, big hand, small hand, hour, minute, second, intervals, past, to, o'clock, half past, quarter past, quarter to, before, after, next, last, earlier, later, morning, afternoon, evening, midnight, hour, days, duration, days of the week, how long is.. | week, weekend, fortnight, month, year, leap year, century, millennium, , how often?, always, never, often, sometimes, usually, once, twice, hour, o'clock, half past, quarter past, quarter to, 5, 10, 15 ... minutes past, a.m., p.m., clock, clock face, watch, hands, digital/analogue clock/watch, timer, hour hand, minute hand, hours, minutes, seconds, timetable, arrive, depart, Roman numerals, 12-hour clock time, 24-hour clock time. | fortnight, month, year, leap year, century, millennium, today, yesterday, tomorrow, calendar, date, early, late, earliest, latest, takes longer, takes less time, how long ago?, how long will it be to ...? how long will it take to ...? how often?, o'clock, half past, quarter past, quarter to, minutes past, a.m., p.m., digital/analogue, clock/watch, hour hand, minute hand, hours, minutes, seconds, timetable, arrive, depart, 12-hour clock time, 24-hour clock time | fortnight, month, year, leap year, century, millennium, today, yesterday, tomorrow, calendar, date, early, late, earliest, latest, takes longer, takes less time, how long ago?, how long will it be to ...? how long will it take to ...? how often?, o'clock, half past, quarter past, quarter to, minutes past, a.m., p.m., digital/analogue, timetable, arrive, depart, Roman numerals 12-hour clock time, 24-hour clock time |

## Measures - Temperature

| EYFS | Year 1   | Year 2  | Year 3 | Year 4  | Year 5 | Year 6   |
|------|--|---|--------|---|--------|--|
|      | <ul style="list-style-type: none"> <li>recognise the concept of temperature in a practical context – use related vocabulary hot, cold, freezing</li> </ul> | <ul style="list-style-type: none"> <li>Choose and use appropriate standard units to estimate temperature (°C) to the nearest appropriate unit using thermometers</li> </ul> |        | Add in additional unit on temperature here which will link with the science unit changing materials |        | Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate |
|      | temperature, hot, cold, cool, warm   | temperature, hot, cold, cool, warm, thermometer, degree Celsius   |        | temperature, hot, cold, cool, warm, boiling, freezing, thermometer, degree Celsius                  |        | temperature, hot, cold, cool, warm, boiling, freezing, thermometer, degree Celsius, positive, negative, minus                                    |

# Geometry – Properties of 2D and 3D Shape

| EYFS  | Year 1  | Year 2  | Year 3  | Year 4   | Year 5  | Year 6   |
|---|---|---|---|--|---|--|
| <p><b>2D Shape</b></p> <ul style="list-style-type: none"> <li>Recognise and name common 2-D (e.g. rectangles, squares, circles and triangles)</li> <li>Sort and make pictures and patterns with 2D shapes</li> </ul> <p><b>3D shape</b></p> <ul style="list-style-type: none"> <li>Build and sort common 3-D shapes, (e.g. cuboids, cubes, pyramids spheres)</li> </ul> | <p><b>2D Shape</b></p> <ul style="list-style-type: none"> <li>Recognise and name common 2-D (e.g. rectangles, squares, circles and triangles)</li> </ul> <p><b>3D shape</b></p> <ul style="list-style-type: none"> <li>Recognise and name common 3-D shapes, (e.g. cuboids, cubes, pyramids spheres)</li> </ul> | <p><b>2D Shape</b></p> <ul style="list-style-type: none"> <li>Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line</li> <li>Identify 2-D shapes on the surface of 3-D shapes (e.g., circle on cylinder, triangle on a pyramid)</li> <li>Compare and sort common 2-D shapes and everyday objects.</li> </ul> <p><b>3D shape</b></p> <ul style="list-style-type: none"> <li>Recognise and name common 3D shapes (e.g. cuboids, cubes, pyramids and sphere)</li> <li>Compare and sort common 2-D and 3-D shapes and everyday objects.</li> </ul> | <p><b>2D shape</b></p> <ul style="list-style-type: none"> <li>Draw 2-D shapes</li> </ul> <p><b>3D shape</b></p> <ul style="list-style-type: none"> <li>Make 3-D shapes using modelling materials;</li> <li>Recognise 3-D shapes in different orientations and describe them</li> </ul>                            | <p><b>2D shape</b></p> <ul style="list-style-type: none"> <li>Compare and classify geometric shapes including quadrilaterals and triangles based on their properties and sizes</li> <li>Identify lines of symmetry in 2-D shapes presented in different orientations</li> </ul> <p><b>3D shape</b></p> <ul style="list-style-type: none"> <li>Name and describe 3D shapes in different orientations</li> </ul> | <p><b>2D shape</b></p> <ul style="list-style-type: none"> <li>distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</li> <li>use properties of rectangles to deduce related facts and find missing lengths, angles</li> <li>use properties of rectangles to deduce related facts and find missing lengths, angles</li> </ul> <p><b>3D shape</b></p> <ul style="list-style-type: none"> <li>Identify 3-D shapes, including cubes and other cuboids, from 2-D representations</li> </ul>                                    | <p><b>2D shape</b></p> <ul style="list-style-type: none"> <li>Draw 2-D shapes using given dimensions and angles</li> <li>Compare and classify geometric shapes based on their properties and sizes</li> <li>Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> </ul> <p><b>3D shape</b></p> <ul style="list-style-type: none"> <li>Recognise, describe and build simple 3-D shapes, including making nets</li> </ul>   |
| <p>Group, sort cube, cuboid, pyramid, sphere, cone, cylinder, circle, triangle, square Shape Flat, curved, traight, round Solid</p>   | <p>2D shape, rectangle, square, circle, triangle, hexagon, octagon, flat</p> <p>3d shape, cube, cuboid, sphere, pyramid, square based pyramid, solid</p>  | <p>2D shape, rectangle, square, circle, triangle, quadrilateral, hexagon, pentagon, side, corner, curved, long, short,</p> <p>3d shape, cube, cuboid, sphere, pyramid, square based pyramid</p>   | <p>2D shape, rectangle, square, circle, triangle, quadrilateral, hexagon, pentagon, heptagon, octagon, side, corner, curved, long, short, right angle, symmetry, parallelogram, kite, rhombus, net</p> <p>3d shape, cube, cuboid, sphere, cone, pyramid, square based pyramid, cylinder, face, edge, vertices</p> | <p>2D shape, flat, curved, straight, round, rectangle, square, circle, triangle, quadrilateral, hexagon, pentagon, heptagon, octagon, side, corner, curved, long, short, right angle, symmetry, regular, irregular, parallelogram, kite, rhombus, net</p> <p>3d shape, cube, cuboid, sphere, cone, pyramid, square based pyramid, cylinder, face, edge, vertices</p>   | <p>shape, pattern, flat, line, curved, straight, round, hollow, solid, sort, make, build, construct, draw, sketch, perimeter, surface, angle, symmetry, regular, irregular, two-dimensional, rectilinear circle,</p> <p>equilateral triangle, isosceles triangle, scalene triangle, pentagon, hexagon, heptagon, octagon, quadrilateral, parallelogram, rhombus, trapezium, polygon, right -angled, parallel, perpendicular, three-dimensional, face, edge, vertices, cube, cuboid, pyramid, sphere, spherical, cone, cylinder, cylindrical prism, triangular prism</p> | <p>three-dimensional, face, edge, vertex, vertices, cube, cuboid, pyramid, sphere, cylinder, cylindrical prism, triangular prism, net, parallelogram, rhombus, trapezium, kite, polygon, right-angled, parallel, perpendicular, two-dimensional, corner, rectangle (including square), rectangular, rectilinear, circle, triangle, equilateral triangle, isosceles triangle, scalene triangle, pentagon, hexagon, heptagon, octagon, quadrilateral, construct, three-dimensional, face, edge, vertices, cube, cuboid, diameter, circumference, net, right-angled, congruent, intersecting, base, square-based, reflect, reflection, regular, irregular, shape, pattern</p> |

## Geometry – Properties of Shape - Angles and Lines

| EYFS | Year 1 | Year 2 | Year 3   | Year 4   | Year 5  | Year 6   |
|------|--------|--------|--|--|---|--|
|      |        |        | <ul style="list-style-type: none"> <li>Recognise angles as a property of shape or a description of a turn</li> <li>Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn;</li> <li>identify whether angles are greater than or less than a right angle</li> <li>Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</li> </ul> | <ul style="list-style-type: none"> <li>Identify acute and obtuse angles</li> <li>compare and order angles up to 2 right angles by size</li> <li>Identify lines of symmetry in 2-D shapes presented in different orientations</li> <li>Complete a simple symmetric figure with respect to a specific line of symmetry.</li> </ul> | <ul style="list-style-type: none"> <li>Know angles are measured in degrees:</li> <li>estimate, compare acute, obtuse and reflex angles</li> <li>Draw given angles, and measure them in degrees°</li> </ul> <p>Identify:</p> <ol style="list-style-type: none"> <li>angles at a point and one whole turn (total 360)</li> <li>angles at a point on a straight line and a turn (total 180)</li> <li>other multiples of 90°</li> </ol> | <ul style="list-style-type: none"> <li>Find unknown angles in any triangles, quadrilaterals, and regular polygons</li> <li>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles</li> </ul> |
|      |        |        | line, straight, turn, clockwise, anticlockwise, angle, degree, right angle, acute angle, obtuse angle, greater, smaller, straight line, vertical, horizontal, parallel, perpendicular, ruler,  | angle, is a greater/smaller angle than, degree, right angle, acute angle, obtuse angle, reflection, straight line, ruler, angle measurer, compass, size, bigger, larger, smaller, symmetry, symmetrical, symmetrical pattern, line symmetry, reflect, reflection, pattern, repeating pattern, match, regular, irregular.         | angle, is a greater/smaller angle than, degree, right angle, acute angle, obtuse angle, reflection, straight line, ruler, set square, angle measurer, compass, size, bigger, larger, smaller, symmetry, symmetrical, symmetrical pattern, line symmetry, reflect, reflection, pattern, repeating pattern, match, regular, irregular.  | angle, degree, right angle, acute angle, obtuse angle, reflex angle, straight line, ruler, angle measurer, compass, protractor, circumference, diameter, centre, radius,   |

## Geometry – Position and Direction

| EYFS  | Year 1  | Year 2   | Year 3 | Year 4  | Year 5  | Year 6  |
|---|---|--|--------|---|---|---|
| <ul style="list-style-type: none"> <li>sequence familiar events in chronological order</li> <li>use a range of vocabulary to describe when things happen</li> <li>use vocabulary to describe when things happen during the day – morning, afternoon and night</li> <li>say the days of the week in order and begin to use vocabulary such as</li> </ul> | <ul style="list-style-type: none"> <li>Sequence familiar events in chronological order</li> <li>use language to describe when things happen [e.g. before and after, next, first, today, tomorrow, morning, afternoon and evening]</li> <li>Recognise and use language relating to dates (know the days of the week, weeks, months of the year and years)</li> </ul> | <ul style="list-style-type: none"> <li>Order and arrange combinations of mathematical objects in patterns and sequences</li> <li>Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line</li> <li>Distinguish between rotation as a turn and in terms of right angles for quarter, half and three-years</li> </ul> |        | <ul style="list-style-type: none"> <li>Describe positions on a 2-D grid as coordinates in the first quadrant</li> <li>Describe movements between positions as translations of a given unit to the left/right and up/down</li> <li>Plot specified points and draw sides to complete a given polygon</li> </ul> | <ul style="list-style-type: none"> <li>Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language and know that the shape has not changed.</li> </ul> | <ul style="list-style-type: none"> <li>Describe positions on the full coordinate grid (all four quadrants)</li> <li>Draw and translate simple shapes on the coordinate plane, and reflect them in the axes</li> </ul> |

|  |  |   |  |  |  |  |
|--|--|---|--|--|--|--|
| yesterday, today and tomorrow  | <ul style="list-style-type: none"> <li>Tell the time on an analogue clock face to the hour and half past the hour and draw the hands on a clock face to show these times.</li> </ul> | quarter turns (clockwise and anti-clockwise).   |  |  |  |  |
| before, after, next, first, last, yesterday, today,, tomorrow, morning, afternoon, day, night, forwards, backwards | Position, direction, movement, whole turn, quarter turn, three quarter turn, whole turn, clockwise, move, shape, left, right, forwards, backwards, change.                           | Movement, position, direction, left, right, forwards, 'backwards' full turn, half turn, quarter turn, three-quarter turn, clockwise and anti-clockwise. |  | position, over, under, underneath, above, below, top, bottom, side, on, in, outside, inside, around, in front, behind, front, back, beside, next to, opposite, apart, between, middle, edge, centre, corner, direction, journey, route, left, right, up, down, higher, lower, forwards, backwards, sideways, across, next to, close, near, far, along, through, to, from, towards, away from, clockwise, anticlockwise, compass point, north, south, east, west, N, S, E, W, north-east, north-west, south-east, south-west, NE, NW, SE, SW, horizontal, vertical, diagonal, translate, translation. | Position, left, right, up, down, across, horizontal, vertical, diagonal, translate, translation, coordinate, movement slide, x axis, y axis, plotting, vertices<br><br>bigger, larger, smaller, symmetry, symmetrical, symmetrical pattern, line of symmetry, reflect, reflection, axis of symmetry, reflective symmetry, pattern, repeating pattern, parallel | Position, left, right, up, down, across, horizontal, vertical, diagonal, translate, translation, coordinate, movement slide, x axis, y axis, plotting, vertices<br><br>bigger, larger, smaller, symmetry, symmetrical, symmetrical pattern, line of symmetry, reflect, reflection, axis of symmetry, reflective symmetry, pattern, repeating pattern, parallel |

## Statistics

| EYFS | Year 1 | Year 2  | Year 3   | Year 4   | Year 5  | Year 6  |
|------|--------|---|--|--|---|---|
|      |        | <p><b>Present and Interpret</b></p> <ul style="list-style-type: none"> <li>Collect information in simple tally charts</li> <li>Interpret and construct simple pictograms, tally charts, block diagrams and tables</li> </ul> <p><b>Solve Problems</b></p> <ul style="list-style-type: none"> <li>Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity</li> <li>Ask and answer questions about totalling and comparing categorical data.</li> </ul> | <p><b>Present and Interpret</b></p> <ul style="list-style-type: none"> <li>Interpret and present data using scaled bar charts, tally charts, pictograms and tables</li> </ul> <p><b>Solve Problems</b></p> <ul style="list-style-type: none"> <li>Solve 1 and 2 step questions using info in scaled bar charts and pictograms and frequency tables.</li> </ul> | <p><b>Present and Interpret</b></p> <ul style="list-style-type: none"> <li>Interpret and present discrete and continuous data using appropriate graphical methods including bar charts and time graphs</li> </ul> <p><b>Solve Problems</b></p> <ul style="list-style-type: none"> <li>Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</li> </ul> | <p><b>Present and Interpret</b></p> <ul style="list-style-type: none"> <li>Complete, read and interpret information in tables, including timetables and line graphs</li> </ul> <p><b>Solve Problems</b></p> <ul style="list-style-type: none"> <li>Solve comparison, sum, difference problems using information presented in timetables and line graph</li> </ul> | <p><b>Present and Interpret</b></p> <ul style="list-style-type: none"> <li>Interpret and construct pie charts and line graphs and use these to solve problems</li> </ul> <p><b>Solve Problems</b></p> <ul style="list-style-type: none"> <li>Calculate and interpret the mean as an average.</li> </ul> |



|  |  |   |   |  |  |  |
|--|--|---|---|--|--|--|
|  |  | Count, tally, sort, vote, graph, block graph, pictogram, represent, group, set, list, table<br>Label, title, most popular, most common, least popular, least common | count, tally, sort, vote, graph, block graph, pictogram, represent, group, table, chart, bar chart, frequency table, label, title, axis, axes, diagram, most popular, most common, least popular, least common. | count, tally, sort, vote, survey, questionnaire, data, graph, block graph, pictogram, represent, group, set, list, table, chart, bar chart, frequency table, time graph. label, title, axis, axes, diagram, most popular, most common, least popular, least common | tally, sort, vote, survey, questionnaire, data, database, graph, block graph, pictogram, represent, group, set, list, table, chart, bar chart, frequency, table, bar, line, chart, Carroll diagram, line graph, label, title, axis, axes, diagram, most popular, most common, least popular, least common, maximum/minimum, value, outcome | tally, sort, vote, survey, questionnaire, data, database, graph, pictogram, represent, group, set, list, table, chart, bar chart, frequency table, bar/line chart, Carroll diagram, line graph, negative, difference, pie chart, label, title, axis, axes, diagram most popular, most common, least popular, least common, maximum/minimum, value, outcome, mean, statistics |
|--|--|---|---|--|--|--|