Curriculum Map: **Math** **Year 3**

Below outlines the learning focus for each term

**Year 3 Programme of Study – by the end of the academic year:**

**Number – number and place value**

- count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
- recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
- compare and order numbers up to 1000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1000 in numerals and in words
- solve number problems and practical problems involving these ideas

**Number – addition and subtraction**

- add and subtract numbers mentally, including:
  - a three-digit number and ones
  - a three-digit number and tens
  - a three-digit number and hundreds
- add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

**Number – multiplication and division**

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects

**Number – fractions**

- 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
- recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- recognise and show, using diagrams, equivalent fractions with small denominators
- add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7]
- compare and order unit fractions, and fractions with the same denominators
- solve problems that involve all of the above.

**Measurement**

- measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- measure the perimeter of simple 2-D shapes
- add and subtract amounts of money to give change, using both £ and p in practical contexts
- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
- estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight

- know the number of seconds in a minute and the number of days in each month, year and leap year
- compare durations of events [for example to calculate the time taken by particular events or tasks].

**Geometry – properties of shapes**

- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
- recognise angles as a property of shape or a description of a turn
- identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle
- identify horizontal and vertical lines and pairs of perpendicular and parallel lines.

**Statistics**

- interpret and present data using bar charts, pictograms and tables
- solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.

| Term | Learning Focus | |
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| | **Knowledge** | **Skills** |
| Autumn Term | **Number : Place Value**<br>• Recognise the place value of each digit in a three digit number (hundreds, tens, ones)<br>➢ Counting in 100s<br>➢ Representing numbers to 1,000<br>➢ 100s, 10s and 1s<br>➢ The number line to 1,000<br>➢ Finding 1, 10 and 100 more or less<br>• Read and write numbers up to 1,000 in numerals and in words<br>• Compare and order numbers up to 1,000<br>• Identify, represent and estimate numbers using different representations<br>• Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number<br>• Solve number problems and practical problems<br><br>**Number : Addition and Subtraction**<br>• Add and subtract numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds<br>➢ Adding and subtracting 100s<br>➢ Adding and subtracting a 3-digit number and 1s<br>➢ Adding and subtracting a 3-digit number and 10s<br>• Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction<br>➢ Adding and subtracting a 3-digit and 2-digit number<br>➢ Addition and subtraction patterns<br>➢ Adding two 3-digit numbers<br>➢ Subtracting a 3-digit number from a 3-digit number<br>• Estimate the answer to a calculation and use inverse operations to check answers<br>• Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction | |

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| | **Multiplication and division**<br>• Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods<br>• Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables<br>• Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods<br>• Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects<br>• Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods |
| Spring Term | **Multiplication and division**<br>• Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects<br>• Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods<br>➢ Comparing multiplication and division statements<br>➢ Multiplying a 2-digit number by a 1-digit number<br>**Measurement – money**<br>• Add and subtract amounts of money to give change, using both £ and p in practical contexts<br>➢ Pounds and pence<br>➢ Converting pounds and pence<br>➢ Adding money<br>➢ Subtracting amounts of money<br>➢ Problem solving – money<br>**Measurement – Length**<br>• Measure, compare, add and subtract: lengths (m/ cm/mm); mass (kg/g); volume/capacity (l/ml)<br>➢ Measuring length<br>➢ Equivalent lengths - metres and centimetres<br>➢ Equivalent lengths - centimetres and millimetres<br>➢ Comparing lengths<br>➢ Adding lengths<br>➢ Subtracting lengths<br>• Measure the perimeter of simple 2-d shapes<br>• Problem solving - length<br>**Statistics**<br>• Interpret and present data using bar charts, pictograms and tables<br>➢ Pictograms<br>➢ Bar charts<br>• Solve one-step and two-step questions [for example, 'how many more?' and 'how many fewer?'] using information presented in scaled bar charts and pictograms and |

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| | tables<br>➢ Pictograms<br>➢ Bar charts<br>➢ Tables<br>**Number – fractions**<br>• Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators<br>• Compare and order unit fractions, and fractions with the same denominators<br>• 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<br>• Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators<br>• Solve problems that involve all of the above |
| Summer Term | **Number – fractions**<br>• Recognise and show, using diagrams, equivalent fractions with small denominators<br>• Compare and order unit fractions, and fractions with the same denominators<br>• Add and subtract fractions with the same denominator within one whole (for example, 5/ 7 + 1/7 = 6/7)<br>• Solve problems involving fractions including addition and subtraction<br>**Measurement – time**<br>• Know the number of seconds in a minute and the number of days in each month, year and leap year<br>• Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight<br>➢ Telling time to the minute<br>➢ Finding the duration<br>➢ Finding start and end times<br>➢ Measuring time in seconds<br>• Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks<br>• Compare durations of events (for example to calculate the time taken by particular events or tasks)<br>**Measurement – Weight, volume and temperature**<br>• Measure, compare, add and subtract: lengths (m/ cm/mm); mass (kg/g); volume/capacity (l/ml)<br>➢ Measuring mass<br>➢ Comparing masses<br>➢ Adding and subtracting masses<br>➢ Problem solving – mass<br>➢ Measuring capacity<br>➢ Comparing capacities<br>➢ Adding and subtracting capacities<br>➢ Problem solving – capacity<br>**Geometry ; properties of shape**<br>• Recognise angles as a property of shape or a description of a turn<br>• Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle<br>• Draw 2D shapes and make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them<br>• Identify horizontal and vertical lines and pairs of perpendicular and parallel lines |

**Intent**

The intent of our mathematics curriculum is to provide children with a foundation for understanding number, reasoning, thinking logically and problem solving with resilience so that they are fully prepared for the future.

We are committed to ensuring that children are able to recognise the importance of Maths in the wider world and that they are also able to use their mathematical skills and knowledge confidently in their lives in a range of different contexts. We want all children to enjoy Mathematics, develop their curiosity about the subject, and to experience success in the subject.

**Implementation**

The majority of pupils will move through the programmes of study at broadly the same pace.... Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on

- Teachers reinforce an expectation that all pupils are capable of achieving high standards in mathematics.
- Pupils are taught through whole-class teaching, where the focus is on all pupils working together on the same lesson content at the same time.
- Differentiation is achieved by emphasising deep knowledge and/or through individual support and intervention.
- If a pupil fails to grasp a concept or procedure, this is identified within the lesson structure and timely intervention ensures the pupil is best placed to move forward.
- Key facts such as multiplication tables and addition facts within 10 are retained through retrieval practice to develop automaticity; this avoids cognitive overload in the working memory and enables pupils to focus on new concepts.

**Impact**

Children demonstrate quick recall of facts and procedures. This includes:

- The recollection of the times tables.
- The flexibility and fluidity to move between different contexts and representations of mathematics.
- The ability to recognise relationships and make connections in mathematics.
- Children show confidence in Believing that they will achieve.
- Children show a high level of pride in the presentation and understanding of the work

Ongoing formative assessment enabling teachers to be responsive to our children's needs. Furthermore, our lesson design structure is shaped in a way that ensures misconceptions are identified during the lesson and immediately addressed at the point of learning.

Termly teacher assessment, alongside standardised tests, are used to help identify any gaps there may be in a pupils understanding