

**Maths Curriculum Map**

| V | All our values will be taught throughout the whole of the Maths curriculum, however certain key values will be taught more explicitly. Using the values of co-operation, courage, responsibility, and respect. The children will become more resilient learners as they communicate their understanding and practise their skills. |
| --- | --- |
| E | Children use outdoor and indoor environments to explore different concepts of maths. We aim to create an environment that values each child and enables them to achieve their best, as they explore through play and fun, creative lessons. |
| L | Learning walls are used to clarify what children are currently learning and as a point of reference during their learning. Developing their skills and knowledge, they make links to learning through carefully planned activities and an engaging curriculum. Carefully selected concrete and pictorial resources make learning accessible for all children and provide challenges. |
| C | We place great value on the quality of relationships within our school community and celebrate the achievements of all the children. |
| R | We encourage risk taking and investigation in a supportive environment to enable children to confidently articulate their mathematical thinking. Following the British value of Individual Liberty, the children are actively encouraged to make choices, knowing that they are in a safe, supportive environment. |
| O | We make the most of learning opportunities through planned, or spontaneous, child-led learning. The opportunities and experiences we provide enable all the children to participate fully. To develop an appreciation for Maths, through a sense of enjoyment and curiosity about the subject, we have various opportunities throughout the year to promote and celebrate Maths through events and everyday routines…  Maths day, Maths assemblies, Green footprint  Daily and visual timetables and routines. |

**Intent**

The curriculum is fully inclusive for all, which develops children’s knowledge and understanding of mathematical concepts whilst enabling them to apply their skills effectively. The children enjoy and are curious about Maths through shared learning and meaningful contexts across the curriculum. Using their learning environment, the children are given a variety of opportunities to develop their knowledge using concrete, pictorial and abstract learning.

Children reflect on the suitability of strategies used and are guided through any misconceptions. They are given opportunities to change, adapt, correct or extend within a safe learning culture.

Mathematics aims to ensure children:

* Know and can apply a range of mathematical skills and become fluent in the fundamentals of mathematics.
* Embrace mathematical challenges through a mastery approach.
* Be able to reason mathematically and solve problems by the application of their mathematical understanding.
* Have opportunities to apply learnt mathematical skills and develop problem-solving abilities across the whole curriculum.
* Develop an enthusiastic and creative attitude towards mathematics that will stay with them throughout their lives and help them to apply their mathematical skills effectively in everyday life situations.
* Can think critically using concrete, pictorial or abstract approaches and communicate their understanding clearly.

**Implementation**

We will achieve our aims by:

* Giving staff support and clear guidance on the coverage of the Mathematics National Curriculum, following a Mastery approach and White Rose Plans.
* Setting clear expectations for children and staff as to what is to be taught and what needs to be learned.
* Providing a systematic Calculation Policy.
* Teaching problem solving skills and reasoning skills that provide mathematical opportunities across the whole curriculum.
* Ensuring planning is based on a thorough understanding of children’s needs, based upon effective and rigorous assessment for learning and fluency tracking, combined with high expectations and ambition for all children to achieve.
* Implementing intervention strategies for those children not making expected progress.
* Ensuring the children have access to a range of concrete resources in every lesson.
* Teaching mathematical vocabulary to enable children to talk about their learning in order to demonstrate or deepen their understanding.

**Impact**

* Learning walks and teacher discussions ensure that there is a consistent approach to teaching maths throughout the school.
* Progression will be seen through each year group.
* Teachers use summative assessment to document children's progress and to adapt lessons to ensure that they develop confidence and competence in all areas of maths.
* End of block assessments are used to assess children’s understanding at the end of each strand of learning and to help inform teacher assessment.
* Children are able to choose appropriate resources and strategies for solving problems and calculations.
* Children are able to talk about their problem solving and reasoning using mathematical vocabulary and apply maths to everyday life.

# Level Expected at the End of EYFS

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| **Key Stage 1 National Curriculum Expectations** | **Key Stage 2 National Curriculum Expectations** |
| --- | --- |
| Number and Place Value:   * count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number * count, read and write numbers to 100 in numerals; * count in multiples of twos, fives and tens * given a number, identify one more and one less * identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least * read and write numbers from 1 to 20 in numerals and words.   Addition and Subtraction:   * read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs * represent and use number bonds and related subtraction facts within 20 * add and subtract one-digit and two-digit numbers to 20, including zero * solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = – 9   Multiplication and Division:   * solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.   Fractions:   * recognise, find and name a half as one of two equal parts of an object, shape or quantity * recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.   Measurement:   * compare, describe and solve practical problems for:   + lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]   + mass/weight [for example, heavy/light, heavier than, lighter than]   + capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]   + time [for example, quicker, slower, earlier, later] * measure and begin to record the following:   + lengths and heights mass/weight capacity and volume time (hours, minutes, seconds) * recognise and know the value of different denominations of coins and notes sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] * recognise and use language relating to dates, including days of the week, weeks, months and years * tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.   Geometry:   * recognise and name common 2-D and 3-D shapes, including:   + 2-D shapes [for example, rectangles (including squares), circles and triangles]   + 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] * describe position, direction and movement, including whole, half, quarter and three quarter turns | Number and Place Value:   * count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward recognise the place value of each digit in a two-digit number (tens, ones) * identify, represent and estimate numbers using different representations, including the number line * compare and order numbers from 0 up to 100; * use <, > and = signs * read and write numbers to at least 100 in numerals and in words * use place value and number facts to solve problems.   Addition and Subtraction:   * solve problems with addition and subtraction:   + using concrete objects and pictorial representations, including those involving numbers, quantities and measures   + applying their increasing knowledge of mental and written methods * recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 * add and subtract numbers using concrete objects, pictorial representations, and mentally, including:   + a two-digit number and ones   + a two-digit number and tens   + two two-digit numbers   + adding three one-digit numbers * show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot * recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.   Multiplication and Division:   * recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers * calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs * show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot * solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.   Fractions:   * recognise, find, name and write fractions ⅓. ¼ , 2/4 and ¾ of a length, shape, set of objects or quantity * write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of 2/4 and ½ .   Measurement:   * choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels * compare and order lengths, mass, volume/capacity and record the results using >, < and = * recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value * find different combinations of coins that equal the same amounts of money * solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change * compare and sequence intervals of time * 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 * know the number of minutes in an hour and the number of hours in a day.   Geometry:   * identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line * identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces * identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid] * compare and sort common 2-D and 3-D shapes and everyday objects. * order and arrange combinations of mathematical objects in patterns and sequences * use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)   Statistics   * interpret and construct simple pictograms, tally charts, block diagrams and simple tables * ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity * ask and answer questions about totalling and comparing categorical data |

**Maths Overviews**

**YR2 Medium Term Maths planning**

|  | **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** | **Week 8** | **Week 9** | **Week 10** | **Week 11** | **Week 12** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Autumn** | Number –  Place value | Number –  Place value | Number –  Place value | Number –  Place value | Addition | Addition | Subtraction | Subtraction | Multiplication | Multiplication | Division | Division |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Spring** |  |  | Statistics | 2D Shape | 3D shape | Fractions | Fractions | Fractions | Measurement - Time | Measurement -Time | Measurement – Length and Height | Measurement – Money |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Summer** | Measurement – Mass, capacity and temp | Measurement – Mass, capacity and temp | Position and direction  (SATS) | Problem solving  (SATS) | Problem solving  (SATS) | Investigations | Investigations | Consolidation ?? | Consolidation ?? | Consolidation ?? | Consolidation ?? | Consolidation ?? |

**Y1 Medium Term Planning**

|  | **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** | **Week 8** | **Week 9** | **Week 10** | **Week 11** | **Week 12** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Autumn** | Number –  Place value within 10 | Number –  Place value  within 10 | Number –  Place value within 10 | Number –  Place value within 10 | Place Value within 10 | Addition and subtraction within 10 | Addition and subtraction within 10 | Addition and subtraction within 10 | Addition and subtraction within 10 | Addition and subtraction | Place value within 20 | Geometry Shape |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Spring** | Number and place value within 20 | Number and place value within 20 | Number and place value within 20 | Addition and Subtraction within 20 | Number and place value within 20 | Place Value within 50 | Place Value within 50 | Place value within 50 | Consolidation | Time | Time | Consolidation |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Summer** | multiplication and division | multiplication and division | Multiplication and division | Fractions | Fractions | Position and Direction | Place value within 100 | Place value within 100 | Measurement - Money | Measurement: Length and Height | Measurement: Mass and Volume | Consolidation |

**EYFS Medium Term Planning**

|  | **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** | **Week 8** | **Week 9** | **Week 10** | **Week 11** | **Week 12** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Autumn** | Getting to know you | Getting to know you | Getting to know you | Just like me | Just like me | Just like me | I’t’s me 123! | I’ts me 123! | It’s me 123! | Light and dark | Light and dark | Light and dark |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Spring** | Alive in 5 | Alive in 5 | Alive in 5 | Growin 6,7,8 | Growing 6,7,8 | Growing 6,7,8 | Building 9 and 10 | Building 9 and 10 | Building 9 and 10 | Consolidation   |  | | --- | | Consolidation | Consolidation |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Summer** | To 20 and beyond | To 20 and beyond | To 20 and beyond. | First Then Now | First Then Now | First Then Now | Find my pattern | Find my pattern | Find my pattern | On the move | On the move | On the move |

**Maths Curriculum Overview**

|  | Reception | | Year 1 | Year 2 |
| --- | --- | --- | --- | --- |
|  | Topic | Learning Objectives | NC | NC |
| Autumn 1 | Getting to Know You  Just Like Me  It’s Me 123 | Working towards ELG Have a deep understanding of number to 10, including the composition of each number.   * Match and sort * Compare amounts * compare size, mass and capacity * explore patterns   ELG: To use everyday languages to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and solve problems.  ELG: To say which number is one more or one less than a given number from one to 20. To place numbers one to 20 in order.   * Representing numbers 1,2&3 * Comparing numbers 1,2 &3 * Composition of numbers 1,2&3 * Circles and Triangles * Positional language | **Number & Place Value**   * Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number * Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s * Given a number, identify 1 more and 1 less * Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least * Read and write numbers from 1 to 20 in numerals and words. * Number: Addition and Subtraction * Introduce part-whole models * Writing number sentences * Fact families - addition facts. * Represent and use number bonds and related  subtraction facts (within 10) | **Number and Place Value**   * Read and write numbers to at least 100 in numerals and words * identify, represent and estimate numbers using different representations, including the number line. * Count in steps of 2,3 and 5 from 0, and in tens from any number forward and backward. * Recognise the place value of each digit in a two digit number (tens, ones) * Compare and order numbers from 0 up to 100, use <> and + * Use place value and number facts to solve problems.   **Addition and Subtraction:**   * recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 * show that addition of 2 numbers can be done in any order (commutative) and subtraction of one number from another cannot * recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. * add and subtract numbers using concrete objects, pictorial representations, and mentally, including: * a two-digit number and 1s * a two-digit number and 10s * 2 two-digit numbers * adding 3 one-digit numbers * solve problems with addition and subtraction: * using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods |
| Autumn 2 | Its me 123  Light and dark | As above  ELG: To say which number is one more or one less than a given number from one to 20. To place numbers one to 20 in order.  ELG:To use everyday languages to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and solve problems.   * Representing numbers to 5 * 1 more or less than * Shapes with 4 sides * Time | **Addition and subtraction contd**   * Add and subtract one-digit numbers (to 10), including  zero. * Read, write and interpret mathematical statements  involving addition (+),subtraction (-) and equals (=) signs.    Solve one step problems that involve addition and subtraction, using concrete objects and pictorial  representations and missing number problems.   **Geometry and shape**   * Recognise and naming and sorting common  3D shapes,  including cuboids, cubes, pyramids and spheres. * Recognising and naming and sorting 2D shapes including, circles and triangles, rectangles and squares. * Patterns using 2D and 3D shapes. | **Multiplication and Division**   * recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers * show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot * calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs * solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. * recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even number |
| Spring 1 | Alive in 5  Growing 6,7,8 | * Introduce 0 * Compare numbers to 5 * composition of 4&5 * Compare mass * Compare capacity   ELG: add and subtract two single-digit numbers and count on and back to find the answer using quantities and objects To say which number is one more or one less than a given number from one to 20.   * Introduce 6,7&8 * Combine 2 amounts * making pairs * length and height * Time | **Number and place value within 20**   * Read and write numbers from 1-20 in numerals and  words. * Identify and represent numbers using objects and  pictorial representations. * Given a number, identify 1 more or 1 less. * Number: Addition and Subtraction within 20 * Add and subtract one digit and two-digit numbers to  20, including zero. * Number and place value within 50 * Count to 50 forwards and backwards, beginning with  0 or 1, or from any number. * Count, read and write numbers from 1-50 in  numerals. * Read, write and interpret Mathematical statements  Involving addition (+), subtraction (-) and equals (=)  signs. | **Shape:**   * identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line * identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces * identify 2-D shapes on the surface of 3-D shapes * compare and sort common 2-D and 3-D shapes and everyday objects.   **Statistics**   * interpret and construct simple pictograms, tally charts, block diagrams and tables * ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity * ask and answer questions about totalling and comparing categorical data |
| Spring 2 | Building 9 and 10 | ELG: To say which number is one more or one less than a given number from one to 20. To place numbers one to 20 in order.  .  ELG:To recognise, create and describe patterns  ELG:To explore characteristics of everyday objects and shapes and use mathematical language to describe them.   * Counting to 9&10 * Compare numbers to 10 * Bonds to 10 * 3D shapes * Spatial Awareness * Patterns | **Number and place value within 50 contd**  **Time**   * Tell the time to the hour and half past the hour and  draw the hands on a clock face to show these times. * Recognise and use language relating to dates,  including days of the week, weeks, months and  years. * Compare, describe and solve practical problems for  time [for example, quicker, slower, earlier, later] and  measure and begin to record time (hours, minutes,  seconds) * Sequence events in chronological order using  language [for example, before and after, next, first,  today, yesterday, tomorrow, morning, afternoon and  evening. | **Fractions**   * recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects * recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity * write simple fractions, for example 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2.   **Measurement - Time:**   * Compare and sequence intervals of time * 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. * Know the number of minutes in an hour and the number of hours in a day * Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels * Compare and order lengths, mass, volume/capacity and record the results using >, < and = * Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value * Find different combinations of coins that equal the same amounts of money * Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change |
| Summer 1 | To 20 and beyond  First, then, now | * Build numbers beyond 10 * count patterns beyond 10 * spatial reasoning * match, rotate and manipulate   ELG: add and subtract two single-digit numbers and count on and back to find the answer using quantities and objects To say which number is one more or one less than a given number from one to 20.   * Adding more * Take away * spatial reasoning * compose and decompose numbers   ELG:To solve problems, including doubling, halving and sharing   * Doubling * sharing and grouping * even and odd * spatial reasoning * Patterns and relationships * spatial reasoning * mapping | **Number: multiplication and division**   * Count in multiples of twos, fives and tens. Solve one step problems involving multiplication and  division, by calculating the answer using concrete  objects, pictorial representations and arrays with the  support of the teacher. * Number: fractions * Recognise, find and name a half as one of two equal  parts of an object, shape or quantity.        Recognise, find and name a quarter as one of four  equal parts of an object, shape or quantity. * Position and Direction: * Describe position, direction and movement including quarter, half and three-quarter turns. * Use language of position, direction and motion, including: left and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside, right, top, middle and | * Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels * Compare and order lengths, mass, volume/capacity and record the results using >, < and =   **Position and Direction:**   * order and arrange combinations of mathematical objects in patterns and sequences * Use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). |
| Summer 2 | Find My Pattern  On the Move | **Number and place value within 100**   * Count to and across 100, forwards and backwards,  beginning with 0 or 1, or from any given number. * Count, read and write numbers from 1- 100 in numerals. * Identify and represent numbers using objects and pictorial  representations including the number line, and use the  language of: equal to, more than, less than, most, least. * Given a number, identify one more and one less. * Count in multiples of twos, fives and tens. * Solve one step problems involving multiplication and  division, by calculating the answer using concrete objects,  pictorial representations and arrays   **Measurement: Money**   * Recognise and know the value of different denominations  of coins and notes.   **Length and Height**   * Compare, describe and Solve practical problems for:  lengths and heights e.g. long   **Mass and volume**   * Compare, describe and solve practical problems for mass/ weight [ e.g., heavy/light, heavier than,  lighter than]; capacity and volume [for e.g. full/empty, more than, less than, half, half full, quarter] * Measure and begin to record mass /weight, capacity and volume. |  |