Mathematics End Point

EARLY YEARS FOUNDATION STAGE

Early Years Foundation Stage Statements

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

What a Mathematician at Moor End is like at this stage

- They can recognise and represent numbers to 10 in different ways and are able to use real objects in and outside of the classroom, including mathematical structures.
- They can explore, recognise and name shapes.
- They can explore and discuss different measures and apply their counting, as well as their knowledge of number.
- They notice relationships and patterns and make connections.
- They can confidently apply this knowledge and solve problems
- They can confidently use mathematical language in their learning.
- They are resilient and persevere when faced with a challenging problem.
- They are curious, motivated and enthusiastic about maths.

Mathematics End Point

E N D O F K E Y S T A G E 1

National Curriculum Objectives for KS1

The principal focus of mathematics teaching in Key Stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including using practical resources (for example, concrete objects and measuring tools).

At this stage, pupils should develop their ability to recognise, describe, draw compare and sort different shapes and use related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, ,mass, capacity/volume, time and money.
By the ned of year 2 pupils should know the number bonds to 20 and be precise in using and understanding place value.. An emphasis on practise at this age will aid fluency.. Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at Key Stage 1.

What a Mathematician at Moor End is like at this stage

- They can recognise and show numbers to 100 in different ways and are able to use concrete and pictorial representations, alongside numerical symbols.
- They know and use a range of mental strategies when calculating all four operations.
- They can recognise, describe and name shapes.
- They can measure distance, mass, capacity, volume and temperature, selecting the correct tools and units of measure and apply their counting and number knowledge.
- They reason mathematically, noticing relationships and patterns and make connections between different areas of maths and maths in real life.
- They can confidently apply this knowledge and solve problems, using efficient methods including recalling number facts where appropriate.
- They can confidently use mathematical language in their learning.
- They are resilient and persevere when faced with a challenging problem.

Mathematics End Point

E N D O F L O W E R K E Y S T A G E 2

National Curriculum Objectives for KS2

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value.

This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw on an increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number. By the end of year 4 pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

What a Mathematician at Moor End looks like at this stage.

- They can recognise and show whole numbers, negative numbers and decimals to 2 decimal places in different ways and can link concrete, pictorial and abstract representations.
- They know and use a range of mental and written strategies when calculating all four operations. They also make effective decisions when calculating, based on the numbers involved.
- They fluently recall multiplication and division facts and apply these facts in other learning.
- They can recognise, describe, categorise and name shapes.
- They can measure distance, mass, capacity, volume and temperature, area and perimeter, selecting the correct tools and units of measure and apply their place value knowledge.
- They reason mathematically, noticing relationships and patterns and make connections between different areas of maths and maths in real life.
- They can confidently apply this knowledge and solve problems involving whole numbers, decimals and fractions and use efficient methods, including recalling number facts where appropriate,
- They can confidently use mathematical language in their learning.
- They are resilient and persevere when faced with a challenging problem.
- They are curious, motivated and enthusiastic about maths.

Mathematics End Point

E N D O F U P P E R K E Y S T A G E 2

National Curriculum Objectives for KS2

The principal focus of teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.

At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

By the end of year 6, pupils should be fluent in written methods for all four operations. Including ling multiplication and division, and in working with fractions, decimals and percentages.

What a Mathematician at Moor End looks like at this stage.

- They can recognise and show whole numbers and decimals to 3 decimal places in different ways and can link concrete, pictorial and abstract representations.
- They are fluent in a range of mental and written strategies when calculating all four operations. They also make effective decisions when calculating, based on the numbers involved.
- They fluently combine their knowledge of multiplication and division facts and place value when finding related facts.
- They can recognise, describe, categorise and name shapes.
- Children can apply their number knowledge in all forms of measurement.
- They reason mathematically, noticing relationships and patterns and make connections between different areas of maths and maths in real life. They use algebra to generalise rules involving number and arithmetic.
- They can confidently apply this knowledge and solve problems involving whole numbers, decimals, fractions, percentages and ratio and use efficient methods, including recalling number facts where appropriate.
- They can confidently use mathematical language in their learning.
- They are resilient and persevere when faced with a challenging problem.
- They are curious, motivated and enthusiastic about maths.