

Stoke Prior First School Curriculum Offer for Mathematics

At Stoke Prior First School we believe that mathematics teaches children how to make sense of the world around them. Our philosophy is that by developing a child's ability to calculate, to communicate, to reason and to solve problems, mathematics enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives.

Through our maths curriculum at Stoke Prior First School we aim to:

- promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion;
- develop mathematical skills and knowledge and quick recall of basic facts in line with the National Curriculum ;
- promote fluency, confidence and competence with numbers and the number system;
- develop the ability to solve problems through decision-making and reasoning in a range of contexts;
- develop a practical understanding of the ways in which information is gathered and presented;
- explore features of shape and space, and develop measuring skills in a range of contexts;
- understand the importance of mathematics in everyday life applying their skills to science and across the curriculum;
- develop children's mathematical vocabulary to enable them to present a mathematical justification

Curriculum - Knowledge, Skills and Understanding

Our Mathematics Curriculum is structured progressively to meet the requirements of the Early Years Foundation Stage Curriculum and the National Curriculum. We use a spiralled approach to learning so that children re-visit concepts, revise skills already taught, extend their learning further and use it to solve problems. Units are structured and taught following progressive medium term plans.

Skills and concepts are also mapped out progressively and assessed in Key stages 1 and 2 using our 'I can' statements or TAFS (Year 2). This helps to ensure children revisit and build on their learning. Our Calculations Policy also ensures that children learn calculations progressively and that consistent methods are used by teachers and parents at home. Foundation Stage learning is planned using Development Matters, working towards achieving the Early Learning Goals(ELG).

Foundation Stage

Practitioners use the development statements within Development Matters to identify possible areas in which to challenge and extend the child's current learning and development.

Mathematics Early Learning Goal: Number

Children at the expected level of development will:

Have a deep understanding of number to 10, including the composition of each number; Subitise (recognise quantities without counting) up to 5;

Children discuss numbers in fairy stories such as One Gingerbread Man or Two Elves. They use equipment such as Numicon to help them recognise and understand numbers from 1-10 and their composition. Addition and subtraction facts are taught in a fun way such as adding dice numbers together. Children access a wide range of self-initiated activities to develop their ability to solve problems such as - How many different ways can you make four? (Using practical equipment)

Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

Children develop their awareness of number bonds through Numberfun songs and nursery rhymes and playing games like 'ping pong'. They will also use practical equipment such as Numicon to enable them to recall number facts to five. Throughout the school day children take part in different activities to support their learning in maths whilst doing the register or getting ready for home. All these opportunities help them to develop the ability to recall number bonds without any help, songs or equipment by the end of the year.

ELG: Numerical Patterns - Children at the expected level of development will:

Verbally count beyond 20, recognising the pattern of the counting system; - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; -

Children practise counting from 1-20 and beyond and sing time based songs such as 'The Story of My Day' to learn about sequencing. Children constantly count using the register. Children have opportunities to explore different sizes in stories such as 'Goldilocks and The Three Bears', helping them to understand the mathematical language, 'bigger than', 'smaller than', 'greater than' and 'less than'.

Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Children regularly learn nursery rhymes and sing songs such as '1-8 sit on the floor' and 'Can you make a line by the time I count to 9?' to develop their understanding of numbers.

There are counting opportunities daily, such as using a large hundred square which gives opportunities to look at the patterns of the counting system and comparing one more/one less, odd and even.

During COOL time where children work more independently they have opportunities to use hundred squares, number lines, five and ten frames. In the role play there are various opportunities for comparing more/less with the play food, capacity in the water and sand and mud kitchen, sorting trays and bingo games.

Key Stage 1 (Years 1 & 2)

Number

In key stage 1 we aim to ensure that our children develop confidence and mental fluency with whole numbers, counting and place value. This involves working with numerals, words and the four operations, including with practical resources.

Example – Children in Year 1 learn counting and adding on a number line, to add 2 single digits such as $7 + 9 = 16$

By the end of year 2, we aim for our children to know their number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage aids their fluency.

Example - Children in Year 2 use familiar songs to sing and dance, to learn their number bonds in a fun way.

We teach our children to read and spell mathematical vocabulary that matches their increasing word reading and spelling knowledge.

Example - Children learn to read and spell the names of squares, triangles, pentagons and hexagons that they are describing and sorting.

Geometry

Children develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary.

Example - Children in Year 1 use 2-d shapes to describe numbers of sides and corners.

Measures

Our children use a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

Example - Children in Year 1 use balance scales to compare and record the number of cubes that balances an object such as a book.

Statistics (Year 2)

Our children interpret and construct simple pictograms, tally charts, block diagrams and simple tables and ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. They ask and answer questions about totalling and comparing data.

Example - Children collect data about favourite animals and present their data in a bar chart.

Key Stage 2 (Years 3 and 4)

Number

The focus of our mathematics curriculum in lower key stage 2 is to ensure that our children become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. We aim for our children to develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. Our children develop their ability to solve a range of problems, including with simple fractions and decimal place value. We aim for them to read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

By the end of year 4, our children should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.

Example - Children use on-line games and classroom activities to learn their times tables and become fluent in them.

Geometry

Our curriculum should ensure that our children draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties and confidently describe the relationships between them.

Example - Children in Year 3 investigate and measure the perimeter of simple 2d shapes.

Measures

We aim to ensure that they can use measuring instruments with accuracy and make connections between measure and number.

Example- Children in Year 3 measure the mass of objects using scales to measure in grams and kilograms.

Statistics

We aim for our children to be able to interpret and present data using bar charts, pictograms, time graphs and tables and solve one-step and two-step questions using information presented in bar charts and pictograms and tables.

Example - Children in Year 4 collect data about their friend's favourite films, record choices and place it in a bar chart using an on-line data handling programme. They print and interpret their data making up and answering questions about it.

Our curriculum aims to make sure that our children can solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Example - Children in Year 4 analyse and compare data in line graphs about average temperatures in different countries.

We are very proud of our mathematics curriculum and how it helps our children to understand and use mathematics confidently. By the end of their time at Stoke Prior we develop children who are able to realise the importance and value of mathematics in their everyday lives. We receive regular praise and positive comments which are fed back from parents, families, teachers and other professionals as our children move on to middle school, high school and employment, about them enjoying and continuing to achieve highly in mathematics.