



Maths at Bratton Primary School



Maths is not a 'can' or 'can't' do subject – everyone can learn to get better at it!

As a school, we believe a high-quality mathematics education provides the children with a foundation for understanding the world, teaching: the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

We aim to develop in all our children the mindset that maths is made up of a set of skills and that these skills can be learnt, developed and mastered by everyone; just like any other skill we teach.

Mathematics teaches children how to make sense of the world around them through developing their

ability to calculate, reason and solve problems.

Mathematics is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of future employment for our pupils.

Therefore, at Bratton Primary School, we believe that maths is best learnt through the children having a deep, conceptual understanding of a range of mathematical ideas and concepts.

We challenge the children to make rich connections across mathematical concepts and to use their strong factual and procedural knowledge to help solve problems.

We believe it is important for children to not only be able to find the answers to problems but to also be able to explain the reasoning behind their lines of enquiry, using accurate mathematical vocabulary.

By celebrating learning and through providing the children with engaging challenges, we aim to inspire our children to increase their fluency in maths and to become increasingly sophisticated problem solvers, both in maths itself and across the curriculum.

We all use maths every day, often without realising it. At Bratton Primary we believe that every child can develop the mathematical skills they will need, both at school and throughout their lives

Maths impacts all learning...

A good understanding of everyday maths will help all children establish skills transferrable in to all learning, such as: making more evidenced based decisions, problem solving, reasoning, rationalising and more clearly interpreting and understanding information. We also want children to see that maths will help them develop essential lifelong skills, such as:

- *Working out how much food is needed for the family meal and following recipes*
- *Splitting the bill after a meal out with friends and working out what tip to leave*
- *Converting currency rates when abroad*
- *Managing personal finances, budgeting and saving*
- *Working out which are the best buys in the supermarket, checking change, working out the sale price of an item*
- *Getting to work on time, estimating how long a journey will take, knowing when to fill up on fuel*
- *Planning an outing for the family, packing a lunchbox or suitcase*
- *Knowing if the answer on the calculator is reasonable, or if you pressed the wrong button*
- *Reading data presented in a variety of forms, such as graphs and tables, scales on a thermometer or weighing scales, and interpreting statistics in the news*
- *Working out the odds in sporting events, keeping score in games, knowing what to aim for in order to win*
- *DIY jobs such as painting and decorating, or working out how many walls tiles are needed to cover an area.*

For everyone, for life:

Maths skills are vital throughout life. Research from the Institute of Education has shown: children who develop these skills early in life and who become confident with maths are more likely to:

- Stay in education longer.
- Be in work as adults.
- Earn more throughout their lives.

Helping your children with maths at home:

We are aware that the curriculum and methods we use in schools now have changed over time and sometimes parents are unsure how best to support maths work at home. Our staff will always be happy to meet with you and go through any advice or support you would like in this area, but we would also like to include some great resources, guidance and online tools in this leaflet that you can access and explore at home.

The **National Numeracy charity** has developed a family maths toolkit, <http://www.familymathstoolkit.org.uk/> and their 'top tips for parents and families' include:

- *Be positive about maths. Don't say things like "I can't do maths" or "I hated maths at school"; your child might start to think like that themselves.*
- *Point out the maths in everyday life. Include your child in activities involving maths such as using money, cooking and travelling.*
- *Praise your child for effort rather than talent - this shows them that by working hard they can always improve.*



- *If you struggle with maths yourself - try our free online tool the National Numeracy Challenge to improve your maths level.*

They also include a great page, with additional resources on exploring current teaching methods:

<http://www.familymathstoolkit.org.uk/current-teaching-methods>, as well as support on helping with homework

<http://www.familymathstoolkit.org.uk/helping-with-maths-homework>

The **Oxford Owl website** has a great selection of maths resources, weblinks, worksheets and tasks, as well as links to apps for further extension,

<https://www.oxfordowl.co.uk/for-home/advice-for-parents/maths-at-home/> Links and advice are age and year group specific. On this website there are also some **fantastic** videos on each core maths skill, <https://www.oxfordowl.co.uk/for-home/at-school/maths-at-primary-school/> explaining concepts and how they can be taught.

Another site you may like to explore is <http://bedtimemath.org/bedtime-math-for-families/> where there are daily activities, sheets and tasks, with the option of an app that sends you a daily 'bedtime maths challenge' to add into the night time reading routine.

Range of learning...

Below is a brief outline of key areas covered in each year group across the Primary age range:

Reception:

Schools in England follow the Early Years Foundation Stage. In mathematics, your child is likely to cover the following things:

- Counting up to 20 everyday objects
- Saying and using the number names in order
- Finding one more or less than a number up to 20
- Starting to use the language of addition and subtraction; counting on and back
- Sorting and matching objects and shapes
- Comparing quantities and shapes
- Finding and recreating simple patterns
- Beginning to do some simple measuring, comparing lengths and quantities
- Talking about things like size, weight, distance, time and money to develop correct vocabulary

Year 1:

At this age, here are some things your child is likely to be doing:

- Reading and writing numerals to at least 100 in numerals and in words
- Finding one more or less than any number
- Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=)
- Recognising, finding, naming and writing simple fractions of a length, shape, set of objects or quantity
- Measure and record the length, height, weight or volume of different objects
- Recognise and talk about the value of different denominations of coins and notes
- Tell the time to the hour and half past the hour, drawing the hands on a clock face to show these times
- Ordering and arranging objects in patterns and sequences
- Recognise and name common 2D and 3D shapes including squares, circles and pyramids
- Describing position, direction and movement

Year 2:

At this age, here are some things your child is likely to be doing

- Comparing and ordering numbers from 0 to 100, using $<$, $>$ and $=$ signs
- Counting in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward
- Using place value and number facts to solve problems
- Adding and subtracting two-digit numbers using mental and written methods
- Recalling and using addition and subtraction facts up to 20, and deriving related facts up to 100
- Recalling and using multiplication and division facts for the 2, 5 and 10 multiplication tables, and recognising odd and even numbers
- Solving addition and subtraction money problems, using symbols for pounds and pence
- Telling and writing the time to the nearest five minutes
- Identifying, describing, comparing and sorting 2D and 3D shapes
- Interpreting and constructing pictograms, tally charts, block diagrams and simple tables

Years 3 and 4:

At this age, here are some things your child is likely to be doing:

- Using and understanding numbers up to 1000 and then beyond 1000
- Counting up in multiples of 10, 25, 50 100 and 1000
- Using negative, as well as positive, numbers
- Adding, subtracting, multiplying and dividing mentally and using formal written calculation methods
- Remembering times tables up to 12×12
- Solving maths problems
- Exploring fractions and decimals
- Analysing and comparing a range of 2D and 3D shapes and their properties
- Telling the time accurately, including using Roman numerals, and calculating with time
- Calculating with measurements, including calculating perimeter and area
- Converting measurements (e.g. from centimetres to metres)
- Interpreting and presenting data using pictograms, tables and bar graphs.

Years 5 and 6:

So your child is now at the top end of the primary school and the focus is on preparing them for the demands of the secondary school curriculum. At this age, here are some things your child is likely to be doing:

- Reading, writing, ordering and comparing numbers up to 10,000,000 and determining the value of each digit
- Rounding whole numbers and beginning to use negative numbers
- Reading Roman numerals to 1000 and recognising years written in Roman numerals
- Adding and subtracting numbers with more than 4 digits, using formal written methods
- Multiplying and dividing numbers with up to 4 digits by two-digit whole numbers, using long multiplication and division
- Identifying common factors, common multiples and prime numbers
- Using the order of operations and solving multi-step problems
- Comparing, ordering and simplifying fractions
- Calculating with fractions and associating fractions with decimals and percentages
- Solving problems involving ratio and proportion
- Using simple formulae and expressing simple problems algebraically
- Converting between units of measure and calculating with measurements, including time, area and volume
- Drawing 2D shapes and recognising, describing and building simple 3D shapes
- Drawing, identifying and measuring angles
- Using tables, pie charts and line graphs
- Calculating and interpreting the mean as an average



Thank you again for your continued support and the valuable time you are putting into supporting maths at home, as we do greatly value the link between school and home in progressing and supporting the children's learning and can see that impact in class.

Improving and developing mathematical confidence and understanding is just as much a shared process between school and home as developing reading and the information and further links included here are not exhaustive, nor are they intended to be prescriptive or come across as didactic.

If you would like any more support, advice and suggestions or would like to discuss your child's mathematics work further then please do not hesitate to make contact with your child's class teacher.

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