



Severnbanks Primary School Curiosity Curriculum – Maths

National Curriculum Purpose of study

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

Aims

The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Characteristics

Through the teaching of Maths our pupils will be able to develop the following characteristics:

- have a well-developed sense of the size of a number and where it fits into the number system
- know by heart number facts such as number bonds, multiplication tables, doubles and halves

- use what they know by heart to figure out numbers mentally
- calculate accurately and efficiently, both mentally and in writing
- drawing on a range of calculation strategies
- recognise when it is appropriate to use a calculator and be able to do so effectively
- make sense of number problems, including non-routine/'real' problems and identify the operations needed to solve them
- explain their methods and reasoning, using correct mathematical terms
- judge whether their answers are reasonable and have strategies for checking them where necessary
- suggest suitable units for measuring and make sensible estimates of measurements
- explain and make predictions from the numbers in graphs, diagrams, charts and tables
- develop spatial awareness and an understanding of the properties of 2d and 3d shapes

INSPIRE Maths Scheme

A mastery approach to the teaching of mathematics has been adopted, so we have high expectations of all our pupils. We endeavour to make the mathematics curriculum accessible to all pupils; moving them through the programme of study at broadly the same pace. All children need a deep understanding of the mathematics they are learning in order that future learning is built upon firm foundations. As we pursue this mastery approach we are moving away from separate intervention groups, instead introducing same day 'catch up' sessions and additional practice to prevent children falling behind.

- Part of this approach includes adopting a 'growth mind set'. Children at Severnbanks are encouraged to believe they are all capable of learning and doing mathematics, given sufficient time, good teaching, appropriate resources and effort.

Subject Content

Key Stage 1	
Opportunities	<p>Know and use numbers This concept involves understanding the number system and how they are used in a wide variety of mathematical ways.</p> <p>Add and subtract This concept involves understanding both the concepts and processes of addition and subtraction.</p> <p>Multiply and divide This concept involves understanding both the concepts and processes of multiplication and division.</p> <p>Use fractions This concept involves understanding the concept of part and whole and ways of calculating using it.</p> <p>Understand the properties of shapes This concept involves recognising the names and properties of geometric shapes and angles.</p> <p>Describe position, direction and movement This concept involves recognising various types of mathematical movements.</p> <p>Use measures This concept involves becoming familiar with a range of measures, devices used for measuring and calculations.</p> <p>Use statistics This concept involves interpreting, manipulating and presenting data in various ways.</p> <p>Use algebra This concept involves recognising mathematical properties and relationships using symbolic representations.</p>
Pupils should be taught to:	<p>Count and calculate in a range of practical contexts. • Use and apply mathematics in everyday activities and across the curriculum.</p> <ul style="list-style-type: none"> • Repeat key concepts in many different practical ways to secure retention. • Explore numbers and place value up to at least 100. • Add and subtract using mental and formal written methods in practical contexts. • Multiply and divide using mental and formal written methods in practical contexts. • Explore the properties of shapes. • Use language to describe position, direction and movement.

	<ul style="list-style-type: none"> • Use and apply in practical contexts a range of measures, including time. • Handle data in practical contexts.
Year 1	1A Unit 2 - Number Bonds 1A Unit 3 - Addition within 10 1A Unit 4 - Subtraction within 10 1A Unit 5 - Shapes and Patterns 1A Unit 6 - Ordinal Numbers 1A Unit 7 - Numbers to 20 1A Unit 8 - Addition & Subtraction within 20 1A Unit 9 - Length 1B Unit 10 - Mass 1B Unit 11 - Picture Graphs
Year 2	1B Unit 12 - Numbers to 40 1B Unit 13 - Mental Calculations 1B Unit 14 - Multiplication 1B Unit 15 - Division 1B Unit 16 - Time to hour / half hour 1B Unit 17 - Numbers to 100 1B Unit 18 - Money 1B Unit 19 - Money - Addition & Subtraction 2B Unit 10 - Mental Calculations 2B Unit 11 - Money Pounds and Pence 2B Unit 12 - Fractions 2B Unit 13 - Time

Key Stage 2	
Opportunities	<p>Know and use numbers This concept involves understanding the number system and how they are used in a wide variety of mathematical ways.</p> <p>Add and subtract This concept involves understanding both the concepts and processes of addition and subtraction.</p> <p>Multiply and divide This concept involves understanding both the concepts and processes of multiplication and division.</p> <p>Use fractions This concept involves understanding the concept of part and whole and ways of calculating using it.</p>

	<p>Understand the properties of shapes This concept involves recognising the names and properties of geometric shapes and angles.</p> <p>Describe position, direction and movement This concept involves recognising various types of mathematical movements.</p> <p>Use measures This concept involves becoming familiar with a range of measures, devices used for measuring and calculations.</p> <p>Use statistics This concept involves interpreting, manipulating and presenting data in various ways.</p> <p>Use algebra This concept involves recognising mathematical properties and relationships using symbolic representations.</p>
<p>Pupils should be taught:</p>	<ul style="list-style-type: none"> • Count and calculate in increasingly complex contexts, including those that cannot be experienced first hand. • Rigorously apply mathematical knowledge across the curriculum, in particular in science, technology and computing. • Deepen conceptual understanding of mathematics by frequent repetition and extension of key concepts in a range of engaging and purposeful contexts. • Explore numbers and place value so as to read and understand the value of all numbers. • Add and subtract using efficient mental and formal written methods. • Multiply and divide using efficient mental and formal written methods. • Use the properties of shapes and angles in increasingly complex and practical contexts, including in construction and engineering contexts. • Describe position, direction and movement in increasingly precise ways. • Use and apply measures to increasingly complex contexts. • Gather, organise and interrogate data. • Understand the practical value of using algebra.
<p>Year 3</p>	<p>2A Unit 1 - Numbers to 1000 2A Unit 2 - Addition & Subtraction 2A Unit 3 - Using Models Addition & Subtraction 2A Unit 4 - Multiplication & Division 2A Unit 5 - Multiplication by 2 and 3</p>

	<p>2A Unit 6 - Multiplication by 4,5 and 10</p> <p>2A Unit 7 - Using Models - Multiplication & Division</p> <p>2A Unit 8 - Length</p> <p>2A Unit 9 - Mass</p> <p>2B Unit 10 - Mental Calculations</p> <p>2B Unit 11 - Money</p> <p>2B Unit 12 - Fractions</p> <p>2B Unit 13 - Time</p> <p>2B Unit 14 - Volume</p> <p>2B Unit 15 - Picture Graphs</p> <p>2B Unit 16 - Lines & Surfaces</p> <p>2B Unit 17 - Shapes & Patterns</p>
Year 4	<p>3A Unit 1 - Numbers to 10,000</p> <p>3A Unit 2 - Addition of numbers within 10,000</p> <p>3A Unit 3 - Subtraction of Numbers within 10,000</p> <p>3A Unit 4 - Solving Word Problems - Addition & Subtraction</p> <p>3A Unit 5 - Multiplication and Division by 6,7,8,9</p> <p>3A Unit 6 - Multiplication with / without regrouping</p> <p>3A Unit 7 - Division</p> <p>3A Unit 8 - Solving Word Problems</p> <p>3A Unit 9 - Mental Calculations</p> <p>3B Unit 10 - Money - Addition & Subtraction</p> <p>3B Unit 11 - Length, Mass, Volume</p> <p>3B Unit 12 - Word Problems - Length, Mass, Volume</p> <p>3B Unit 13 - Bar Graphs</p> <p>3B Unit 14 - Fractions</p> <p>3B Unit 15 - Time</p> <p>3B Unit 16 - Angles</p> <p>3B Unit 17 - Perpendicular & Parallel Lines</p> <p>3B Unit 18 - Area & Perimeter</p>
Year 5	<p>4A Unit 1 - Numbers to 100,000</p> <p>4A Unit 2 - Whole Numbers Rounding/Estimation/Factors/Multiples</p> <p>4A Unit 3 - Whole Numbers - Multiplication / Division / Word Problems</p> <p>4A Unit 4 - Tables & Line Graphs</p> <p>4A Unit 5 - Fractions</p> <p>4A Unit 6 - Angles</p> <p>4A Unit 7 - Perpendicular & Parallel Lines</p> <p>4A Unit 8 - Squares & Rectangles</p> <p>4A Unit 9 - Decimals</p> <p>4B Unit 10 - Decimals - Addition, Subtraction, Multiplication, Division</p> <p>4B Unit 11 - Time</p>

	<p>4B Unit 12 - Area & Perimeter 4B Unit 13 - Symmetry 4B Unit 14 - Tessellations 5A Unit 1 - Numbers to 10 Million 5A Unit 2 - Using a Calculator, Multiplication & Division 5A Unit 3 - 5 Area of a Triangle</p>
Year 6	<p>5A Unit 2 - Word Problems 5A Unit 3 - Fractions 5A Unit 4 - Fractions 5A Unit 5 - Area of a Triangle 5A Unit 6 - Ratio 5A Unit 7 - Decimals 5A Unit 8 - Measurement 5B Unit 9 - Mean 5B Unit 10 - Percentage 5B Unit 11 - Angels 5B Unit 12 - Properties of Triangles 5B Unit 13 - Geometrical Construction 5B Unit 14 - Volume of Cubes & Cuboids 6A Unit 1 - Algebra 6A Unit 2 - Angels in Shapes 6A Unit 3 - Nets 6A Unit 4 - Fractions 6A Unit 5 - Ratio 6A Unit 7 - Speed 6B Unit 8 - Circles 6B Unit 9 - Pie Charts 6B Unit 10 - Area & Perimeter 6B Unit 11 - Volume of Solids and Liquids</p>

Cultural Capital	<p>European Languages Day French Days / Events Links with schools - through Lydney / Brehal Twinning, e-Twinning, Connecting Classrooms, Erasmus Visitors to School</p>
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