



Mathematics Curriculum

At The Olive School, Hackney, our Mathematics is a key life skill that enables an individual to participate fully as a member of society. 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.

Our mathematics curriculum is based on the expectations and aims of the 2014 National Curriculum for mathematics and the 2021 statutory framework for the Early Years Foundation Stage. Content is carefully sequenced through the year groups according to the mathematics progression map (see below), which shows how each area of mathematics progresses as children get older.

At The Olive School, Hackney, Mathematics is taught according to the mathematics mastery approach, supported by the Power Maths scheme. This is a transformational approach to mathematics teaching, focussed on deep learning over time,

The aims of our mathematics curriculum provision are to support our children to:

- Have rich and enjoyable experiences;
- Build their conceptual understanding using concrete and pictorial representations;
- Develop positive and confident attitudes;
- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof;
- 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;
- Develop the correct mathematical vocabulary;
- Work independently and collaboratively;
- Use technology to develop mathematical concepts;
- Use and apply mathematical knowledge to real-life contexts;
- Become fluent in the fundamentals of mathematics, including arithmetic and mental maths.

Long Term Planning:

| YEAR 1 | | |
|---|---------------------------------------|-------------------------------------|
| Autumn | Spring | Summer |
| Numbers to 10 | Addition within 20 | Multiplication |
| Part- whole within 10 | Subtraction within 20 | Division |
| Addition within 10 | Numbers to 50 | Fraction - halves and quarters |
| Subtraction within 10 | Measurement – length and height | |
| 2D and 3D shapes | Measurement – weight | |
| Numbers to 20 | | |
| YEAR 2 | | |
| Autumn | Spring | Summer |
| Place Value (Numbers to 100) | Money | Revision |
| Addition and subtraction | Fractions | |
| Multiplication and division | Time | |
| Length and height | Weight, volume and temperature | |
| Statistics | Position and direction | |
| Problem solving and efficient methods | | |
| Properties of shape | | |
| YEAR 3 | | |
| Autumn | Spring | Summer |
| Place Value (Numbers within 1000) | Multiplication and division (1) | Fractions (1) |
| Addition and subtraction (1) | Multiplication and division (2) | Fractions (2) |
| Addition and subtraction (2) | Money | Time |
| | Length | Angles and properties of shapes |
| | Statistics | Mass |
| | | Capacity |
| YEAR 4 | | |
| Autumn | Spring | Summer |
| Place Value | Multiplication and division | Decimals |
| Addition and subtraction | Measure area | Money |
| Measure and Perimeter | Fractions | Time |
| Multiplication and Division | Decimals | Statistics |
| | | Geometry |
| | | Geometry (Position and Direction) |
| YEAR 5 | | |
| Autumn | Spring | Summer |
| Place Value within 100,000 | Multiplication and division | Geometry - properties of shapes (1) |
| Place Value within 1,000,000 | Fractions | Geometry - position and direction |
| Addition & Subtraction | Decimals and percentages | Measure - converting units |
| Graphs and Tables | Decimals | Measure - volume and capacity |
| Multiplication & Division | | |
| Measure- Area & Perimeter | | |
| YEAR 6 | | |
| Autumn | Spring | Summer |
| Place value within 10,000,000 | Decimals | Revision |
| Four operations | Percentages | |
| Problem solving | Algebra | |
| Fractions | Statistics | |
| Measures – Imperial and metric measures | Measures – perimeter, area and volume | |
| Geometry (Position and Direction) | Ratio and proportion | |
| Geometry – properties of shape | | |

Here, the primary emphasis in Key Stage 1 is to ensure that our children:

- Develop confidence and mental fluency with whole numbers.
- Understand place value up to 100.
- Develop their knowledge of basic number facts.
- Begin to understand how to use and apply the four basic operations - addition, subtraction, multiplication and division.

In Years 3 and 4, the emphasis moves on to ensuring that our children:

- Become increasingly fluent with whole numbers and the four operations
- Master the concept of place value with 4-digit numbers.
- Develop efficient written and mental methods to perform calculations accurately with increasingly large whole numbers.
- Solve a range of problems, including with simple fractions and decimal place value.

By the end of year 4, we expect all children to have memorised their multiplication tables **up to and including the 12 times table**.

In Years 5 and 6, the primary emphasis is to ensure that our children extend their understanding of the number system and place value to include larger numbers. This should develop the connections that children make between multiplication and division with fractions, decimals, percentages and ratio. At this stage, our children 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, our children are introduced to the language of algebra as a means for solving a variety of problems. By the end of year 6, our young mathematicians are fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages.

Inclusion

At The Olive School, Hackney, we use a 'maths mastery' approach to teaching mathematics, which is a highly inclusive approach where all children achieve. When teaching maths for mastery, the whole class moves through units of work at broadly the same pace. Each concept is studied in depth and the teacher does not move to the next stage until all children demonstrate that they have a secure understanding of mathematical concepts. Thus, the vast majority of pupils work at the same pace, on the same age-related content, with different groups of pupils with different needs supported with additional visual and concrete scaffolds. A comprehensive list of scaffolds that are used to support all pupils to achieve can be found in the Maths Mastery chapter of the 'Mathematics Curriculum Framework' below. On occasion, where a child is unable to access the age-related curriculum, the mathematics progression map and maths mastery methodology are used to ensure that essential related component knowledge and understanding from earlier programmes of study is focussed on. The learning of able mathematicians is deepened through the use of challenging, abstract problems and investigations.

Related documentation:

- [Maths Curriculum Framework](#)
- [Year 1 Maths Road Map](#)
- [Year 2 Maths Road Map](#)
- [Year 3 Maths Road Map](#)

- [Year 4 Maths Road Map](#)
- [Year 5 Maths Road Map](#)
- [Year 6 Maths Road Map](#)