



## Our Lady of Peace Catholic Primary and Nursery School

**'With Christ in our hearts, together we grow.'**

### **Mathematics at Our Lady of Peace Catholic Primary & Nursery School**

#### **Intent**

At Our Lady of Peace Primary and Nursery School, we strive to teach an ambitious, connected curriculum which is accessible for **all** of our pupils right through from EYFS to the end of Year 6. We strongly believe that all children can achieve in Mathematics. It is our belief, that all pupils require a deep understanding of the mathematics they are learning so that future mathematical learning is built on solid foundations. Mathematics is crucial to everyday life, critical to science, technology and engineering and necessary for financial literacy and most forms of employment. Our intent is to provide a high-quality mathematics education that provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of mathematics and a sense of enjoyment and curiosity about the subject. Central to our beliefs is the all pupils can achieve in Maths. Our staff provide all pupils, regardless of starting points, with the support they need to push boundaries and deepen their understanding further.

The mastery curriculum we provide aims to promote a deep, long-term, secure and flexible understanding of the subject, so that children are fluent at mathematics; possess a growing confidence to reason mathematically and the ability to apply maths to solve problems in a range of contexts. At OLOP, we endeavour to create a stimulating environment, where all of our students are able to develop a positive attitude towards Mathematics and push boundaries, to take ownership of their learning and to deepen their understanding. Within lessons, values such as perseverance, resilience, teamwork, are encouraged as we believe these skills, alongside the mathematical knowledge they harness, will be essential throughout their lives in this ever-evolving world.

## **Implementation**

At Our Lady of Peace Primary and Nursery School, to ensure consistent coverage, our teachers follow the skills progression guidelines as set out within the White Rose Maths Scheme of Work. This scheme of work fully embraces our aims which are outlined in our intent. Alongside the WRM resources, we use a range of other high-quality materials (NCETM, Nrich, Deepening Understanding, I See Reasoning) to support, stretch and challenge **all** pupils within the classroom. In addition to this, the school's calculation policy is used to ensure a coherent and consistent approach to teaching the operations across our school. This policy is shared on our website to also support parents in understanding how Maths is taught in our classrooms.

A fundamental reason for using the White Rose Maths scheme of learning is that it is inclusive for **all** pupils. We believe the use of one curriculum that works for all, with everybody studying the same topic and being provided with support and challenge as needed. Many of the teaching strategies that we advocate for all pupils are particularly useful for pupils with SEND. The materials within the WRM scheme, are replete with examples in all year groups to develop, deepen and embed understanding. For many pupils in our school, the CPA approach is a 'way in' to a topic whilst also it can be challenge for pupils to find an alternative representation to the ones they already have.

Here are just a few examples of equipment we use in our classrooms where pupils can use it to support and stretch their understanding. When introduced to a new concept for the first time, our children are encouraged to physically represent mathematical concepts. This may be through using manipulatives such as Numicon, Cuisenaire, Base 10 etc. Additional objects and pictures are then introduced alongside these manipulatives to demonstrate and visualise abstract ideas, alongside numbers and symbols.

***“Manipulatives and representations can be powerful tools for supporting pupils to engage in mathematical ideas”***  
***EEF – Maths Guidance Report 2017***

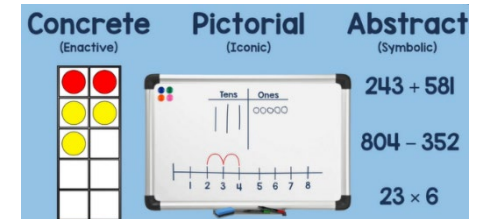
Throughout our classrooms, you will see these three methods being used:

Concrete – children will be provided with the opportunity to use concrete objects and manipulatives to help them understand and explain what they are doing.

Pictorial – children then build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems. This may include part whole models, bar models and arrays etc.

Abstract – with the foundations firmly laid by using the concrete and pictorial methods, the children can move onto an abstract approach using numbers and key concepts with confidence.

We are continuously working to improve our teaching techniques and approaches within our lessons. Teaching time is taken as an opportunity for high-quality teacher talk and guided practice where children are encouraged to verbalise their thought processes and a simple answer is challenged with a range of probing questions such as 'How do you know?' and 'Explain what makes you think that?'



Explicit emphasis and teaching of mathematical vocabulary and appropriate terminology is vital in daily lessons. It is expected that children use this terminology in their verbal and written explanations. In order to ensure that children’s understanding is secure, lessons start with a ‘Flashback 4’ which includes questions which have been covered in prior lessons. One question will be based on learning from last lesson, another from a week ago, one focussing on the last topic covered, and one from last year. Children are given the opportunity to take charge of their learning and choose a mental or written method to answer the challenges, developing speed and familiarity over time. During all lessons, teachers strongly encourage children to use efficient methods as shown in the example below.

For example

H	T	O
6	9	10
7	4	8
3	4	8
3	5	2

H	T	O
6	9	9
3	4	7
3	5	2

H	T	O
6	9	9
3	4	8
3	5	1

$347 - 348 = 347 - 347 + 1 = 348 - 347 = 1$   
 $699 - 700 = 699 - 699 + 1 = 700 - 699 = 1$   
 $351 + 1 = 352$

Number bonds and times tables are given a high priority throughout the school. Children are provided with opportunities to learn/recite these facts through using ‘Numbots’ and ‘Times Table Rockstars’.

## Topic Map

	<b>Autumn</b>	<b>Spring</b>	<b>Summer</b>
<b>Year 1</b>	Number & Place Value Addition & Subtraction Geometry- 2D & 3 D shape	Number & Place Value Mental Addition & Subtraction Addition & Subtraction Measure: Length & Height Measure: Weight & Volume	Number: Multiplication & Division Number: Fractions Geometry: Position & Direction Number: Place Value Measurement: Money Time
<b>Year 2</b>	Place Value Addition & Subtraction Geometry: Properties of Shape	Measurement: Money Multiplication & Division Measurement: Length & Height Measurement: Mass, Capacity & Temperature	Fractions Measurement: Time Statistics Geometry: Position & Direction
<b>Year 3</b>	Place Value Addition & Subtraction Multiplication & Division	Multiplication & Division Measurement: Length & Perimeter Fractions Measurement: Mass & Capacity	Fractions Measurement: Money Measurement: Time Geometry: Properties of Shape
<b>Year 4</b>	Place Value Addition & Subtraction Measurement: Area Multiplication & Division	Multiplication & Division Measurement: Length & Perimeter Fractions Decimals	Decimals Measurement: Money Measurement: Time Geometry: Properties of Shape Statistics Geometry: Position & Direction
<b>Year 5</b>	Place Value Addition & Subtraction Multiplication & Division Fractions	Multiplication & Division Fractions Decimals & Percentages Measurement: Perimeter & Area Statistics	Geometry: Shape Geometry: Position & Direction Decimals Negative Numbers Converting Units Measurement: Volume
<b>Year 6</b>	Place Value Addition, Subtraction, Multiplication and Division Fractions Measurement	Ratio Algebra Decimals Percentages Perimeter, Area & Volume Statistics	Geometry: Shape Geometry: Position & Direction

## **Impact**

At Our Lady of Peace Primary and Nursery School, summative assessments take place at the end of each term. These tests are specifically created to assess the children's understanding of the content which has been taught for that term. We believe that children should keep up, not catch up, and so immediate use of this data is paramount. Teachers use the information harnessed from these papers to inform future planning and to put in immediate support to address any misconceptions. In addition to this, children's progress and attainment are discussed by teachers and the Head teacher through formal pupil progress meetings.

Formative assessment takes place on a daily basis within our lessons and teachers adjust planning accordingly to meet the needs of their class. In addition, we believe that questioning plays an integral role in helping to identify how secure a child's understanding is. Through teacher modelling, children are able to better articulate their answer (using stem sentences), and justify their reasoning. E.g. I know this because... etc.

Throughout the year, leaders monitor the effectiveness of teaching frequently through lesson observations, book scrutinises and pupil voice. Our impact on how well we are implementing our maths curriculum is evidenced by our external assessments.