



OUR LADY AND  
ST HUBERT'S  
CATHOLIC PRIMARY SCHOOL



At Our Lady and  
St. Hubert's, home,  
school and parish  
work together,  
knowing that God is  
with us in all we do.

# Maths

Guidance and Procedures

## Intent

Mathematics is vital in everyday life and, with this in mind, the purpose of Mathematics at Our Lady and St. Hubert's Primary School is to learn knowledge and skills in order to develop an ability to solve problems, to reason, to think logically and to work systematically and accurately in all aspects of mathematics. We want pupils to 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; to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language; and to be able to 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.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The maths curriculum at Our Lady and St. Hubert's is organised into topic areas, but we want pupils to make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems by applying and recalling previous knowledge.

We want pupils to apply their mathematical knowledge to science and other subject areas when appropriate, so that they can see the real-life applications of mathematics.

We want the majority of pupils to move through the programmes of study at broadly the same pace, using small steps in understanding and coherence, whilst also considering the pace of learning required to ensure challenge. Whilst a detailed medium-term plan gives a framework for this progress, teachers are given the flexibility to address gaps in pupil's mathematical knowledge and understanding. In addition, whilst a lesson approach should include certain key elements, no one lesson approach is adopted, so teachers have the flexibility to deliver content in a way that it is engaging and effective.

We understand the importance of parents and carers in supporting their children to develop as mathematicians and aim to encourage a home-school partnership which enables parents and carers to understand the skills taught and support pupils in their development as mathematicians.

## Implementation

### Organisation of the Mathematics curriculum

At OLSH, White Rose Maths programme of learning is followed. Each year group has a medium-term plan that is divided into weekly units with a clear end of topic assessment completed at the end of each unit. Each unit details the content that needs to be taught in a clear, logical small steps to aid learning. This provides teachers with a framework for the delivery of maths.

The curriculum is planned to build on previous content and understanding so that, by the end of key stage 2, all statutory objectives have been taught and the majority of pupils are confident mathematicians who solve problems, to reason, to think logically and to work systematically and accurately in all aspects of mathematics.

### Approach to teaching Mathematics.

At OLSH, learning in mathematics is set out in small steps identified by White Rose Maths to ensure that the majority of pupils move at the same pace through the content. The White Rose Maths scheme clearly presents a range of resources, but teachers are aware there are additional resources to draw upon from a range of paid for

and free, printed and online resources. Concepts are introduced and embedded using manipulatives and representations alongside abstract methods to ensure that pupils develop conceptual understanding alongside fluency in written methods.

Pupils develop conceptual fluency through manipulatives and images before advancing to abstract representations. When revisiting and advancing the learning, these should be used alongside abstract methods. Pupils apply their understanding of concepts to reasoning and problems, eventually solving problems that contain different strands of mathematics.

A typical maths lesson will follow this structure:

- Time to complete a “Just Checking” task. This is a task not linked to current learning that presents the pupil with an opportunity to revisit a previous topic or concept and demonstrate their understanding and provide the teacher with an assessment opportunity.
- A “review” task. This will be another review opportunity but linked to a prior lesson on the aspect of maths being taught in the main lesson. This might be a question to consolidate learning from the previous day, previous year group or from a lesson earlier in the academic year.
- An “anchor” task. This is a task completed in pairs on whiteboards which pupils work collaboratively on to answer.
- A “lets learn” breakdown where teachers model and demonstrate the aspect of maths being taught, where appropriate this will include the use of manipulatives and representations. Opportunities for discussion, peer working should also be given.
- A “model examples” section will include 2 strong modelled examples and 1 example with an error in which children will need to identify.
- A “now try this” section where children will be formally assessed to see their understanding of the content so far.
- Time for pupils to complete some independent task linked to the lesson content.

There is no expectation that every maths lesson should be recorded in books as some lessons might require the use of practical equipment, maths games or whiteboard work to build confidence and fluency; however, towards the end of sequence of learning, more time will be spent recording independent practice and learning in books.

### Grouping and differentiation

To begin, children are sat in mixed ability pairs to complete the anchor task and draw on different ideas. Following the now try this section, teachers will assess children to see their understanding and move children accordingly. Tasks should be differentiated to meet the needs of individual pupils or groups of pupils. This can be through assigned tasks or pupils can be given the choice of task depending on their confidence in the area being taught.

### Flexibility

The Medium-term whole school plan closely follows White Rose Maths in order to meet the needs of the pupils. Strands of maths are revisited at different intervals in the year through ‘flash back 4’s and ‘just checking’ tasks to allow for the opportunity to revisit and build upon skills.

### Enrichment and cross curricular

Mathematics has many real-life applications and these should be explored both in maths lessons and when an opportunity presents itself in other subject areas. Any opportunity to teach the relevancy of maths to real life should be explored

### Impact

Regardless of background, ability or additional needs, on leaving Our Lady and St. Hubert's, pupils should be confident mathematicians who are able to use written methods fluently and apply their skills in order to problem-solve and reason successfully. They will recognise the value of maths in their lives and understand how it is an essential skill.

### Role of the Subject Leader

- To attend CPD courses and share knowledge learnt with teaching staff
- To arrange staff meetings/informal meetings to develop subject knowledge of the curriculum and the teaching of Mathematics
- To ensure teaching staff are regularly completing their assessment data on Arbor
- To monitor the learning and teaching of Maths and provide support for staff when necessary
- To involve parents/carers in their children's learning in and through Maths
- To review changes to the National Curriculum requirements and advise on their implementation
- One of the main jobs of a subject leader is to monitor teachers' understanding, teaching and assessment of the National Curriculum objectives in Maths.

### Curriculum planning

Our whole school approach to Maths teaching and learning is in line with the recommendations of the National Curriculum.

A variety of different resources are used to plan and deliver maths lessons. A scheme is in place that allows regular revisiting of objectives to allow the pupils to progressively master different strands of maths.

The use of mathematical resources is integral to the C-P-A approach and thus planned into teaching and learning. These resources are used by our teachers and children in a number of ways including:

- Demonstrating or modelling an idea, an operation or method of calculation.

Resources for this purpose would include: double sided counters, a number line; place value cards; Dienes; place value counters and grids; money or coins; measuring equipment for capacity, mass and length; the interactive whiteboards and related software; 3D shapes and/or nets; Numicon; multi-link cubes; clocks; protractors; dice; individual whiteboards and pens; and 2D shapes and pattern blocks, amongst other things.

- Enabling children to use a calculation strategy or method that they couldn't do without help, by using any of the above or other resources as required.

Standard resources are kept in classrooms and are available to be used when needed. Resources within individual classes are accessible to all children who should be encouraged to be responsible for their use. The school is a White Rose Maths Premium member, which provides access to additional related resources and reference materials that teachers can use in, as well as to inform, their lessons. The subject leader attends regular training through the local authority and through the local Maths Hub and signposts new resources, including those published by the National Centre for Excellence in the Teaching of Mathematics (NCETM), for use in specific areas of maths. Other resources such as Target Your Maths, Testbase and various other free resources are used to create learning tasks matched to the learning objective.

When appropriate and possible, teachers are encouraged to use the school grounds as an outdoor classroom where this will provide more purpose and context to the learning, for example, when teaching length, area or perimeter.

Displays for maths take the form of working walls which display current key information and knowledge, methods, images and models and also key information about key skills that children need to remember as part of the non-negotiables. Children are encouraged to refer to working walls in order to foster independent learning. They include our current learning and our previous learning.

Maths is taught in a whole class setting. The lesson begins with a review of previous learning if the lesson is within a sequence of learning. Reviews can also take the form of revisiting key information from a previous unit in order to ensure that key maths facts and understanding remain at the surface. The main part of the lesson will include modelling from a teacher, opportunities for discussion and practice and questioning from the teacher to check understanding. Most lessons will then include an opportunity for pupils to engage in independent tasks that allow them to practise and master the skills taught. Some lessons may involve group tasks or partnered work. Other lessons may provide pupils with the opportunity to investigate more open-ended problems. Pupil's work is recorded in maths books.

Teachers are not expected to produce individual lesson plans; however, they may do so if they wish. Teachers will produce detailed PowerPoints or lesson resources to show questioning, opportunities for review, opportunities for guided practice and anything else that they deem important to the lesson. Detailed overviews guide teachers on what to teach at different points in the year, but this can be adapted to match the needs of the pupils. Each overview is made up of seven weeks: six weeks of teaching and a week to revisit, review and assess pupils. Assessments are completed at the end of each unit and at the end of each term.

Example year 4:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	<div>Number</div> <div>Place value</div> <div>FREE TRIAL</div> <div>VIEW</div>				<div>Number</div> <div>Addition and subtraction</div> <div>VIEW</div>		<div>Measurement</div> <div>Area</div> <div>VIEW</div>	<div>Number</div> <div>Multiplication and division A</div> <div>VIEW</div>			<div>Consolidation</div>	
Spring term	<div>Number</div> <div>Multiplication and division B</div> <div>VIEW</div>		<div>Measurement</div> <div>Length and perimeter</div> <div>VIEW</div>		<div>Number</div> <div>Fractions</div> <div>VIEW</div>			<div>Number</div> <div>Decimals A</div> <div>VIEW</div>				
Summer term	<div>Number</div> <div>Decimals B</div> <div>VIEW</div>		<div>Measurement</div> <div>Money</div> <div>VIEW</div>		<div>Measurement</div> <div>Time</div> <div>VIEW</div>		<div>Consolidation</div>	<div>Geometry</div> <div>Shape</div> <div>VIEW</div>		<div>Statistics</div> <div>VIEW</div>	<div>Geometry</div> <div>Position and direction</div> <div>VIEW</div>	

Medium term plans are carefully mapped to the national curriculum to ensure that all objectives are taught by the end of the year. Mapping documents are included within the year group medium term plan. See medium term plans for examples of these.



## 6Cs

This is how the Maths Curriculum incorporates the 6Cs:

The 6Cs and Mathematics		
How our 6Cs will be evident through our Mathematics curriculum		
Character	Citizenship	Communication
By selecting and using different strategies, children develop awareness of how they learn and the ability to plan to use specific strategies for particular tasks. Strategies explored in maths lessons can also be used for learning in other subjects. Pupils demonstrate resilience in persevering with challenging problems in their pursuit of a solution.	Children develop a greater understanding of their own lives in the context of exploring the lives of others. Through their understanding of maths, they may learn that there is an imbalance of resources in the world and could consider how this can be readdressed.	Knowledge about language supports children in communicating effectively in maths lessons. It helps them to apply their prior knowledge, both to understand and to explain their understanding of a problem.
Collaboration	Creativity	Critical thinking
Children will have many opportunities to collaborate during Maths lessons as they will be engaging in conversations with each other to explain concepts and through playing games to embed the new learning. Using their communication and character skills, they will realise that working together will help to embed learning.	Through a thorough understanding of number pupils are able to find creative solutions to the problems they are given rather than following a process. This creativity will enable them to become better problem solvers in a range of contexts, not just mathematical.	Through their study of maths, pupils will apply their critical thinking to a range of different scenarios. They will understand how to solve a problem by identifying starting points, the processes needed and by recalling the facts required to apply to the problem.

## Assessment

Teachers will identify opportunities for formative assessment when planning schemes of work, by presenting pupils with questions to answer during independent work, and they will assess pupils accordingly. "Just Checking" tasks present teachers with the chance to understand how well embedded knowledge is by referring back to previously taught concepts. End of unit assessments provide teachers with a clear understanding of content covered and taught, and allow misconceptions to be identified. Summative assessments provide formal gradings to support teacher's formative assessment so that pupils make expected and better than expected progress through the maths curriculum.

Both formative and summative assessment (Cornerstones) are recorded on the school tracking system on Arbor.

## Monitoring and evaluation

The Subject Leader monitors the effectiveness of the maths teaching provided throughout the school through regular observations with feedback given to teachers, book trawls and disseminating knowledge and techniques through meetings with staff. The Subject Leader and class teacher will together monitor the learning and progression made by pupils across the key stage using Arbor and plan to re-teach any material accordingly.

All data, ranging from evidence of classroom teaching to individual pupil skills reports, is securely stored on a password-protected database. Class teachers, the Subject Leader and SLT can access this so they can evaluate delivery, performance and progress. This data can be presented to parents at parents' evening and will be used to inform end of year and termly reports.

## SEND, Pupil Premium and Inclusion for all

It is the responsibility of the class teacher to meet the needs of all children. Within reading this includes:

- Providing access to manipulatives or pictorials even if other children have advanced to abstract methods.
- Differentiating the questioning to meet the needs of the individual
- Providing tasks that give different levels of challenge. This can take different forms.
- Liaising with SENDco for advice and guidance when appropriate
- Following any EHCP or care plans in relation to a child's needs
- In line with the school's inclusion statement, materials will reflect the breadth of society of people with facial, cultural, and physical characteristics.
- The use of focus groups where some children may spend longer being taught before beginning independent work
- Planning challenge of more able pupils.

