



St. Hubert's Roman Catholic Primary School

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St Hubert's RC Primary School Mathematics Policy



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THE NATURE OF MATHEMATICS

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. (National Curriculum 2014)

The purpose of Mathematics in our school is to:

- Have a positive 'can do' attitude towards Maths.
- Have self-confidence in their ability to deal with Maths.
- Work systematically, co-operatively and with perseverance.
- Think logically and independently.
- Experience a sense of achievement regardless of age and ability.
- Understand the appropriate underlying skills, concepts and knowledge of number, measurement, shape, space and handling data.
- Apply previously acquired concepts, skills, knowledge and understanding to new situations both in and out of school.
- Understand and appreciate pattern and relationships in Maths.
- Communicate with peers and adults, ideas, experiences, questions, clearly and fluently, using the appropriate mathematical language.
- Explore problems using the appropriate strategies, predictions and deductions.
- Have equality of opportunity regardless of race, gender or ability.
- Be aware of the uses of mathematics beyond the classroom.
- Encourage the use of mental calculations and efficient strategies to work out the answers.
- Use the CPA (concrete, pictorial, abstract) approach

BREADTH OF STUDY

Through careful planning and preparation we aim to ensure that throughout the school children are given opportunities for:

- practical activities and Mathematical games - problem solving - individual, group and whole class discussions and activities - open and closed tasks
- a range of methods of calculating e.g. mental, mental with jottings and formal written methods.
- through our creative curriculum approach we also seek to explore and utilise further opportunities to use and apply Mathematics across all subject areas.

TEACHER'S PLANNING AND ORGANISATION

In EYFS, Maths learning takes place daily. The new EYFS Framework is being followed through the use of White Rose Maths. Maths learning in EYFS is structured in the following way:

- *Maths Starter – Focus on counting to 10. Once the children are confident, this will progress to 15 and then 20 by the end of the year.*
- *Revisit - A revisit of prior learning from the lesson or week before recapping the numbers taught. Initially one number will be taught per week. Once more advanced numbers such as 5, 6, 7 etc are taught, longer than a week may be spent depending on the ability of the children.*
- *Making the numbers in a variety of ways is taught through the use of resources such as bead strings, Numicon, ten frames, cubes and counters. This is followed by a lesson which involves the children writing the numbers taught and then moving onto a subitising lesson. In this lesson, dot patterns are taught usually using dice.*
- *Once children are confident with making the number with resources, writing it and subitising, the part-part-whole model is used for partitioning so the children can split the number up in a variety of ways.*

In Key Stage 1 and Key Stage 2, Maths lessons take place daily. Children are taught in mixed ability classes.

Lessons will follow the White Rose Maths scheme and are also accompanied by materials from the NCETM Curriculum Prioritisation documents and other resources to best meet the needs of our children. The lessons are usually structured as follows;

Starter Activity

This will involve whole class work to rehearse, sharpen and develop mental and oral skills.

The Main Teaching Activity

This will include both teaching input and pupil activities which is administered with a 'teach and do' approach.

- *In the first lesson, children can be asked 'Key Questions' Children are given the opportunity to give reasons for their answers.*
- *Next, teachers will begin to teach their lesson, giving the children opportunity to use resources to support their thinking and understanding.*
- *Children then move onto 'Key Learning' which is recorded in their books. The less confident learners might work with the teacher or TA to build confidence. During this part of the lesson, the teacher has the opportunity to move around the room and work with any misconceptions as they arise. The teacher may also bring the class back together as a whole to teach the next step before allowing the children to move on with their learning.*
- *Once children have shown their confidence and understanding in their work, they will then access challenges which provide the opportunity to develop reasoning and problem solving skills. The activity is used to both extend and enable the children to delve deeper into their learning.*

When following the White Rose Maths structure, the following aims to be used:

- *Same Day Intervention or intervention before the next lesson.*
- *'Teach and do' approach.*
- *Adaptations through children's learning being scaffolded.*
- *CPA Approach (Concrete, Pictorial and Abstract)*

- Carefully planned questioning should be used to encourage children to come up with appropriate methods, rather than just giving instructions for how to solve a problem.
- Subject specific vocabulary should be modelled and used appropriately throughout the lesson.
- Children should have access to quality resources.
- Maths lessons should be scaffolded to have built in opportunities to apply times table knowledge to problem solve so that pupils are able to make links between their learning.

MULTIPLICATION TABLES

In Year 4, the children will take a Multiplication check. Here they will show their understanding of their multiplication tables in their written form e.g. $4 \times 6 = 24$. The children will begin learning their tables as soon as they start our school in the EYFS. We would expect the children to learn their tables as follows:

EYFS: Doubles to 20.

Year 1: 2, 5, 10

Year 2: 3, 4

Year 3: 8, 6 and 11

Year 4: 7, 9 and 12

Year 5 and 6: Consolidate learning

ARITHMETIC

In EYFS and Key Stage One, children are given the opportunity to develop their arithmetic skills through a mixture of practical and written activities. In addition to this, the children will take part in four Mastering Number sessions each week which aims to develop fluency in Maths.

In Key Stage Two, children participate in a weekly arithmetic session whereby they are taught the most efficient strategies to answer calculations as well as how to use their prior knowledge.

SEND (SPECIAL EDUCATIONAL NEEDS AND DISABILITIES)

The daily Mathematics lessons are inclusive to pupils with SEND. Where required, children's Teaching and Learning Plans incorporate suitable objectives from the National Curriculum for Mathematics or Birth to 5 and teachers keep these objectives in mind when planning work. These targets may be worked upon within the lesson as well as on a 1:1 basis outside the Mathematics lesson. Maths focused intervention programmes are available in school to help children with gaps in their learning and Mathematical understanding. These are delivered on a 1:1 basis by trained support staff and overseen by the class teacher.

Within the daily Mathematics lesson, teachers must not only provide differentiated activities to support children with special educational needs but also activities that provide appropriate challenges for children who are high achievers in Mathematics. It is vital that all children are challenged at a level appropriate to their ability.

EQUAL OPPORTUNITIES

As a staff, we endeavour to maintain an awareness of, and to provide for equal opportunities for all our pupils in mathematics. We aim to consider cultural background, gender and SEND, both in our teaching attitudes and in the published materials we use with our pupils.

PUPILS' RECORDS OF WORK

Children are taught a variety of methods for recording their work and they are encouraged and helped to use the most appropriate and convenient method of recording for them. Staff can refer to the calculations policy which examples the correct methods that should be used within their year group. Children are encouraged to use practical equipment to embed skills to further their written method development. Each classroom has a range of Maths resources which children should be encouraged to use throughout most Mathematic sessions. All children are encouraged to work tidily and neatly when recording their work. When using squares, one square should be used for each digit.

In EYFS larger 20mm squares are used. When the child enters Year 1, the smaller 10mm squared exercise books are introduced. An exception to this rule may be set for a child with SEND where larger squared books may be more appropriate.

In addition, EYFS record in the children's big book, learning journals and informally within the setting. For example: - on the playground - on whiteboards - using jigsaws - physically ordering numbers

Staff are encouraged to use photos to ensure records of practical activities that are carried out throughout the year particularly within KS1.

ASSESSMENT AND RECORD KEEPING

Formative Assessment - This is the ongoing assessment carried out by teachers both formally and informally. The results of formative assessments have direct impact on the teaching materials and strategies employed immediately following the assessment and often within the same lesson. In Key Stage One and Key Stage Two, teachers/TAs will aim to mark during the lesson (live marking). This then enables staff to identify children who are struggling/have misconceptions and then work with them straight away or during 'Same Day Interventions.'

Assessment techniques are based on Assessment for Learning (AFL) and include:

- Clear communication of learning objectives and success criteria
- Marking in accordance with the school Marking and Feedback Policy
- Teacher assessment of pupils' performance on task

- Teacher observation of pupils
- Teacher / pupil discussion and questioning (including higher order questions)
- Pupil self-evaluation where appropriate
- Peer evaluation where appropriate
- Teacher assessment of pupils' written work
- Pupils' performance in formal assessments

Summative Assessment - Termly assessments are to be carried out across the school using the White Rose Maths Termly Assessments. These materials are to be used alongside judgements from class work to form a teacher assessment for each child. These judgements are then implemented onto Insight. Throughout the year, Year 6 will undertake past papers in preparation for their end of Year SATs examinations. Year 2 children can also use the optional end of year 2 Key Stage assessments.

Y6 to complete SATs assessments every May.

REPORTING TO PARENTS AND PARENTAL INVOLVEMENT

Each term, parents receive a report showing whether their child is working below, at, or above age-related expectations (ARE). The report also includes the targets their child will be focusing on for that term. Reports are shared before the end of the summer term, and parents have the opportunity to discuss their child's progress formally during parents' evenings in the spring term.

Parents are always welcome to arrange an informal appointment at any point during the school year to talk about their child's learning. We actively encourage parents to be involved in their child's progress and offer support and guidance to help them build confidence in supporting mathematics at home.

MONITORING AND EVALUATION

The Mathematics subject leader monitors and evaluates the teaching of Mathematics. Regular slots are provided for subject leaders to enable them to monitor and evaluate the teaching of Mathematics across the school. Any observations are undertaken in line with the school improvement plan. Opportunities for teachers to review the scheme, policy and published materials are given during staff meetings.

STAFF RESPONSIBILITIES

Headteacher/Deputy headteacher

Lead, manage and monitor the development of Mathematics in the school -
Support the Mathematics subject leader in taking Mathematics forward - Carry out annual audits, set targets, review the action plan and monitor its progress - Ensure that arrangements are made to meet the training needs of teachers and other

adults involved - Manage the school's allocation of resource funding, including leadership time - Ensure parents are informed and involved.

Mathematics Subject leader

The Maths Subject Leader is responsible for co-ordinating mathematics through the school. This includes:

- Ensuring continuity and progression from year to year.
- Providing all teaching staff with guidelines, long-term planning and materials to show how aims are to be achieved and how the variety of all aspects of mathematics is to be taught.
- Completing an analysis at the end of each school year to inform the SDP.
- Producing an action plan to meet the outcomes of the analysis as they appear on the SDP.
- Leading the teaching of maths by example and supporting colleagues in the opportunity to share good practice. Leading professional development of all staff in maths in accordance with staff development needs and supporting and guiding staff by encouraging the sharing of ideas.
- Advising and supporting colleagues in the implementation and assessment of mathematics throughout the school.
- Assisting with the requisition and maintenance of resources required for the teaching of mathematics.
- Keeping the written policy up to date and keeping under review the scheme of work for maths in line with the requirements of the National Framework.
- Monitoring standards in Maths across the school through classroom observation, work scrutiny, pupil voice, teachers' planning, discussion with teachers and data analysis.
- Being aware of national developments in maths through reading relevant materials and attending courses where appropriate.

SEND

Teachers aim to ensure that all pupils are fully included in daily mathematics lessons. Work is differentiated to meet individual needs and Teaching Assistants are used effectively to provide additional support where appropriate. In some cases, pupils with more significant or complex difficulties may work on tasks linked to their PIVATS targets or objectives from an earlier year group to ensure they make steady, meaningful progress.

More Confident Learners

More confident learners will be taught to a mastery level with their own class and stretched through scaffolded learning and extra challenges. When working with the whole class, teachers will direct higher order questions to the more able. Very occasionally arrangements will be made for an exceptionally gifted pupil. For example, they may follow an individualised programme with more challenging problems to tackle.

Class Teachers

Class teachers are responsible for the planning, teaching and assessment of the daily Mathematics lesson and the organisation of additional adults in the classroom. They are also responsible for implementing the contents of this policy within their classroom.

SUPPORT STAFF

HLTAs and TAs that work with the children support the teaching of Mathematics under the direction of the class teacher.

GOVERNING BODY

We have an identified Maths governor. He/she is invited to attend relevant school INSET. The Maths governor visits school to talk with the subject leader and when possible, observes some daily Maths lessons. The Maths governor reports back to the curriculum committee.

STAFF DEVELOPMENT

All staff are supported and encouraged to continuously develop, assess and improve their teaching of mathematics. We do this by:

- Encouraging staff to attend mathematics training and professional development courses,
- Providing opportunities for the mathematics subject leader to work alongside colleagues in classrooms and shared areas,
- Offering school-based INSET and collaborative learning opportunities,
- Involving staff in policy development and decision-making,
- Sharing good practice and learning from one another's expertise,
- Promoting parental involvement through home learning and school-based workshops with their children.

The subject leader is an active member of a Mastery Maths Hub, enabling them to share up-to-date initiatives, strengthen staff knowledge, and build professional networks with other schools.

RESOURCES

To support children's learning in Maths, there should be a working wall area within every classroom that the children can access. This needs to be updated regularly in accordance with the area of Maths being taught at the time. Resources which are not used or required regularly are stored centrally in the Maths area in Key Stage 2.

Models and Images

- ICT-interactive whiteboard
- Games

- *Using and applying to real life experiences*
- *Sharing and communication through discussions linked to reasoning*
- *CPA Approach*
- *Bar Modelling*
- *Part – Part – Whole models*
- *Access to White Rose Maths*
- *Access to other supporting materials such as the NCETM Curriculum Prioritisation documents*

Other Policies for Reference

Other Relevant Policies: Marking & Feedback Policy- Maths, Calculations Policy, SEN policy.