Mathematics Policy

Intent

"Inspiring lives, building futures together with Jesus."

At St. Luke's Halsall we recognize that everyone is made in the image of God and that we are privileged to be part of the lives of the children we educate and nurture.

We also recognize that a strong partnership between pupils, staff, parents and governors will enable us to realise our mission statement, "Inspiring lives, building futures together with Jesus", striving to ensure that our values and decisions are made based on the values Jesus taught us.

Our objectives in the teaching of mathematics are:

To promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion. In discussion our children are encouraged to develop theories/strategies which they can prove and justify using mathematical vocabulary.

- To promote confidence and competence with numbers and the number system.
- To develop the ability to solve problems through decision-making and reasoning in a range of contexts.
- The use of partner talk to stimulate and develop a curiosity for Mathematics.
- To explore features of shape and space, and develop measuring skills in a range of contexts.
- To understand the importance of mathematics in everyday life.
- To develop the cross-curricular use of mathematics in other subjects.

We believe in the importance of great beginnings in our Maths teaching in EYFS. We strive to develop a strong grounding in number so that all children develop the necessary building blocks to excel mathematically. We work with our children so they are able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.

In our nursey class mathematics is taught through whole class input, small group activities, games, as part of continuous provision and free choice play. The children are supported to use number, mathematical language and concepts in meaningful ways. For example, using comparative language in sand/water play, problem solving using number in the home corner/snack area or talking about pattern and shape when using construction materials.

We are also keen for our children to understand that mathematical skills are also used in other areas of the curriculum such as Science, Computing and Geography and impress upon the pupils that presentation is important. It is our policy to teach the children to show their workings out so that they can check and correct their own errors and so that the teacher can easily identify any misconceptions.

This means that children need to be offered regular exposure to opportunities which involve increasingly complex problem solving thus allowing them to apply their Mathematical skills. With this in mind we have adopted a Mastery Approach to Mathematics.

Mastering maths means pupils acquiring a deep, long-term, secure and adaptable understanding of the subject. The phrase 'teaching for mastery' describes the elements of classroom practice and school organisation that combine to give pupils the best chances of mastering maths. Achieving mastery means acquiring a solid enough understanding of the maths that's been taught to enable pupils to move on to more advanced material. (NCETM 2021) National Centre for Excellence in the Teaching of Mathematics

Implementation

We use Five Big Ideas, drawn from research evidence, underpinning teaching for mastery (NCETM 2017).
Coherence

Lessons are broken down into small connected steps that gradually unfold the concept, providing access for all children and leading to a generalisation of the concept and the ability to apply the concept to a range of contexts.

Representation and Structure

Representations are used in lessons to expose the mathematical structure being taught, the aim being that students can use the representation to help them find their answer more easily.

Mathematical Thinking

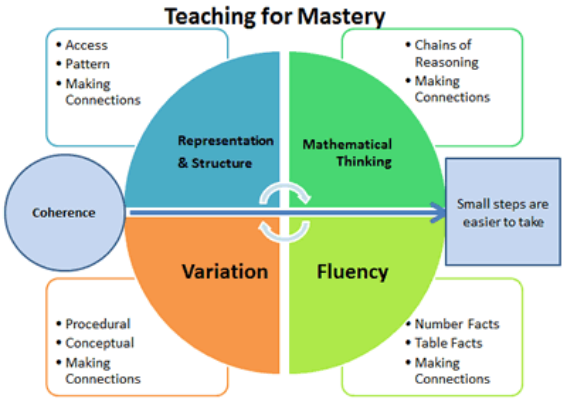
If taught ideas are to be understood deeply, they must not merely be passively received but must be worked on by the student: thought about, reasoned with and discussed with others

Fluency

Quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics

Variation

Variation is twofold. It is firstly about how the teacher represents the concept being taught, often in more than one way, to draw attention to critical aspects, and to develop deep and holistic understanding. It is also about the sequencing of the episodes, activities and exercises used within a lesson and follow up practice, paying attention to what is kept the same and what changes, to connect the mathematics and draw attention to mathematical relationships and structure.



We use 'White Rose' medium term plans from Reception to year 6 to ensure National Curriculum coverage, continuity and progression in our teaching. In EYFS we are using 'Development Matters' (September 2021) to guide our teaching of Mathematics.

We believe that children's conceptual understanding and fluency is strengthened if they experience concrete, pictorial and abstract representations of a concept. At St Luke's Halsall C.E we use a range of teaching styles in our Mathematics lessons in order to meet the individual and unique needs of every child. Children will experience practical activities, mathematical games, group and individual problem-solving activities, whole class discussions and working in a more formal manner in their maths books. We encourage children to present work directly into their maths books as well as working in other ways such as the WR workbooks which we use in the first two terms in year 1.

Mathematics is taught to the whole class in mixed ability groups using adaptive teaching strategies. The learning needs of individual pupils are addressed through careful scaffolding, skilful questioning and the appropriate intervention to provide necessary support or challenge and through the carefully planned use of manipulatives.

Lesson structure

At St Luke's Halsall you will typically see the following features of our Mathematics lessons:

- Daily counting/fluency activities to begin lessons in an interactive way
- A brief re-cap of previous learning before building on this with the next step
- Key vocabulary introduced through STEM sentences
- Explicit teaching (often using some of the WR teaching slides)
- Opportunities for the children to apply what they have learnt independently with challenges for those who grasp the learning objective quicker

Foundation stage organisation

Maths is taught daily in Reception and will involve some oral counting, a whole class input session and a focused activity. Planning is derived from 'White Rose' resources and also using materials from the 'Mastering Number' programme.

KS1/2 organisation

Children in KS1 and 2 are taught Mathematics for approximately 1 hour a day in mixed ability class groups. Children in years 1-6 will also take part in daily morning maths activities using the White Rose Flash Back 4 resources. Each classroom has a display/working wall dedicated to Maths.

Cross curricular

At St Luke's Halsall we take every opportunity to draw Mathematical experiences out of a range of activities in other subjects such as PE, Science, History and Geography to enable children to apply and use Mathematics both in real life and academic contexts and make connections.

Inclusion

Each child will have an equal entitlement to all aspects of the Mathematics curriculum and to a range of maths activities. Intervention groups will take place when needed both on a 1-1 basis and for small groups. This could take place during the maths lesson or at other times. We have high expectations of all children and strongly believe that all children are able to achieve in Mathematics.

Equal Opportunities

Every child is treated as an individual and respect is given to their uniqueness regardless of gender, race, religion, academic ability, physical ability or socio-economic profile. All staff are mindful in their selection of resources and teaching styles and are aware of the specific needs of vulnerable groups.

Parents and Carers

We thrive to develop a positive relationship with our parents/carers. In Mathematics we need parents/carers to:

- Be understanding and supportive of our aims in teaching and learning Mathematics
- Attend Parent Consultation Meetings
- Support their children with Mathematics homework activities
- Praise their children for showing perseverance with Mathematics
- Make Mathematics part of children's daily lives

Staff Development

Supported by the lead teacher for Mathematics, staff are expected to keep up to date with subject knowledge, curriculum requirements and the resources that are available. Training needs are identified through monitoring and evaluation as well as through performance management.

Role of the Subject Leader

The role of the subject leader is to provide professional leadership and management in Mathematics in order to secure high quality teaching, effective use of resources and high standards of learning and achievement for all pupils. This is achieved by:

- Leading whole school monitoring and evaluation of teaching and learning through observations, analysis of assessment data, book checks and pupil interviews.
- Ensuring teachers understand the requirements of the National Curriculum and support them in lesson planning and delivery.
- Checking curriculum coverage.
- Keeping the policy under regular review.
- Auditing, purchasing and organising the resources.
- Auditing and supporting colleagues in their own CPD.

- Keeping up to date with current developments in Mathematics.
- Keeping parents informed about Mathematics issues.
- Ensuring that SLT and governors are kept informed about the quality of teaching and learning in Mathematics.

Assessment

Assessment both formative and summative is an integral part of the Mathematics curriculum. We gather formative assessment during lessons through observation, the use of questioning and evidence from children's books. This assessment will be used as a basis to plan for subsequent lessons and intervention groups.

Teachers in years 1-6 will also use summative assessment (NFER's) three times a year, including arithmetic and reasoning papers.

Children in the foundation stage are assessed against the EYFS curriculum objectives (ELGS).

Teacher judgements are entered into our Sonar system for assessment three times a year and are discussed with the Head Teacher and members of the SLT.

Statutory KS1 and KS2 SATs tests will be undertaken at the end of years 2 and 6 and results are published in accordance with government guidelines.

Monitoring and Feedback

The quality and effectiveness of the teaching of Mathematics at St Luke's Halsall is monitored through scrutiny of assessment data, monitoring of children's books, learning walks, pupil voice and lesson observations.

Resources

White Rose Premium Resources are used to provide all children with a well-sequenced and progressive mathematical fluency provision. We take the small steps and structure of these sessions but use other resources and ideas where we feel they fit better with what our children need.

Each class has a wide range of resources available to support the concrete, pictorial and abstract approach to Mathematics. Each child in years 1-6 has access to Numbots or Times Table Rockstars. This can be accessed at home as well as in school.