

St. Luke's C of E (Aided) Primary School



Mathematics Policy 2021-2022

SEPTEMBER 2021

ST LUKE'S C OF E (AIDED) PRIMARY SCHOOL MATHS POLICY

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Vision

Our school vision is 'Let your light shine, live life to the full, respect and care for all, create a happy and safe world for everyone.' In maths we aim to produce confident and resilient mathematicians who know and understand the purpose, relevance and importance of maths in their everyday life, making sense of the world around us. A high-quality mathematical education provides the children with the appreciation for the power of mathematics, the ability to reason mathematically and solve real life problems.

Mission

Our mission is for all children to be working at the expected standard for their age and to make progress that is good or better across the year. We offer a creative and inclusive curriculum, which inspires, engages and challenges the children through practical activities, exploration, discussion and support. In turn, this promotes their curiosity, enthusiasm and enjoyment for the subject. We believe it is important that children develop positive attitudes and interests in mathematics, and develop an attitude to 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

Curriculum Overview

Our curriculum for Year 1 to 6 is based upon the Essential Curriculum milestones and the National Curriculum for Mathematics (Department for Education, 2014). The milestones outline the expectations across two years.

Milestone 1-Years 1 and 2
Milestone 2 –Years 3 and 4
Milestone 3-Years 5 and 6.

This ensures that learning is not just of gaining procedural knowledge but also allows understanding and in depth learning where children can extend their learning in order to remember what they have learnt, solve problems and guaranteeing learning stored in the long-term memory is applied.

Our curriculum for FS2 is the Early Years Foundation Stage Framework (DfE, 2014) which informs mathematical learning in the Early Years Foundation Stage.

The programmes of study are used to give a balanced and broad curriculum to all of our pupils; this includes the statutory and non-statutory aspects of the curriculum and EYFS framework.

Aims

The Essentials Curriculum shows clearly the expectations that we have with regards to helping all of our children to be effective learners in maths. Through fluency, reasoning and problem solving, we believe that children can access a mastery curriculum.

We aim to ensure all pupils have:

- An understanding of the important concepts and an ability to make connections within mathematics.
- A broad range of skills in using and applying mathematics.
- Fluent knowledge and recall of number facts and the number system.
- The ability to show initiative in solving problems in a wide range of contexts, including the new or unusual.
- The ability to think independently and to persevere when faced with challenges, showing a confidence of success.
- The ability to embrace the value of learning from mistakes and false starts.
- The ability to reason, generalise and make sense of solutions.
- Fluency in performing written and mental calculations and mathematical techniques.
- A wide range of mathematical vocabulary.
- A commitment to and passion for the subject.

Planning

Fluency, reasoning and problem solving are at the heart of planning mathematics. Each lesson should provide an opportunity for children to deepen their mathematical understanding.

Our approach to planning is based on a thorough understanding of children's needs, gleaned through effective and rigorous assessment and tracking.

The curriculum planning in maths is carried out in three phases: long-term, medium-term and short-term.

Long Term Planning

The long-term plan maps out the areas of maths covered in each term during the key stage based on the knowledge and skills outlined in the National Curriculum for Mathematic 2014, Development Matters and the Early Learning Goals (Number, Shape Space & Measure).

Medium Term Planning

Years 1 - 6 use the White Rose Maths Hub schemes of learning to support their medium term planning. These schemes provide teachers with exemplification for maths objectives and are broken down into fluency, reasoning and problem solving, key aims of the National Curriculum. They support a mastery approach to teaching

and learning and have number at their heart. They ensure teachers stay in the required key stage and support the ideal of depth before breadth. They support pupils working together as a whole group and provide plenty of time to build reasoning and problem solving elements into the curriculum.

Short Term Planning

Each teacher is responsible for writing their own individual Short Term Plan, structuring their daily mathematics lessons and showing the progression throughout the week. The detailed planning shows the journey of each small step that needs to be taught for each area of the Mathematics curriculum. This includes precision teaching, modelling, misconceptions and key questions.

Each lesson is planned for with:

- a clear success criteria for each learning objective
- a mental, oral and/or written task
- teacher input
- independent and/or guided activities
- a plenary

Teaching and learning

Children are encouraged to use many representations to develop a deep conceptual understanding of mathematical ideas. Throughout the entire school, concrete, pictorial and abstract resources are used to provide a route to understanding. The school's calculation policy provides more information about the resources that are used.

Foundation Stage 2

In Foundation Stage 2, we link the objectives from the Foundation Profile to the National curriculum, focusing strongly on Number and Numerical Patterns. We believe that developing a strong grounding in number early is essential so that all children develop the necessary building blocks to excel mathematically. All children are provided with frequent and varied opportunities to build and apply this understanding, through imaginative/outdoor play and using a wide range of manipulatives, including Numicon, Cuisenaire Rods and Tens Frames. This helps the children to develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. The children are also given opportunities to develop their reasoning skills across all areas of mathematics including shape, space and measures.

Key Stage 1 and 2

In Years 1 to 6, we use a mastery approach to teaching maths. All children are accessing the same work so that no child is left behind. Small steps are taken so that children build up fluency and then they apply this to problem solving and reasoning. During these lessons we encourage children to ask as well as answer mathematical questions and prove how they know an answer is correct or incorrect. Children and

teachers use ICT in mathematics lessons where it will enhance their learning, and to assist with modelling ideas and methods. Wherever possible, we encourage children to use and apply their learning in everyday situations.

Times Tables

Times Tables are a 'non-negotiable' in mathematics and must be taught and practiced in Year 1 to 6. From Year 2 onwards, children are expected to learn their times tables by heart. In order to prepare the Year 4 children for the Statutory Times tables Test that will be brought in from 2020, each year group will teach times tables using the following progression:

Year 1 – count in multiples of 2's, 5's and 10's.

Year 2 – recall 2, 5 and 10 multiplication and division facts

Year 3 – recall 3, 4 and 8 multiplication and division facts

Year 4 – recall 6, 7 and 9 multiplication and division facts

Year 5 and 6 – recall all multiplication and division facts up to 12 x 12

Our school has a subscription to Times Tables Rock Stars which promotes the importance of times tables across the school. All teachers will set the children weekly times table tasks based on their individual ability. The children are expected to access TTR at least twice a week from home, to ensure they are practising their times tables.

Assessment

Assessment of children by teachers and teaching assistants should be on-going through observing children working, listening to children taking part in discussions, questioning and marking work. The children should also self-assess their work on a daily basis against the learning objective and success criteria, using the traffic light system.

Pupil's work should be marked in line with the Marking Policy and teachers should model how corrections should be made, giving children a chance to learn from their misconceptions or incorrect methods.

Termly and half-term assessments are completed for each year group to assess where the children are in their learning. The data is then recorded on Depth of Learning to provide a 'snapshot' at the end of each term. This allows tracking of achievement and progress of individuals and groups of children, aligning with the Essentials Curriculum.

Termly pupil progress meetings ensure that pupils can be targeted for support. What that support will be and how intensive, depends upon the child's need.

Homework

We recognise the importance of making links between home and school and encourage parental involvement with the learning of mathematics. Homework provides opportunities for children to:

- Practise and consolidate their skills and knowledge,
- Develop and extend their techniques and strategies,
- Share their mathematical work with their family,
- To prepare them for their future learning

Resources and Displays

Each classroom should have a working wall mathematics display, supporting the area of mathematics being taught. The displays consist of key questions, topic related vocabulary, resources, visual aids and interactive activities (if necessary). This encourages a stimulating and positive learning environment for the children.

In each classroom, there is a variety of age appropriate mathematical resources and equipment. The use of I.C.T and interactive whiteboards are used to aid teaching in the classroom. Larger resources are also available and can be located in the mathematics resource cupboard.

Children should be encouraged to use the resources that are available to them in the classroom and which they feel would be beneficial to help them when completing Maths work.

S.E.N.

In accordance to the school's S.E.N. Policy, 'at St. Luke's we recognise the diversity of additional needs and we value the abilities and achievements of all of our pupils... Pupils have access to a wide range of curriculum activities that are differentiated to match their needs and help them to make successful progress... The staff at St. Luke's are committed to providing high quality teaching and learning while reducing any barriers to learning that may occur.'

Those children with SEN may have specific targets relating to mathematics where appropriate. They may be given additional support or extra teaching in small groups to help them achieve these targets.

Gifted and talented

Children who are working well above the overall level of the class will be given a range of experiences designed to deepen their learning while working on the same learning objectives as their peers. This may be done by providing more demanding questions and investigations, further reasoning and problem solving opportunities, and open-ended approaches to maths.

Equal Opportunities

All children are offered a broad, balanced curriculum differentiated to meet their needs as necessary. They have equal opportunities to reach their full potential across the mathematics curriculum regardless of their race, gender, cultural background or ability, in a safe and supportive environment. The aim is to ensure that everyone makes progress and gains positively from lessons. The lessons involve lots of visual, aural and kinaesthetic elements which benefit all children. We are very mindful of the learning needs of all of our children and those with Special Educational Needs are supported well within Mathematics through effective planning, teaching and assessment, differentiated activities, realistic expectations and suitable resources.

Reporting to Parents/Carers

Parents/Carers are invited to Parent and Carer Consultation meetings in the Autumn and Spring terms to discuss their child's progress in mathematics.

At the end of the school year, a written annual report will be sent home to parents and carers. This will summarise the child's efforts and progress in mathematics throughout the year. The child will also be given a target to focus on for their return to school in the September.