



St Leonard's C of E (A) Primary School

Mathematics Policy

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Introduction

Mathematics is a fundamental part of learning at St. Leonard's. It equips pupils with a uniquely powerful set of tools to understand and reason in the outside world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Mathematics is important in everyday life. It is integral to all aspects of life and, with this in mind, we endeavour to ensure that children develop a positive and enthusiastic attitude towards Mathematics that will stay with them.

The National Curriculum for Mathematics (2014) describes in detail what pupils must learn in each year group. Combined with our Calculation Policy, this ensures continuity, progression and high expectations for attainment in Mathematics.

Aims

- To foster a positive attitude to Mathematics as an interesting and engaging part of the curriculum.
- To develop the ability to think clearly and logically, with confidence, flexibility and independence of thought.
- To develop a deeper understanding of Mathematics through a process of application and reasoning.
- To develop an understanding of the connectivity of patterns and relationships within Mathematics.
- To develop the ability to apply knowledge, skills and ideas in real life contexts outside the classroom, and become aware of the uses of Mathematics in the wider world.
- To develop the ability to use Mathematics as a means of communicating ideas.
- To develop an ability and inclination to work both alone and co-operatively to solve Mathematical problems.
- To develop personal qualities such as perseverance, independent thinking, cooperation and self-confidence through a sense of achievement and success.
- To develop the children's arithmetic skills that they can apply to the rest of the Mathematics curriculum.

The structure of a daily Mathematics lesson at St. Leonard's

To ensure that all aspects of Mathematics are taught effectively, we have adopted the 'STAR' approach to Mathematics in KS1 and KS2. Lessons are structured in the following way:

- **4-a-day warm up Or mental maths starter**
 - The children are given 4 differentiated arithmetic questions that consolidate and extend previous learning. This is a 5-minute timed task which gives the children the knowledge and confidence to apply these skills to the other areas of the lesson.
 - Mental maths starter – The children practise important mental calculation strategies
- **S : See it**
 - Teachers teach the new learning and demonstrate methods/concepts to the children.
- **T: Try it**
 - The children are given the opportunity to 'try' or practise the new learning.
- **A: Apply it**
 - Teachers will then give the children an activity where they should apply the new learning to a problem.
- **R: Reasoning**
 - In this part of the lesson, the children are asked to explain or prove something using the knowledge that they've gained in the lesson. Responses to these questions are often written with evidence to prove their understanding.

Occasionally, the structure of lessons change to accommodate the need and focus of the lesson.

Number Fluency Sessions

Throughout Key Stage one and EYFS, a daily 15minute number fluency session is complete by the children. These targeted sessions help to improve children's mental maths fluency and recall. They help embed key knowledge that the children can then build on.

Maths Mastery

Across school we have introduced the teaching for mastery approach which is supported greatly by the structure of our maths lessons. This approach allows the children to develop a greater understanding of the mathematical concepts they are faced with in each year group. They are able to apply their knowledge to a host of different problem types and situations. Language is such an important element of mastery. The children are exposed to the correct language and have a firm grasp of related mathematical language.

Times Tables

To support the development of multiplication fact knowledge across school, we have developed a time table of when the children in each year group will be introduced and taught each times table.

YEAR	AUTUMN 1	AUTUMN 2	SPRNG 1	SPRING 2	SUMMER 1	SUMMER 2
Y1						
Y2	1x	2x	5x	10x	0x	revision
Y3	4x	8x	3x	6x	12x	Revision
Y4	9x	7x	11x	squares	revision	test

The children in Ys 2-6 are given weekly times tables tests based on the table that they're learning. Children are given certificates once they've demonstrated that they can recall the multiplication and related division facts quickly. When they've achieved all certificates, the children are given tasks where they have to apply their knowledge of the facts.

In order to support the children in learning their times tables, the school subscribe to 'Times Tables Rockstars' which is an online game that the children can play at home and in school.

Assessment of Mathematics

EYFS

- A baseline assessment is carried out in September;
- In June, children are assessed using the PUMA test. The results of this are recorded onto the school tracking system. The class teacher analyses the attainment of specific groups within the class and this is discussed with the head teacher at pupil progress meetings.
- During the year, the results of the PUMA test, along with daily formative assessment, are used to assess the progress of the children towards the Early Learning Goal for Mathematics. Intervention is put into place where appropriate.
- At the end of the year, children are assessed as emerging, expected or embedded against the Early Learning Goal for Mathematics.

Key Stages One and Two

- Children are assessed using the PUMA test in September, December, April and June. The results of this are recorded onto the school tracking system. Class teachers analyse the attainment of specific groups within the class and this is discussed with the head teacher at pupil progress meetings.
- Teachers also assess the children's ability termly against the Staffordshire Mathematics Grids.
- From the results of the PUMA test and the Staffordshire Grids, teachers set the children individual targets which are recorded in the front of their Mathematics books. Pupils refer to these during lessons and the targets are monitored regularly by both the pupils and the teacher and are changed when appropriate.

- Times tables are assessed initially in September and the children are then given weekly times tables to learn. Their knowledge is assessed at the end of every week in a short test.

Planning

Mathematics is a core subject in the National Curriculum and we use the objectives from this to support planning and to assess children's progress.

Staff use long term planning to ensure coverage of all areas of the National Curriculum and medium-term planning to differentiate objectives according to the set which they teach. It is the class teacher who completes the weekly plans for the teaching of mathematics. These weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught. The class teacher keeps these individual plans, which they annotate according to the success of the lesson.

We seek to ensure that planning delivers the requirements of The National Curriculum for England 2014, is suited to the needs of particular groups of pupils and provides a creative, enjoyable sequence of learning in Mathematics. We use the White Rose medium term planning in order to provide clear objectives for our short-term planning. Our daily planning ensures that:

- There is a clear focus on outcomes;
- There are appropriate and achievable learning objectives for all pupils;
- Teaching is differentiated by task where appropriate;
- There is continuity and progression of learning;
- There are opportunities to reflect upon their own progress;
- There are links with other areas of the curriculum where appropriate;
- The needs of all pupils are addressed, including those working above or below age related expectations;
- There is an appropriate balance between arithmetic and reasoning every lesson.

Cross-curricular Links

When appropriate, Mathematics is taught alongside other subjects such as Topic, Science and DT. Teachers plan lessons where their Mathematical understanding is used to enhance the children's work, for example they may create a graph in Topic, use scales to measure ingredients in DT or measure angles of light in Science.

Wherever possible, ICT is employed to enhance the Mathematics curriculum.

Feedback to Pupils

Feedback to pupils about their progress in Mathematics is given through discussion during the learning process, marking of work and discussion of progress following marking. Pupils are also given regular opportunities to self-mark their work and to mark the work of their peers. Every lesson, they are given the opportunity to 'fix' any errors from the previous day. (See marking policy for specific details).

Reporting

- At the end of the school year, pupils receive a written report which outlines their attainment, progress and targets. Attainment is shown using the codes:
S – starting the expectations for that year group
W – working towards the expectations for that year group
W+ - meeting some of the expectations for that year group
E – meeting the expectations for that year group

E+ - demonstrating some greater depth within the expectations for that year group

G – working at greater depth within the expectations for that year group

- Parents are invited to consultations every term to discuss the progress of their child.
- At the end of each Key Stage, attainment is reported to parents using the codes:
WTS – working towards the expected standard
EXS – working within the expected standard
GDS – working at greater depth within the standard
- In EYFS, the Foundation Stage Profile is used to report attainment and progress. End of year attainment is reported using numbers:
1 – Early Learning Goal has not been met
2 – Early Learning Goal has been met
3 – Early Learning Goal has been exceeded.

Inclusion

All pupils at St. Leonard's have equal access to a broad and balanced Mathematics curriculum and differentiated materials are used where appropriate. Pupils identified as having Special Educational Needs in Mathematics are brought to the attention of the SENDCO and appropriate intervention and support is offered. Individual Assess, Plan, Do, Review plans are provided as appropriate.

Home Learning

Some home learning may be set to support the Mathematics curriculum. All pupils from Y2 to Y6 are expected to learn their times tables ready for their weekly test.

Developing and Monitoring the Curriculum – the role of the Mathematics Leader

The Mathematics Leader is responsible for the development and monitoring of the Mathematics Curriculum. She is available to help with planning and teaching/learning of Mathematics. She is also responsible for updating the Mathematics Policy and leading curriculum development work in Mathematics, as dictated by the Learning Improvement Plan. In order to improve current provision, the Leader:

- Takes a lead in policy development;
- Attends LA, BLNC and other courses and disseminates the contents at school staff meetings/INSET;
- Leads the development of whole school approaches to Mathematics teaching and shares best practice;
- Monitors the subject and provides feedback to teachers, SLT and governors;
- Organises staff CPD where appropriate;
- Helps track the progress of pupils and plan intervention when appropriate;
- Takes responsibility for monitoring resources and the purchase of new equipment.