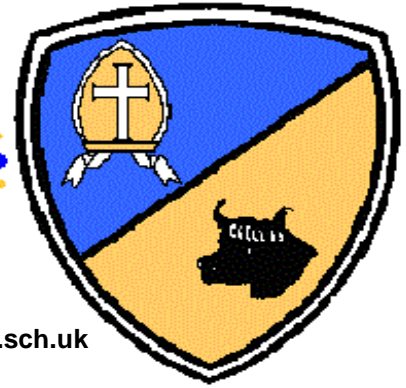


ST. LUKE'S CHURCH OF ENGLAND PRIMARY SCHOOL



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*'Following in God's way, Learning day by day, Working with one another,
Caring for each other'*

Mathematics Policy

Date of Policy: 2017

Review Date: 2020

1 Aims and objectives

1.1 Mathematics teaches how to make sense of the world through developing a child's ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

1.2 The aims of mathematics are:

- to promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion;
- 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;
- 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;
- to understand the importance of mathematics in everyday life.

2 Teaching and learning style

2.1 The school uses a variety of teaching and learning styles in mathematics lessons. Our principal aim is to develop children's knowledge, skills and

understanding in mathematics. We do this through a daily lesson that has a high proportion of whole-class and group-direct teaching. During these lessons we encourage children to speak as well as listen to mathematical questions. They have the opportunity to use a wide range of interactive resources such as number lines, number squares, digit cards and small apparatus to support their work. Children use ICT in mathematics lessons where it will enhance their learning, as in modelling ideas and methods. Wherever possible, we encourage the children to use and apply their learning in everyday situations and across the curriculum.

- 2.2** In all classes there are children of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies – in some lessons through differentiated group work, and in other lessons by organising the children to work in pairs on open-ended problems or games. We use classroom assistants to support some children and to ensure that work is matched to the needs of individuals.

3 Mathematics curriculum planning

- 3.1** Mathematics is a core subject in the National Curriculum and we use the White Rose Hub as the basis for implementing the statutory requirements. From Year 1 to Year 6, each term is split into twelve weeks. As part of each overview, a significant amount of time is devoted to developing key number concepts each year. This ensures children build upon their fluency, as number sense will affect their success in other areas of mathematics.
- 3.2** We carry out the curriculum planning in mathematics in the form of short-term weekly plans.
- 3.3** Our short-term weekly plans are devised from the National Curriculum Mathematics Programmes of study. It is the class teacher who completes the weekly plans for the teaching of mathematics. These weekly plans list the specific, more streamlined learning objectives and give details of how the lessons are to be taught, and assessment for learning opportunities. The class teacher keeps these individual plans. A copy of the weekly plan is also given to the subject leader.

4 The Early Years Foundation Stage

- 4.1** We teach mathematics to our reception children who form the Early Years Foundation Stage of St Luke's School. We relate the mathematical aspects of the children's work to the objectives set out in the EYFS profile outcomes, which underpin the Early Years Foundation Stage curriculum planning. We give all the children ample opportunity to develop their understanding of number, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

5 Contribution of mathematics to teaching in other curriculum areas

5.1 English

Mathematics contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. For example, we regularly encourage children to read and interpret problems in order to identify the mathematics involved. The children explain and present their work to others during plenary sessions. Younger children enjoy stories and rhymes that rely on counting and sequencing. Older children encounter mathematical vocabulary, graphs and charts when using non-fiction texts.

5.2 Computing

Children use and apply mathematics in a variety of ways when solving problems using ICT. Younger children use ICT to communicate results with appropriate mathematical symbols. Older children use it to produce graphs and tables when explaining their results or when creating repeating patterns, such as tessellations. When working on control, children use standard and non-standard measures for distance and angle. They use simulations to identify patterns and relationships. Children also have access to interactive numeracy programmes such as: MyMaths, which can be utilised before, during and after the mathematics lesson as well as at home because they all have unique passwords. MyMaths is used by staff to set homework tasks, the results are available for class teachers and mathematics subject leader to monitor.

5.3 Personal, social and health education (PSHE) and citizenship

Mathematics contributes to the teaching of personal, social and health education, and citizenship. The work that children do outside their normal lessons encourages independent study and helps them to become increasingly responsible for their own learning. The planned activities that children do within the classroom, encourages them to work together and respect each other's views. We present older children with real-life situations in their work on the spending of money.

5.4 Spiritual, moral, social and cultural development

The teaching of mathematics supports the social development of our children through the way we expect them to work with each other in lessons. We group children so that they work together, and we give them the chance to discuss their ideas and results.

6 Teaching mathematics to children with special educational needs

6.1 At our school we teach mathematics to all children, whatever their ability. Mathematics forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our mathematics teaching

we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs. Termly assessment, using Learning Ladders, allows us to consider each child's attainment and progress against year group expectations.

6.2 Inclusion and Children with Special Educational Needs or Disability (SEND)

At St Luke's we provide equality of opportunity for all pupils. Similarities and differences between people and cultures are explored sensitively. Equal treatment is given to boys and girls and non-stereotypical behaviour/ views are positively encouraged. All children have equal opportunity to reach their full potential throughout school, regardless of their race, gender, cultural background, ability or any physical or sensory disability. Children with additional needs are given extra support to enable them to access the full curriculum. We aim to overcome any barriers to learning, e.g. dyslexia, dyspraxia and dyscalculia, which can hinder pupils' learning, by adapting the teaching or resources to meet the pupils' individual needs.

6.3 We enable pupils to have access to the full range of activities involved in learning mathematics. Where children are to participate in activities outside the classroom, for example, a maths trail, we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

7 Assessment and recording

7.1 Teachers assess children's learning on a daily basis and adapt their teaching to match the children's needs. This is recorded on the weekly plan.

7.2 We have assessment weeks twice yearly where children complete mathematics tests and the results are then used to target specific children and identify any areas for development. Teachers also assess against the Learning Ladders for mathematics and children are involved in completing these to involve them in their assessment.

7.3 We make long-term assessments towards the end of the school year, and we use these to assess progress against school and national targets. We can then set targets for the next school year and make a summary of each child's progress before informing parents in the end of year report. We pass this information on to the next teacher at the end of the year so that s/he can plan for the new school year. We make the long-term assessments with the help of end-of-year tests and teacher assessments. We use the statutory national tests for children in Year 2 and Year 6. We also make annual assessments of children's progress measured against age related expectations. The children in the reception class are assessed throughout the year through observations during self-chosen and teacher

directed tasks. These are used to update the Number and Shape, Space and Measure sections of The Early Years Foundation Stage Profile.

- 7.4** The mathematics subject leader reviews children's progress, through book trawls, informal observations, moderation at cluster group meetings, pupil interviews and class teacher observations. This evidence is kept in the subject leader's file. This allows school to see what the expected level of achievement is in mathematics in each year of the school.

8 The marking of mathematics work

- 8.1** Please refer to the school's marking policy and visual calculations policy. Children should be encouraged to try things out without fear of 'getting it wrong'. Investigation often requires procedures of trial and error. It is expected therefore that jottings should be present in all children's books. It is also important that children make estimations before carrying out calculations and use inverse operations to check their work. Comments on children's work should, whenever possible, include pointers towards improved performance and further challenge as well as personal praise for accuracy and effort.
- 8.2** Teachers use a marking key designed to be more child friendly and more streamlined and focused on actions and outcomes. This includes instructing the children to 'Fix this...' where the child is asked to challenge, consolidate or review their learning so far.

9 Resources

- 9.1** We have a range of resources to support the teaching of mathematics across the school. All classrooms have a range of appropriate small apparatus. All other mathematical equipment is located in the main resource area. Teachers must ensure that resources are returned promptly to the resource area after use in class. The library contains a range of books to support children's individual research. A wide range of software is available to support work both on the computers based in classrooms and in the ICT suite.

10 Involving Parents

- 10.1** We value the support that parents give to the children at St Luke's School. However we are aware that since the implementation of The Primary Strategy, parents are less confident with the methods of calculation that we use at school. We aim to include parents in their child's mathematical education by:

- Providing parents with their child's Learning Ladder score and progress over the term.
- Keeping parents fully informed of developments in mathematics via leaflets and meetings.
- Running mathematical workshops.
- Discussing children's individual progress at parents' meetings.
- Producing an annual written report.
- Sharing the mathematics and visual calculations policy online.
- Contacting parents promptly if their child is experiencing significant difficulties in this subject.
- Interactive programmes (eg, MyMaths) used in partnership with school and home.
- Copies of mental maths tests completed at school are sent home for parents to go through with their child.

11 Monitoring and review

11.1 Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the mathematics subject leader and the Senior Leadership Team. The work of the mathematics subject leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The mathematics subject leader gives the headteacher a leadership trail twice yearly in which s/he evaluates strengths and weaknesses in the subject and indicates areas for further improvement. The headteacher allocates regular management time to the mathematics subject leader so that he can review samples of children's work and undertake lesson observations of mathematics teaching across the school. A named member of the school's governing body is briefed to oversee the teaching of numeracy. This governor meets regularly with the subject leader to review progress.

