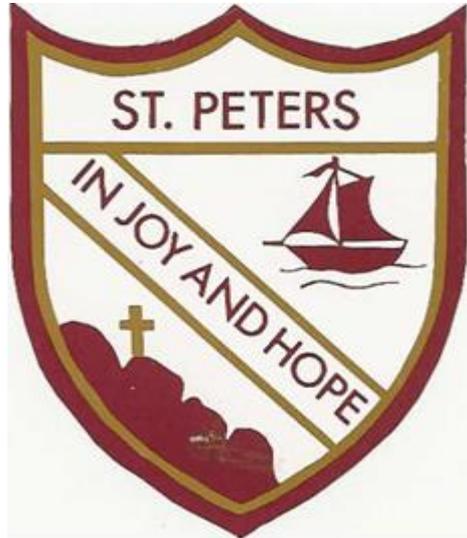


St Peter's Catholic Primary School



Mathematics Policy

Reviewed _____

Chair of Governors _____

1 Aims and objectives

1.1 Mathematics teaches children how to make sense of the world around them through developing their ability to calculate reason and solve problems. It enables children to understand relationships and patterns 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 Our objectives in the teaching of mathematics are:

- To equip children with a powerful set of tools to understand and change the world.
- To develop logical reasoning, problem solving skills and the ability to think in abstract ways.
- to promote enjoyment of learning through practical activity, exploration and discussion;
- 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;
- to develop a practical understanding of the ways in which information is gathered and presented;
- to explore features of shape and space, and develop measuring skills in a range of contexts;
- to help children understand the importance of mathematics in everyday life;
- to develop the cross-curricular use of mathematics in other subjects.
- to ensure continuity and progression in the teaching of mathematics, from the Early Learning Goals, through the New Curriculum framework.
- to incorporate mathematics into a wide range of cross-curricular subjects and seek multicultural aspects of mathematics eg. Islamic patterns in RE.
- to ensure all children have equal access to the curriculum regardless of their gender.

2 Scheme of Work

EYFS follow the 'Development Matters' Document to guide the teaching and learning of our youngest children at the start of their maths journeys. The key skills and maths facts are taught through play and exploring using lots of different equipment through continuous provision and objective led guided sessions with our Foundation Stage staff.

Across Key Stage One and Two Maths- No Problem textbooks are used as a key tool to support teachers' planning ensuring that all pupils are accessing the correct level of learning and challenge that is outlined in the 2014 National Curriculum document. The textbook focusses on using varied questions on the same topic to push for deeper understanding and that a Mastery curriculum is on offer to all pupils.

The main scheme we follow is White Rose Maths Hub. This provides detailed long term and medium term planning documents for each term for every individual year group ensuring appropriate coverage of all topics. Assessment documents specially created for each year group from Year 1 to Year 6 will be used at the end of each term in line with the 2014 National Curriculum. These are supported by the use of assertive maths tests each half term.

To support calculation we use Babcock 'No Nonsense' number facts as a supplement to our daily maths teaching. This is to provide key opportunities for children to practise their number facts frequently, to be challenged appropriately and to revisit skills taught in previous year groups.

The scheme 'Abacus' is also available for staff to use to support planning and to give activity ideas. This can be found on 'active learn' and staff all have log ins.

Please see our school Calculation Policy which outlines the formal methods taught for each of the four operations.

3 Teaching and learning style

- 3.1 The school uses a variety of teaching and learning styles in mathematics. Our principal aim is to develop children's knowledge, skills and understanding. During our daily lessons, we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources, such as number lines, number squares, digit cards and small apparatus to support their work. ICT is used in mathematics lessons for modelling ideas and methods. Wherever possible, we encourage the children to apply their learning to everyday situations.
- 3.2 In all classes, children have a wide range of mathematical abilities. 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.

3.3 *We recognise the importance of establishing a secure foundation in mental calculation and recall of number facts before standard written methods are introduced. (this is supported through the use of Babcock no nonsense number facts)*

4 Mathematics curriculum planning

4.1 Mathematics is a core subject in the National Curriculum, and we use the revised Primary Framework for literacy and mathematics as the basis for implementing the statutory requirements of the programme of study for mathematics.

4.2 We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term). The revised Primary Framework for literacy and mathematics give a detailed outline of what we teach in the long term, while our yearly teaching programme identifies the key objectives we teach to in each year.

4.3 Our medium-term mathematics plans, which are adopted from the Framework, and give details of the main teaching objectives for each term, define what we teach. They ensure an appropriate balance and distribution of work across each term. These plans are kept and reviewed by the subject leader.

4.4 It is the class teacher who completes the weekly plans for the teaching of mathematics. These weekly plans list the specific learning objectives and expected outcomes for each lesson, and give details of how the lessons are to be taught. The class teacher keeps these individual plans, and the class teacher and subject leader often discuss them on an informal basis.

4.5 We plan the activities in mathematics so that they build on the children's prior learning. While we give children of all abilities the opportunity to develop their skills, knowledge and understanding, we also plan progression into the scheme of work, so that there is an increasing challenge for the children as they move up through the school.

4.6 *We use the Mathematical Vocabulary specific to each Year group as determined by the new Curriculum Framework.*

4.7 *Within Key Stages 1 and 2, one full hour of Mathematics is to be taught daily, with an extra half-hour a day, in KS2, being designated to 'Big Maths – a system whereby children are encouraged to develop mental skills within all concepts. Testing is done weekly, gaps are identified and two key learning objectives are taught the following week.*

5 Contribution of mathematics to teaching in other curriculum areas

At St. Peter's, we endeavour to ensure that our children view maths as a transferable skill rather than an isolated lesson. Teachers identify regular opportunities to integrate mathematics across the curriculum when medium term planning for the foundation subjects and through thematic planning.

Appropriate links are made to mathematics predominantly through science, history and geography.

5.1 English

The teaching of mathematics contributes significantly to children's understanding of English in our school by actively promoting the skills of reading, writing, speaking and listening. For example, in mathematics lessons, we expect children to read and interpret problems, in order to identify the mathematics involved. They are also improving their command of English when they explain and present their work to others during plenary sessions. In English lessons, too, maths can contribute: younger children enjoy stories and rhyme that rely on counting and sequencing, while older children encounter mathematical vocabulary, graphs and charts when reading non-fiction texts.

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

Mathematics contributes to the teaching of PSHE 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 encourage them to work together and respect each other's views. We present older children with real-life situations in their mathematics work on the spending of money.

5.3 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. The study of famous mathematicians around the world contributes to the cultural development of our children.

6 Mathematics and ICT

6.1 Information and communication technology enhances the teaching of mathematics significantly, because ICT is particularly useful for mathematical tasks. It also offers ways of impacting on learning which are not possible with conventional methods. Teachers can use

software to present information visually, dynamically and interactively, so that children understand concepts more quickly. 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 can use both standard and non-standard measures for distance and angle. They can also use simulations to identify patterns and relationships. E-mail permits collaborative problem-solving.

7 Mathematics and inclusion

- 7.1 At our school, we teach mathematics to all children, whatever their ability and individual needs. 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 good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents and those learning English as an additional language, and we take all reasonable steps to achieve this. For further details, see separate policies: Special Educational Needs; Disability Discrimination; Gifted and Talented Children; English as an Additional Language (EAL).
- 7.2 When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, and differentiation – so that we can take some additional or different action to enable the child to learn more effectively. Assessment against the new Curriculum framework and statutory requirements allows us to consider each child's attainment and progress against expected levels. This ensures that our teaching is matched to the child's needs.
- 7.3 Should children be significantly below expected levels of attainment, Interventions will take place based on objectives outlined in newly created Person Centred Plans. These PCPs for those children with special educational needs, may include, as appropriate, specific targets relating to mathematics.
- 7.4 We enable all pupils to have access to the full range of activities involved in learning mathematics. Where children are to participate in activities outside the classroom (a 'maths trail', for example), we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

8 Assessment and Record Keeping

- 8.1 A range of tracking is carried out by staff in order to assess that pupils are making sufficient progress. Summative assessment is used on a day to day basis during lessons to identify areas of weakness and possible interventions that maybe required. Formative assessments are carried out at the end of term by each class and the results are analysed to identify any gaps in teaching and learning which are then addressed accordingly.
- 8.2 Target Tracker is used throughout the school which enables all strands of maths to be tracked and highlight gaps or areas that need further attention to be identified. It is also used to set targets and to outline where the learning journey should go next. Teachers use the progression continuum as a tool for tracking pupils' progress and look to gain 3 pieces of independent evidence per objective.
- 8.3 At the end of both Key Stage One and Two pupils take part in National SATs tests which are made up of two different papers. The first being arithmetic, which focusses on the four rules and the ability to use known maths facts fluently. The second focuses on reasoning and the ability to apply mathematical understanding to everyday life. These are both timed and pupils are given opportunities across all areas of the curriculum to apply their knowledge and rehearse test techniques in order for them to gain confidence and be able to achieve their potential.
- 8.4 Children are encouraged to assess their own abilities from years 1 – 6 through self-assessment and also peer assessment.
- 8.5 All work is marked in line with the school's marking policy. Both written and verbal feedbacks are to move children's learning forward.

9 Resources

- 9.1 All classrooms have a number lines and a wide range of appropriate small apparatus. A range of software is available to support work with the computers. There is a central store of mathematical equipment and age appropriate texts to support the teaching and learning of Mathematics, in the subject leader's classroom. An annual audit of resources is completed by the subject leader.

10 Monitoring and review

10.1 The coordination and planning of the mathematics curriculum are the responsibility of the subject leader, who also:

- supports colleagues in their teaching, by keeping informed about current developments in mathematics, and by providing a strategic lead and direction for this subject;
- gives the Headteacher regular summary reports in which s/he evaluates the strengths and weaknesses in mathematics, and indicates areas for further improvement;
- uses specially allocated regular management time to review evidence of the children's work, and to observe mathematics lessons across the school.
- Leading staff CPD where appropriate to implement new schemes, ideas or to work on an area staff has asked for development in.

10.2 The quality of teaching and learning in mathematics is monitored and evaluated by the Headteacher as part of the school's agreed cycle of lesson observations.

10.3 The curriculum committee of the governing body is briefed to oversee the teaching of numeracy. Regular meetings are held with the subject leader to review progress.

10.4 This policy will be reviewed at least every two years.

11 Parental Involvement

Parents receive an annual report along with regular parents' evenings to advise them on the mathematical progress of their child.

Open Mornings, workshops and assemblies provide opportunities for parents to be involved in mathematical activities within the classroom and to help them understand the changing approaches to mathematics. The Foundation Stage offer Stay and Play sessions for parents each term.

12 Homework

Mathematics homework is based on learning mathematical facts across both Key Stages- practising, learning, reciting, recall of- number bonds, multiplication and division facts etc. Homework is set to support class based learning.

Signed: Helen Robinson

Date: November 2017