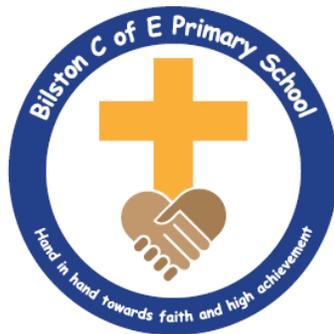


Maths Policy

Bilston Church of England Primary School



We will aspire through our Christian beliefs and attitudes for all children in our care to flourish both academically and personally; develop respect for others and to reach out to their local and global communities, so, 'hand in hand together with faith we will strive to achieve all things...

'I am able to do all things through him (Jesus) who strengthens me.'

Philippians 4:13

All Scripture is breathed out by God and profitable for teaching, for reproof, for correction, and for training in righteousness.

[Timothy 3:16](#)

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1.Introduction

This document is a statement of the aims, principles and strategies for the teaching and learning of Mathematics at Bilston Church of England Primary School.

Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Mathematics is a creative and highly inter-connected discipline that is essential to everyday life, critical to science, technology and engineering and necessary for financial understanding and most forms of employment. We believe, as the new National Curriculum for England Mathematics Programme of Study: Key Stages 1 and 2 states:

A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

The school's policy is informed and guided by the statutory requirements for the subject set out in the **Mathematics Programme of Study: Key Stages 1 and 2 National Curriculum in England September 2014**. In Early Years the curriculum is guided by the Early Years Profile.

It was developed through a process of consultation with teaching staff.

The current Mathematics/ Numeracy co-ordinator is Mrs Johnson.

The policy will be reviewed in Summer 2019

2. Principles of teaching and learning Mathematics

Good mathematics teaching is lively and engaging and involves a carefully planned blend of approaches and use of manipulatives that direct and support children's learning. Spoken language is also important to the

teaching and learning of mathematics. We believe that the quality and variety of language that pupils hear and speak are key factors in developing their mathematical vocabulary, being able to make mathematical justifications and is essential for clearing up misconceptions. The pitch and pace of work is sensitive to the rate at which children learn while ensuring that expectations are kept high and progress is made by all children. Our expectations are in line with the Mathematics Programme of Study: Key Stages 1 and 2 which states:

... the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

At Bilston Church of England Primary School we will be following, from September 2014, the new National Curriculum for England Mathematics Programme of Study: Key Stages 1 and 2 which will underpin our long, medium and short term planning across Key Stage 1 and Key Stage 2. The Early Years Profile is used as the basis for planning for the Early Years class.

Each class undertakes a daily mathematics lesson which usually includes a rapid recall starter, whole class teaching input, independent, paired or group work and a plenary. During mathematics lessons pupils have the opportunity to engage in a variety of learning activities including:

- use of mental strategies and quick accurate recall of mathematical facts
- written methods
- practical work using a range of manipulatives
- investigational work
- opportunities for problem solving and reasoning

- mathematical discussion and use of mathematical vocabulary to communicate, justify or prove

At Bilston Church of England Primary School we recognise the importance of establishing a secure foundation in mental calculation and recall of number facts and the development of standard written methods when children are ready (see Calculation Policy) Mathematics contributes to many subjects and it is important the children are given opportunities to apply and use mathematics in real contexts. We endeavour at all times to set work that is challenging, motivating and encourages the pupils to talk about what they have been doing. A planning cycle of assess, teach, practice, use and apply, assess is used. Planning is based on the Mathematics Programme of Study: Key Stages 1 and 2 but is modified using day to day formative assessment.

3. Aims and Objectives

As mathematics is important and integral for everyday life we endeavour to ensure that children develop a healthy and enthusiastic attitude towards mathematics that will stay with them.

Our aims for mathematics at Bilston Church of England Primary School are for pupils to:

- become fluent in the fundamentals of mathematics and develop conceptual understanding as well as the ability to recall and apply knowledge rapidly and accurately
- be able to solve problems and reason mathematically
- use mathematical language
- be able to use and apply their mathematical knowledge, skills and understanding to science, other subjects and real life contexts.

4. Strategies for the teaching of Mathematics

The National Curriculum sets out what must be taught in each Key Stage.

The approach to teaching Mathematics/Numeracy

- Daily, structured, stimulating lessons in every class with lesson time extended through homework.
- Maintain a good pace in daily lessons.
- Provide daily oral and mental work to develop and secure pupils calculation strategies and rapid recall skills.
- Devote a high proportion of lesson time to direct teaching of whole classes and groups.
- Demonstrate, explain and illustrate mathematical ideas, making links between different topics in mathematics and other subjects.
- Question pupils effectively and ask them to demonstrate and explain their methods and reasoning using correct mathematical vocabulary.

Mathematics is approached through a process of investigation, problem solving and enquiry.

The range of teaching styles include:-

Directing – sharing teaching objectives with class ensuring children know what to do.

Instructing – giving information and showing it well

Demonstrating – sharing, describing and modelling mathematics/ numeracy using appropriate resources and visual displays.

Explaining and Illustrating – accurate, well paced explanations and referring to previous work.

Questioning and Discussing – questioning in ways which match the direction and pace of the lesson and ensure all pupils take part.

Consolidating – opportunities to reinforce and develop what has been taught through a variety of activities.

Evaluating Pupils progress – identify errors, using them as positive teaching points by talking about them.

Summarising – review during and at the end of a lesson the mathematics that have been taught and what the pupils have learned, identifying and correcting misunderstandings.

5. Cross Curricular Opportunities

Mathematics contributes to many subjects of the primary curriculum giving opportunities to apply and use mathematics in real contexts.

English – teaching mathematical vocabulary

- KS1 through stories, rhymes and songs which rely on counting and using everyday words such as on, under etc.
- KS2 non fiction texts to interpret graphs charts etc.

Science – in scientific investigations, measuring, estimating and recording in tables and graphs etc.

Art, Design and Technology - taking measurements and using shapes.

ICT - solve problems using ICT and collecting and classifying data. Practice skills using commercially bought programs.

History, Geography and R.E – collecting data, co ordinates, understanding passage of time e.g. time lines etc.

P.E and Music – measurement of distance and time. Position and movement etc.

6. SEND

The daily mathematics lesson is appropriate for almost all children. At Bilston Church of England Primary School we aim to include all SEND pupils

fully in daily mathematics lessons, so that they benefit from the emphasis on oral and mental work and participating in watching and listening to other children demonstrating and explaining their methods.

Where pupils learning difficulties extend to mathematics the teacher must:-

1. differentiate work appropriately
2. use classroom support persons to support their learning where appropriate
3. Target questions at individual children at their level during oral and mental starter etc.
4. minimise written instructions make use of appropriate apparatus

7. Strategies for Ensuring Continuity and Progression

Long term Planning –National Curriculum

The Programmes of Study for mathematics are set out year-by-year for Key Stage 1 and 2.

Medium Term Planning –At Key Stage 1 and 2, the National Curriculum guidelines group maths into 6 areas of learning.

These are:

1. Number
 - Number and place value
 - Addition and subtraction
 - Multiplication and Division
 - Fractions (including decimals from Y3 and percentages from Y5)
2. Ratio and proportion (from Y6)
3. Algebra (from Y6)
4. Measurement
5. Geometry
 - Properties of shapes
 - Position and direction
6. Statistics (from Y2)

Short Term Planning – daily plans which include rapid recall objectives and activities. Main teaching activity and activities including how children will be grouped and how you will use support.

8. Assessment, Recording and Reporting

Assessment is an integral part of teaching and learning and is a continuous process. It is the responsibility of the class teacher to assess all pupils in their class. We are continually assessing our pupils and recording their progress. We see assessment as an integral part of the teaching process and strive to make our assessment purposeful, allowing us to match the correct level of work to the needs of the pupils, thus benefiting the pupils and ensuring progress.

Day to day formative assessment will be gathered in a variety of ways such as questioning, work samples, marking, pupil voice and observation notes. These assessments will help formulate targets, inform planning and decide which children require extra support/intervention programs.

All pupils work will be marked regularly with feedback given as appropriate (see Feedback and Marking Policy for further detail).

Termly Assessment- review and record progress children have made over time. Termly and half termly teacher assessments using Stat Sheffield are also made.

Long Term Assessments – At the end of the school year each class will assess and review pupil's progress and attainment through

- 1) National tests for Y2 and Y6
- 2) NFER testing for Y3,4, and 5
- 3) Teacher assessment

Reporting

Parents are kept informed of their child's progress through interviews at Parents Evenings and through termly reports sent to parents, guardians. Reporting in mathematics will focus on each pupils-

- Attitudes to mathematics

- Competence in basic skills
- Ability to apply mathematical language to new situations.

9. ICT and Calculators

Interactive Teaching Programmes (ITPs), spreadsheets, graphing, roamer and interactive games are available to teachers and all classrooms have interactive whiteboards. Teachers are expected to make good use of ICT to support the planning and delivery of high quality interactive lessons. In accordance with the Mathematics Programme of Study: Key Stages 1 and 2:

Calculators should not be used as a substitute for good written and mental arithmetic. They should therefore only be introduced near the end of key stage 2 to support pupils' conceptual understanding and exploration of more complex number problems, if written and mental arithmetic are secure.

10. Health and Safety

For further information, please refer to the Health and Safety Policy.

11. Equal Opportunities

All or pupils irrespective of age, ability, gender or ethnic origin are entitled to participate fully in, and benefit from a broad range of appropriate mathematic activities at every stage of their education.

12. Resources

It is important that teachers use a wide range of manipulatives to model and demonstrate skills and concepts and pupils are supported in their learning by having access to these practical resources across all year groups.

The school is well equipped with the appropriate resources to enable the delivery of a quality mathematics curriculum, including Numicon resources,

which are used across the school. Each class has a selection of basic everyday equipment, while thematic resources are stored centrally for easy access. When resources require updating, replacing or a new need has been identified the Subject Leader should be informed.

There will be an annual review of resources.