

A policy for Mathematics

'Let your light shine' Matthew 5 v 16

This policy reflects the school values and philosophy in relation to the teaching and learning of Mathematics at Grimsargh St. Michael's C. of E. Primary School. The aim of the policy document is to provide guidance and clarification of the teaching of Mathematics and to ensure curriculum continuity and pupil progression throughout the school. The structures and principles within the National Curriculum For Mathematics complement the teaching ideals outlined within this policy document. The responsibility for the implementation of this policy falls upon the governing body, the Maths Subject Leader, Headteacher, teaching and support staff.

The Nature of Mathematics

At this school we believe that, "A high-quality mathematics education .. 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.",

(National Curriculum For Mathematics 2014).

It is a creative subject and is inherent in other curriculum areas including art, science, Technology, French and P.E. It is also a powerful tool, which provides pupils with the skills necessary to carry out problems, which arise in daily life.

Mathematics is evident in all cultures and has an important historical and cultural background. Mathematics develops the mind and encourages the learner to understand more about the world in which he/she lives.

Entitlement and Equal Opportunities

Each child regardless of age, race or gender has entitlement to the Maths curriculum at an appropriate level if they are to achieve their full potential in the subject.

Mathematical language, knowledge and skills are introduced in the school from the Early years onwards. We endeavour to deliver the mathematical content through materials, which represent the world to children, as they understand it. The school tries to address the needs of all children with regard for their culture, gender, ethnic origin and lifestyle, ensuring that we do not present examples in a stereotypical way. Advantage is taken of showing the multicultural aspect of Maths wherever possible.

Special Educational Needs

Children with Special Educational Needs are identified as early as possible and these needs are catered for in accordance with the school's SEN Policy. It is important that all children within the school feel that the subject is relevant to them. SEN children are taught the daily maths lesson, supported by support staff if identified on their IEPs, and only withdrawn for Springboard, Wave 3 and/or Individual Numeracy support.

Aims

At Grimsargh St. Michael's we aim to develop;

- Feelings of success for all the children in order that they gain both confidence in developing mathematical skills and an enthusiasm for the subject.
- The use of mathematical language in order that meaning is understood and conveyed between adults and children, as well as encouraging skills of

communication so that children are able to portray learning through their own recording and presentation.

- Mental strategies for the solving of practical and real problems, thus using and applying appropriate maths skills and knowledge, improving systematic approaches to problem solving across the curriculum and in real life.
- Logical thinking, in order that children gain confidence, independence of thought and flexibility of mind.
- Co-operative skills in order that maths is seen as a subject where ideas can be shared for the benefit of others.
- The view that maths has a purpose and is relevant to everyday life.
- The ability and confidence to use maths fostering the qualities of perseverance, imagination, flexibility, self-management, teamwork and a positive attitude towards challenges.
- An appreciation for the creative elements within mathematics.
- The correct use of mathematical equipment in order for pupils to increase learning and solve problems whilst checking, monitoring and controlling their own work.

Teaching Strategies and Breadth of Study

All children are different and so are the ways in which they learn – visual, oral and kinaesthetic. In order to cater for this, teachers use a variety of teaching approaches to foster children's learning in mathematics. Teachers must also be aware of the way they teach and vary their teaching style where possible. Children are challenged to achieve their potential whatever their ability; by being encouraged to participate in mental and oral sessions, be interactive in direct teaching time and be engaged in independent, paired or group activities learning with peers.

Different methods used are:

1. Problem solving

Children are given activities on a regular basis throughout the week, to use their maths skills and knowledge to solve everyday style problems. Children use skills they have learned to solve problems appropriate to their ability. They gain confidence and enthusiasm in the success of finding solutions. Pupils are encouraged to share strategies and extend written and mental written and mental strategies as they demonstrate how they solved a worded or practical problem.

2. Investigations

These encourage children to question and find alternative strategies to solving problems. Children are encouraged to develop their own ways of recording building up to a systematic approach, predicting outcomes and testing their own theories. This approach to learning encourages children to spot patterns and relationships within maths and become more independent in their working. Co-operative skills are also being encouraged as children support each other in finding solutions and sharing results.

3. Games

These motivate children to use mathematical skills in a fun context. They also require children to communicate mathematical language and share understanding.

4. Skills practice, mental calculation and recall of facts

Children are taught these skills during the daily numeracy lesson and participate in ten minutes of arithmetic practise at the beginning of each numeracy lesson session. Children will also have an arithmetic lesson once a week to practise these skills within a specific time, to develop confidence and encourage fluency.

There is a need to practise and learn some elements of mathematics, which are to be committed to memory. For example learning number facts, tables and formulae. Teachers encourage children to practise skills, until confidence allows the skills to be used effectively. Teaching approaches such as: counting, recall of facts using number cards, counting sticks, swinging toys or class games, exploration of new number relationships and patterns, working out and pooling mental computation strategies to develop mental calculation methods are all ways of reinforcing facts knowledge and skills. Such methods are used within daily maths sessions prior to the main skills. Use is made of open and closed questioning in an attempt to consolidate learning and to broaden structures of thought.

Children are challenged through learning and it then becomes a teaching skill to guard against feelings of failure when solutions to problems cannot be found. Teachers offer encouragement or ask prompting questions to direct children into finding avenues of success whilst enabling the children to work to the peak of their ability.

Planning

Teachers plan using the National Curriculum for Mathematics 2014 and follow Collins, White Rose hub and Lancashire planning scheme of work which suggests a set sequence of units. All classes are planned for on a weekly basis and planning reflects the diversity of attainment, carefully targeting the needs of individual children. Planning is reviewed termly by both the Headteacher and subject leader. Homework is set on a regular basis reinforcing the learning of the week's objective and/or half termly targets. Planning is used to ensure progression, continuity and subject coverage throughout the school and to set learning targets which can be assessed and evaluated effectively. Plans also note where support staff are to be used.

Staffing and resources.

Teachers use a variety of teaching materials to encourage appropriate methods of teaching and learning within mathematics. The school has a range of resources to support teaching and learning. However it is the teacher's use of these resources and other resources, which is significant in the development of a child's mathematical learning. Our written calculations policy should be followed regardless of examples in any resources. This is the class teacher's responsibility. The Subject Leader will monitor this (book scrutiny). The teacher can supplement these by using a variety of resources they feel teach that objective or activity in the best way. Resources are selected to promote and encourage the learning of particular skills within mathematics itself or as part of the learning of particular skills.

Use of ICT

Computers and other electronic equipment are used in the learning of Mathematics. Calculators can be used to check mental methods, assist in the learning of new patterns in number to support the development of approximating answers. Calculators are never used as a substitute for written calculations. ICT is encouraged to be used where appropriate especially in the main teaching lesson through ITPs, Collins Connect, Mathletics (www.mathletics.co.uk- which we subscribe to annually). websites and PowerPoint presentations. Software is also used to develop cross-curricular links (i.e. databases used in ICT, history and science). The use of ICT must be identified on both STPs and MTPs.

Assessment in Mathematics

Teachers make continuous formative assessment of a child's progress in maths. New areas of learning, once identified are monitored through discussion, testing, observation and the constructive marking of children's work. Teachers promote pupil confidence through positive and engaging interaction. Comments are supportive and yet constructive in order to open up areas for further learning. Children are involved with reviewing their own learning in self-evaluation. The key objectives for each year group form the formative assessments, which inform planning from term to term and year to year.

Planning annotations reflect ongoing assessment for learning. The teacher may wish to make notes on individual children whose progress differs markedly from the rest of the class. The school also uses information from the summative assessment tests in Y2 and Y6 in the statutory assessment tasks to monitor the school's performance at the end of each key stage. These results are reported to parents and to central government at the end of the summer term. Assessment materials are also used to assess years 3, 4 and 5 pupils in order to monitor pupil performance in KS2. The Foundation Stage Profile is used in the Early Years Foundation and PIPs is also used in the EYFS to support the profile. PIPs data collected at years 2, 4, and 6 helps track progress.

Monitoring

The Subject Leader can be used to work alongside the class teacher for delivery of the maths curriculum if necessary although subject monitoring would follow a purpose linked to the School Development Plan. The co-ordinator monitors MTPs for progression, continuity and resource implications. The termly scrutiny of work also provides the co-ordinator with an overview of the subject.

Marking

The children themselves can mark exercises, which involve routine practice with support and guidance from the teacher. Teachers are asked to mark every piece of work, with the learning intention in mind. Next step challenge comments should be written in each child's book at least once a week .

For more detail see the Marking Policy.

Parental Involvement with Mathematics

Parents are informed of their children's progress in maths through the twice yearly parent/teacher meeting and through Standardised Assessment test results at the end of each key stage. Parents are informed whether their child has met the expected standard, below the expected standard or above the expected standard. Each half term children have targets, which include a maths target. These targets go home at the beginning of term and are evaluated at the end of each half term. Parent information evenings are held annually, which include practical assistance on written calculation methods in use.

Homework

Maths homework is encouraged by teachers and is generally set on a weekly basis. As far as it is possible the content of homework supports work carried out within the classroom. These activities may only be brief but are valuable in promoting children's learning in mathematics. A diary is used in KS2 to record the homework sent home and feedback is given from the teacher as well as pupil and parent. This ensures that concepts and skills are consolidated and informs the parents of the school's approach to the teaching of mathematics. Homework schemes used include Collins 'Busy Ant Maths', Mathletics and Anita Straker. Further information is set out in the Homework Policy.

Governors

The school has a Numeracy Governor who is also a member of the curriculum committee. He/She works alongside pupils in KS2, who require support on their IEPs and is able to report back to the full governing body on the quality of teaching when appropriate. Meetings with the subject leader occur when necessary but at least once a year to discuss the aims of the following year and discuss attainment.

This policy was adopted by the Governing Body

Signature of Governor _____

Date _____