

BANKS ST STEPHEN'S C.E. PRIMARY SCHOOL

A Policy Document for Mathematics



Revised July 2020

THE NATURE OF MATHEMATICS

In this school

We believe children should be encouraged to develop mathematical skills that encompass the broad range of the mathematical curriculum. Mathematics should be seen as a catalyst for motivating children into developing a sense of awe and wonderment. Mathematics is more than a school subject; it is a life skill of the future.

It is a whole network of concepts and relationships, which provide a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas and to tackle a range of practical tasks and real life problems. It also provides the materials and means for creating new imaginative worlds to explore.

Using the Programmes of Study from the National Curriculum it is our aim to develop:

- √ a positive attitude towards Mathematics and an awareness of the fascination of Mathematics
- √ competence and confidence in mathematical knowledge, concepts and skills,
- √ an ability to solve problems, to reason, to think logically and to work systematically and accurately.
- √ initiative and an ability to work both independently and in cooperation with others
- √ an ability to communicate Mathematics
- √ an ability to use and apply Mathematics across the curriculum and in real life
- √ an understanding of Mathematics through a process of enquiry and experiment
- √ mental agility in our pupils which is complementary to the mathematical curriculum.
- √ good working habits, so that pupils are capable of working in a systematic way, developing the most appropriate strategy for the task and reviewing and evaluating their work

PUPILS' PERSONAL QUALITIES

Positive attitudes

We believe that children work best when they are motivated by, and enjoy their work, take an interest in it, and appreciate its purpose. They also need to experience success in their learning because this helps them to develop confidence. Activities need to be well matched to the pupils incorporating the need for challenge.

Communication Skills

All pupils need to be able to communicate mathematical ideas by talking, listening, reading, and writing. They should be able to describe or represent, predict, explain, and interpret Mathematics in a range of situations.

Social skills

We believe Mathematics is best learnt through a combination of collaborative and individual work. Pupils need opportunities to work collaboratively and learn to have respect for each

person's contribution in collective decision-making and the work of a group as well as developing independent skills.

Good work habits

Pupils will be encouraged to present their work in a way that enables others to be able to read and reflect upon it. Pupils should be encouraged to select appropriate resources, taking increasing amounts of responsibility for the care of equipment, materials, books, and resources.

Within our mathematics teaching we will help pupils develop positive personal qualities by arranging experiences that are real and personal to them.

SCHOOL POLICY AND THE REVISED NATIONAL CURRICULUM

Pupils in both Key Stages have five daily Maths lessons per week. Lessons range from a minimum of 45 minutes in the Foundation stage and Key Stage 1, up to a maximum of one hour by the end of Key Stage 2.

This is consistent with our school's philosophy and takes account of the Revised National Curriculum guidance through the use of the Mathematics Programmes of Study: KS1 & KS2.

Our pupils will work at a level appropriate to their ability. All pupils should be extended but no pupil should be so extended that they largely experience failure.

It is expected that most children will achieve age related expectations by the ages of 7 and 11.

Pupils in the Foundation Stage are working from the EYFS revised document until the end of their reception year.

At KS1 and KS2 teachers use the Mathematics Programmes of Study from the Revised National Curriculum to ensure full curriculum coverage. They use support materials from the Lancashire Numeracy team which help support their planning and progression of topics.

BREADTH OF STUDY

Opportunities are offered to children to develop their mathematical knowledge and skills through tackling problems and through purely mathematical activities

Activities are balanced between those which are short in duration, and those which can be developed over a longer period

Children are involved in both individual and group work

Children experience open-ended tasks as well as closed tasks

Children develop a range of methods of calculating e.g. mental, pencil and paper, using a calculator

Children develop skills in using a wide range of mathematical tools through practical work (including computers)

Children are enabled to develop their personal qualities and a positive attitude to Mathematics through the experiences offered to them

Through careful planning and preparation we aim to ensure that throughout the school children are given opportunities for:

√ practical activities and mathematical games

- √ problem solving
- √ individual, group and whole class discussions and activities
- √ open and closed tasks
- √ a range of methods of calculating e.g. mental, pencil and paper and using a calculator
- √ working with computers as a mathematical tool

SCHEME OF WORK

We are using the National Curriculum to help us plan effective activities. Planning is completed using the Lancashire Maths Planning CD and Lancashire LAPS, Learning and Progression Steps. This scheme is supported by a range of resources that are carefully selected by teachers in order to target whole class, small groups and individuals. Some of these resources include, Mymaths, Purple Mash and Times table Rockstars. There are homework, extension and support activities also available to help teachers with differentiation. Staff also use assessments from Lancashire to assess children at the end of every unit of work. When using web-based resources we are mindful of our responsibilities to eSafety and advise the children accordingly. (Please refer to the eSafety Policy for further details).

TEACHERS' PLANNING AND ORGANISATION

The approach to the teaching of Mathematics within the school is based on three key principles:

- √ ***a Mathematics lesson every day***
- √ ***a clear focus on direct, instructional teaching and interactive oral work with the whole class and group***
- √ ***an emphasis on mental calculation***

Planning is the joint responsibility of the class teacher alongside any support staff and the Maths Subject Leader. Planning for each Unit is completed prior to teaching the Unit with electronic copies given to the appropriate subject leader or Headteacher.

Examples of Unit Planning are submitted in Appendix 1.

Teachers of the Reception children base their teaching on objectives in the Framework for Reception; this ensures that they are working towards the 'Early Learning Goals for Mathematical Development'. Towards the end of the Reception year, teachers aim to draw the elements of a daily Mathematics lesson together so that by the time children move into Year 1 they are familiar with a 45-minute lesson.

Where appropriate teachers will plan to apply Mathematics skills within other areas of the curriculum, e.g. data handling within science and geography.

When planning, teachers should consider:

- Individual, group and whole class work, taking into consideration the guidance for the structure of the Maths lesson.
- Practical, investigative, oral, mental, written and problem solving activities.
- The use of a wide range of teacher resources including puzzles, games and

published schemes.

- The use of computers, calculators, mathematical and other instruments as a resource.

We believe that true understanding of Mathematics stems from appropriate practical experiences and discussion. Our teaching style will reflect this.

We believe that the development of mathematical language is essential. Teachers identify the use of Mathematical vocabulary through Unit planning. For all pupils we will develop the use of language as a means of mathematical thinking. Within each class pupils will have opportunity to describe and explain their work, make predictions and estimates, ask and answer questions, interpret results and discuss with their peers and teacher.

Teachers have a copy of Dfes Mathematical Vocabulary booklet to ensure continuity and progression in the development of mathematical vocabulary in addition to appropriate vocabulary being highlighted on the Unit Plans.

- Mental Mathematics

The ability to calculate in your head with increasing speed is an important skill for all children. Through appropriate mental activities teachers should plan to develop:

- An ability to choose sequences of methods of computation appropriate to a problem, adapt them and apply them accurately
- Children's confidence in working with Mathematics
- Facility in recall of simple number facts including times tables
- An 'at homeness' with numbers
- Develop flexible and effective methods of computation and recording, and use them with understanding
- An ability to solve problems orally
- An increasing speed of response

HOMEWORK

Every class sets homework for Mathematics either weekly or fortnightly on a day suitable for the class. Homework should never be set for 'new learning', or for 'finishing off'. Its primary purpose is for consolidation and extension. Please refer to the school's policy for Homework.

RESOURCES

Books are stored in individual classrooms. Larger pieces of equipment and those used with less frequency are stored in the corridor outside the Year 5 and 6 classrooms. Class teachers have equipment they regularly use within their own classrooms. Resources are monitored and audited by the Mathematics Subject Leader.

SPECIAL EDUCATIONAL NEEDS

This should be read in conjunction with the Special Needs Policy.

Children with SEN are taught within the daily Mathematics lesson and are encouraged to take part when and where possible and work is differentiated accordingly.

Where applicable children's IEPs incorporate suitable objectives from the National Curriculum and teachers keep these objectives in mind when planning work. The Special Needs Co-ordinator, the Mathematics subject leader and the class teacher are responsible for the implementation of IEPs.

When additional support staff are available to support groups or individual children they work collaboratively with the class teacher.

Within the daily Mathematics lesson teachers not only provide activities to support children who find Mathematics difficult but also activities that provide appropriate challenges for children who are high achievers in Mathematics and are aiming for Mastery in the subject.

PUPILS' RECORDS OF THEIR WORK

There are occasions when it is both quick and convenient to carry out written calculations. It is also important to record aspects of mathematical investigations. Children are taught a variety of methods for recording their work and they are encouraged and helped to use the most appropriate and convenient method of recording.

Children are encouraged to use mental strategies before resorting to a written calculation.

The staff at Banks St Stephen's CE Primary School strive to encourage the children to calculate algorithms mentally wherever possible. However, there are times when pencil and paper methods are necessary, and as the children progress through our school they need to be able to calculate more complicated algorithms as quickly and as accurately as possible.

All children are encouraged to work tidily and neatly when recording their work

RECORDING AND MARKING

This should be read in conjunction with the school's marking policy.

- Pupils' records of their work

Recording will take different forms, depending on the nature of the mathematical activity, it can be:

- Verbal
- Symbolic
- Graphical
- Diagrammatic
- Pictorial
- Written
- Constructed

In certain situations it will not be appropriate for pupils to complete any form of recording.

We believe pupils should be encouraged to record and present their work when appropriate as this:

- Helps to clarify their own thinking
- Acts as a note for future reference
- Communicates with others
- Provides evidence of their work in mathematics

Marking should be both diagnostic and summative and school policy believes that it is best done through conversation with the child but acknowledges that constraints of time do not

always allow this; therefore, next-step marking with opportunities for pupil response to challenge/consolidation should be used wherever possible.

ASSESSMENT AND RECORD KEEPING

Reference should be made to the school policy for Assessment.

- Termly targets for Mathematics are set by the class teacher for the children in their class. These are set at a level appropriate for the needs and abilities of the children.
- We carry out written assessment using SATs and Optional SATs materials in years 2-6. We use Lancashire assessments materials. These assessments are carried out each term at appropriate intervals – it is suggested that teachers apply the assessments at the end of a teaching unit.
- This information is used to form an individual record for each child, and is carefully tracked using the O-Track – our school’s tracking system. Analysis of results are carried out by Maths Subject Leader and Headteacher.

Parent’s evenings are provided three times per year and a written end of year report is also produced; a parental comment slip is included with the written report.

MONITORING AND EVALUATION

This should be read in conjunction with the school’s policy for Monitoring and Evaluation.

The Mathematics Subject Leader is released regularly from his/her classroom in order to work alongside other teachers. This time is used to monitor and evaluate the quality and standards of Mathematics throughout the school and enables the Subject Leader to support teachers in their own classrooms.

ROLE OF THE Subject Leader

The Subject Leader will take joint responsibility with the Headteacher and other colleagues for:

- Class observations for the monitoring attainment
- Monitoring and evaluating continuity and progression across both Key Stages
- Supporting colleagues in their teaching
- Providing demonstration lessons
- Keeping up to date with new developments in mathematics
- Monitoring and providing opportunities for staff to receive regular INSET
- Stock audit and requisition

Specific roles pertinent to the Subject Leader are identified within the relevant job description, which is reviewed annually.

CONCLUSION

This policy will be reviewed regularly by the whole staff in accordance with the school development plan. It should next be reviewed in September 2020 in the light of Covid 19 changes.



Banks St Stephen's CE Primary School Policy reviews

We are aware of the need to review our school's policies regularly so that we can take

account of: new initiatives, changes in the curriculum, developments in technology etc.

This policy was written in September 2019

and will be reviewed in September 2020

Signed by:

Member of staff responsible for this policy

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Governor responsible for this policy

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