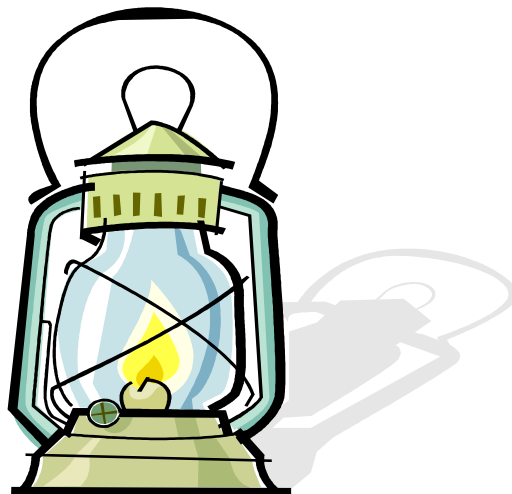




MATHEMATICS POLICY

(To be read in conjunction with the calculation policy)



Contents

Nature of Mathematics	2
Principles.....	2
Aims	2
Implementation	3
Early Years	3
Role of the Subject Leader.....	3
Monitoring and Evaluation	4
Role of Class Teachers	4
Role of Learning Assistants	5
Inclusion.....	5
Special Needs	5
Differentiation	5
Assessment	6
Teachers Recording Pupils' Experiences and Progress	6
Marking	6
Homework	6
Resources.....	6

Nature of Mathematics

Mathematics is a tool for everyday life. 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.

Mathematics is integral to all aspects of life and with this in mind we endeavour to ensure that pupils develop a healthy and enthusiastic attitude towards mathematics that will stay with them. To ensure continuity and progress in the teaching of Mathematics St Bede's Primary School follows the National Curriculum's 'Mathematics Programmes of Study: key stages 1 and 2 (September 2013)'. In Early Years Foundation Stage the curriculum is guided by the 'Early years (under 5s) foundation stage framework (EYFS)', which sets out learning objectives for Nursery and Reception pupils in the areas of 'Number' and 'Shape, Space and Measure'.

Principles

The principles of St Bede's Primary School for Mathematics are:

- policy and provision are evaluated and reviewed regularly
- the governing body of St Bede's Primary School agree to their statutory responsibility with regard to mathematics
- cross curricular links will be highlighted where appropriate
- planning of mathematics ensures continuity and progress across all year groups and key stages
- children's achievements to be celebrated through high quality marking and feedback

Aims

General

Using the Mathematics Programmes of Study: key stages 1 and 2 (September 2013) for teaching Mathematics it is our aim to develop:

- competence, confidence and mastery in mathematical knowledge, concepts and skills
- a positive attitude and enquiring approach towards mathematics
- an ability to solve problems, to reason, to think logically and to work systematically and accurately
- an understanding of mathematics through a process of enquiry and experiment
- initiative and an ability to work both independently and in cooperation with others
- an ability to communicate mathematics using appropriate vocabulary

Specific

Our pupils should:

- be able to count, partition and calculate
- have a sense of the size of a number and where it fits into the number system
- know by heart maths facts, including those relating to number such as: number bonds, multiplication tables, doubles and halves, and those relating to properties of shapes
- to know when to use mental strategies to solve problems
- calculate accurately and efficiently, both mentally and in writing, drawing on a range of calculation strategies that are in line with the school's calculation policy
- make sense of number problems and recognise the operations needed to solve them, including strategies needed to check the reasonableness of answers
- explain their methods and reasoning using correct mathematical vocabulary
- suggest suitable equipment and units for measuring and make sensible estimates of measurements
- explain and make predictions from the data in graphs, diagrams, charts and tables

- develop spatial awareness and understand patterns and properties of 2D and 3D shapes

Implementation

We use the Abacus Mathematics Scheme of Work to support teachers in the delivery of the Mathematics Curriculum; children are provided with a variety of opportunities to develop, apply and master their mathematical skills and knowledge as they move through the school. Although opportunities are primarily provided in mathematics as a discrete subject provision is made for children to apply and extend mathematical skills and knowledge in other areas of the curriculum.

Lessons usually begin with a starter activity (this has a focus on mental calculation strategies, arithmetic or the application of known facts) which is followed by a main teaching activity and lessons end with a plenary session / review of the learning which will also look at next steps. Where lessons follow a different format to that set out above the teacher's plans will make it clear as to why the change is appropriate.

Through careful planning we aim to ensure that the teaching of mathematics at St Bede's Primary School provides opportunities for:

- practical activities and mathematical games, including the use of ICT
- individual, paired, group and whole class discussions, teaching and activities
- open and closed tasks; some of which will be problem solving
- a range of methods of calculating eg. mental, pencil and paper

Pupils engage in:

- developing their understanding of mental strategies
- written methods
- practical work
- investigation work
- problem solving
- mathematical discussions
- consolidation of basic skills and known facts relating to number, geometry and measure
- areas of number, measures, geometry and data handling

At St Bede's Primary School we recognise the importance of establishing a secure foundation in mental calculation and recall of maths (known) facts before standard written methods are introduced. To support children in their acquisition of number facts and other mathematical facts from across the Mathematics Curriculum we administer weekly known facts tests. We include Mathematical Vocabulary within our plans which teachers use during lessons and children are expected to use appropriate terminology in their verbal and written explanations.

Mathematics contributes to many subjects consequently we provide pupils with opportunities to apply and use Mathematics in a variety of real contexts.

Early Years

Early Years Foundation Stage teachers use guidance set out in the DfE's 'Early years (under 5s) foundation stage framework (EYFS)' to plan for their provision of mathematics; this ensures that pupils are work towards achieving a secure foundation in the 'Numbers' and 'Shape, space and measures' by the end of their Reception year. Towards the end of Reception teachers aim to introduce elements of whole class daily mathematics lesson structures used in Year 1; this is in addition to children visiting the Year 1 classes for maths lessons and whole class activities. Both aforementioned activities are part of the St Bede's Primary School's transition procedures for children into Key Stage One.

Role of the Subject Leader

The Subject Leader is responsible for co-ordinating mathematics throughout the school. This includes:

- Ensuring continuity and progression within, and between, year groups
- Liaising with phase leaders regarding the delivery of the mathematics curriculum within their phase.
- Providing all members of staff with guidelines and a scheme of work to show how aims are to be achieved and how all aspects of mathematics is to be taught.
- Advising on in-service training to staff where appropriate. This will be in line with the needs identified in the school's Three Year Development Plan and within the confines of the school budget (this will be achieved in part through regular mathematics insets).
- Advising and supporting colleagues in the implementation and assessment of mathematics throughout the school.
- Assisting with acquisition and maintenance of resources required for the teaching of mathematics. Again this will be within the confines of the school budget.
- Keeping up to date with developments in the teaching of mathematics.
- Leading by example in their own classroom practice.
- Liaising with the Head Teacher, Deputy Head and Governors as appropriate.
- To annually audit progress made in mathematics.
- Observing colleagues and monitoring planning, and evaluating the quality of teaching.

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 coordinator to support teachers in their own classrooms. Support takes place across the school and it takes the following forms:

- Model Lessons
- Team Teaching
- Observe lessons

All support involves dialogue with colleagues focusing on the ways in which support has been beneficial and how it will impact on the delivery of future mathematics lessons.

Monitoring of books is carried out by both the subject leader and the phase leader. The latter carries out termly monitoring of books as part of the school's Performance Management Cycle and the subject leader monitors books as part of the evidence they gather for their running (on-going) subject audit. Book looks are reported back to the subject leader and the SLT. The subject leader provides the Head Teacher with an annual Running Audit which is used to inform strategic plans for maths which are outline in the Subject Development Plan and in school's Three Year Development Plan.

Role of Class Teachers

Each class teacher is responsible for the mathematics in their class in consultation with and with guidance from the mathematics subject leader. They are also responsible for:

- ensuring in years 2 to 6 that six lessons of approximately 60 minutes of mathematics takes place in their class; three lessons with a focus on arithmetic and three lessons with a focus on problem solving and reasoning
- ensuring in year 1 a daily lesson of approximately 60 minutes for mathematics takes place in their class
- ensuring progression in the acquisition of mathematical skills with due regard given to the National Curriculum's Mathematics Programmes of Study: key stages 1 and 2 (September 2013)
- incorporating a variety of teaching and learning strategies including: use of models, images, concrete resources and ICT (learning styles of children should be taken into account)

- developing and updating their own skills, knowledge and understanding of mathematics
- identifying inset needs in mathematics and take advantage of training opportunities
- keeping appropriate on-going records
- marking children's work and providing quality feedback, including setting targets which are regularly reviewed
- planning effective sequences of lessons for mathematics, liaising with the subject leader when necessary (See Curriculum Maps for details of the medium and long term plans)
- informing parents of pupils' progress, achievements and attainment
- planning using a common planning format (see Abacus daily planning proforma), which includes differentiation, and for making available copies of plans on the school's network

Role of Learning Assistants

Assistants are used in Early Years, Key Stage 1 and Key Stage 2 classes. They work with small groups of pupils to reinforce, consolidate or extend children's understanding of topics and concepts previously introduced to the pupils by the teacher.

Inclusion

We aim to ensure that pupils attain their full potential regardless of race, gender or class. The materials we use reflect a multi-cultural society of women and men so that pupils see mathematics as relevant and interesting to everyone including themselves. Teachers ensure that no particular group or gender dominates the use of equipment or other aspects of teaching and learning situations.

In the case of pupils with English as a second language, consideration should be given through such areas as:

- repeating instructions
- speaking clearly
- emphasising key words
- using picture cues

Special Needs

Children with SEN are taught within the daily mathematics lesson and are encouraged to take part when and where possible. Where applicable children's Pupil Passports incorporate suitable objectives from the Mathematics programmes of study: key stages 1 and 2 or the Framework for Mathematics and teachers keep these objectives in mind when planning work. 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.

Differentiation

This should always be incorporated into all mathematics lessons and can be done in various ways:

- Stepped Activities which become more difficult and demanding but cater for the less able in the early sections.
- Common Tasks which are open ended activities / investigations where differentiation is by outcome.
- Resourcing which provides a variety of resources depending on abilities e.g. numicon, counters, bead strings, cubes, 100 squares, number lines, mirrors.

- Grouping according to ability so that the groups can be given different tasks when appropriate. Activities are based on the same theme and usually at no more than three levels.

Assessment

We continually assess our pupils and record their progress through daily marking and feedback; children are formally assessed once a term in Years 1 to 5, and half termly in Year 6. Assessment is seen as an integral part of the teaching process and we strive to make our assessment purposeful, allowing us to match the correct level of work to the needs of pupils, thus benefiting the pupils and ensuring progress. It is the responsibility of the class teacher to assess all pupils in their class.

Teachers Recording Pupils' Experiences and Progress (see current School Assessment Policy)

Marking

(see current school Marking Policy)

Homework

(see current school Homework Policy)

We aim to extend and consolidate the pupils' mathematical techniques, strategies and knowledge. Homework includes interactive activities and work which the family are encouraged to participate in.

Resources

All teachers have an organised area within the class dedicated to maths resources. This area is easily accessible to pupils and allows them to become familiar with all resources. Abacus textbooks, and others too, are in each classroom. Further resources which are available for common usage are located in the following areas:

- resource room in the infant building
- junior resource area
- Interactive resources located within Education City and Espresso
- On the Staff Drive within the maths folder