

# Beaconsfield Primary School

*‘Shining a Light on Learning’*



**B** - **Belief**  
**P** - **Perseverance**  
**S** - **Success**

## Mathematics Policy

January 2017

Review date:

January 2020

## **Aims and Vision for Mathematics**

At Beaconsfield Primary School, we want all children to develop into confident and competent mathematical thinkers and to be able to apply their mathematical knowledge in a range of challenging and stimulating situations. Our aim is that all children develop a positive and confident attitude to mathematics, enjoy mathematics and reach their full potential as mathematicians.

The national curriculum for mathematics aims to ensure that all pupils:

- Become fluent in the fundamentals of mathematics, including the varied and regular practice of increasingly complex problems over time.
- Reason mathematically by following a line of enquiry, understanding relationships and generalizations, and developing an argument, justification or proof using mathematical language.
- Can solve problems by applying their mathematics to a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between mathematical ideas. The programs of study are, by necessity, organised into distinct areas, but pupils will make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They will also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programs of study at broadly the same pace. However, decisions about when to progress will always be based on the security of pupils' understanding and their readiness to progress to the next stage.

### **At Beaconsfield, our objectives in the teaching of mathematics are:**

- to promote enjoyment of learning through practical activity, exploration and discussion;
- to develop confidence and competence with numbers and the number system through rapid recall;
- to develop their conceptual understanding in order 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 help children understand the importance of mathematics in everyday life.

## **Context**

Mathematics teaches children how to make sense of the world around them through developing their ability to calculate reason and solve problems. It is a core subject with a range of cross-curricular links but most often, is best taught discretely, using opportunities from other subjects to rehearse skills in a context. Maths involves developing confidence and competence in number work; shape, space and measure; handling data and the application of these skills.

## **Implementation/Planning:**

We carry out curriculum planning in mathematics in three phases (long-term, medium-term and short-term). Our mathematics curriculum is delivered using the new Foundation stage guidelines and the new Mathematics Programs of Study for key stages 1 and 2 as a tool to ensure appropriate pace, progression and coverage of the subject. Medium term planning is based upon the year group requirements with an aim on teaching skills so that children have a deep understanding and mastery of concepts. These plans are adapted to meet the needs of specific groups of children and to address areas identified by the school as needing development. Opportunities for differentiation are also identified at this stage.

Our planning is supported by the **Collins Busy Ant Maths Scheme**, which serves as the main core resource in all year groups. This scheme also facilitates differentiation and challenge, allowing children to steadily progress through the program of study. Once they understand a mathematical concept, they are then required to solve problems and carry out investigations to deepen their conceptual understanding while also becoming more sophisticated in their Mathematical approach. Cross Curricular Links Mathematics can contribute towards many subjects within the primary curriculum and opportunities are sought to draw mathematical experience out of a wide range of activities. This provides opportunities for children to begin, use and apply their mathematics in real contexts.

## **Teaching for Mastery and Greater Depth**

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.

## **Time Allocation**

There are 5 allocated mathematics lessons per week in each class. Additional time is provided for weekly mental math test and times table test.

## **Provision**

Pupils are provided with a variety of opportunities to develop and extend their Mathematical skills, including:

- Group work
- Paired work
- Whole class teaching
- Individual work

## **Pupils engage in:**

- The development of mental strategies
- Written methods
- Practical work
- Investigational work
- Problem solving
- Mathematical discussion
- Consolidation of basic skills and number facts
- Maths games

We recognise the importance of establishing a secure foundation in mental calculation and recall of number facts before standard written methods are introduced. We use accurate mathematical vocabulary in our teaching and children are expected to use it in their verbal and written explanations.

## **Time tables**

Every 11-year-old child to know times tables by heart.

### **Expectations:**

- To recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables by the end of year 2.
- To recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables by the end of Year 3.
- To recall multiplication and division facts for multiplication tables up to  $12 \times 12$  by the end of Year 4. (To see Times Tables Policy)

### **Assessment:**

Both formative and summative assessments inform our planning and target setting for individuals and groups.

### **Formative Assessment**

We use 'Assertive Mentoring' (AM) materials to support rigorous and regular formative assessment of basic skills in maths. Pupils sit a fortnightly 'Maths skills check'. Teachers integrate the use of formative assessment strategies such as effective questioning, clear learning objectives, the use of success criteria and effective feedback and response in their teaching.

### **Summative Assessment**

Using AM half termly single level tests, pupils are assessed against NC expectations every half term the results of which are analyzed to identify key gaps in understanding which are providing a barrier to progress. Lessons are planned according to National Curriculum for a 'follow-up' lesson to tackle those gaps. National Curriculum tests are used at the end of KS1 and 2. Teachers use past and sample papers to inform their assessments as they prepare pupils for these assessments. The school's Assessment and Marking Policies inform high quality feedback and pupils' response to it in Mathematics.

### **Resources**

A bank of essential mathematics resources including Numicon and Cuisenaire rods is kept in each classroom. Further resources relating to key whole school topics for example 'Fractions' are kept in main corridor cupboard.

**Parental Involvement:**

Parents are regularly updated for pupil learning through the half termly newsletter, coffee mornings and also through weekly homework which links to the topics having been taught that week. Parents are always welcome to come in and discuss their child's progress with the class teacher.

**Monitoring:**

The monitoring of this subject takes place through lesson observations from SLT and the Maths subject leader. This monitoring happens through examination of work in books, pupil interviews, analysis of assessment results. Following monitoring activities feedback is given to staff about how they can strengthen their practice and CPD (professional development) opportunities built in where it would be deemed valuable. These might take the shape of inputs during staff meetings or by a variety of other means.

**Other policies and documents to be read in conjunction with the Maths Policy:**

Calculation policy  
National Curriculum 2014  
Teaching and Learning Policy  
Marking and Feedback Policy  
SEN Policy and Single Equality Scheme  
Homework Policy