

# Danbury Park Community Primary School



## Mathematics Policy

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*Be wise, be happy, belong*

# Danbury Park Community Primary School

## Mathematics Policy

### 1. Rationale

1.1. Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. 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 National Curriculum in England, September 2013)

### 2. Aims

- 2.1. The aims of the Mathematics curriculum at Danbury Park Community Primary School are:
- to promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion;
  - to promote confidence and competency with numbers and the number system;
  - to develop the ability to solve problems through decision-making, reasoning and justification in a range of contexts;
  - to develop a practical understanding of the ways in which information is gathered and presented;
  - to explore features of shape and space, and develop measuring skills in a range of contexts;
  - to understand the importance of mathematics in everyday life;
  - to be aware of the relationships in mathematics and its fascination.

### 3. Entitlement

- 3.1. All children matter and are given every opportunity to achieve their best. We achieve this by planning activities which will meet the needs of all genders, children with special educational needs, children who are more able, children with disabilities, children from all social and cultural backgrounds, different ethnic groups and diverse linguistic backgrounds.
- 3.2. All activities are planned and differentiated in such a way as to encourage full and active participation by all pupils.

### 4. Teaching and Learning

- 4.1. The school uses a variety of teaching and learning styles in mathematics lessons. Our principal aim is to develop children's knowledge, skills and understanding in mathematics. We do this through a daily lesson that has a high proportion of whole-class and group teaching. During these lessons we encourage pupils to ask, as well as answer mathematical questions. The pupils have the opportunity to use a wide range of resources such as number lines,

number squares, digit cards and small apparatus to support their work. Wherever possible, we encourage the pupils to use and apply their learning in everyday situations.

- 4.2. Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.
- 4.3. The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress are always based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly are challenged through being offered rich and sophisticated problems before any acceleration through new content. Those, who are not sufficiently fluent with earlier material, consolidate their understanding through additional practice, before moving on.
- 4.4. In all classes there are pupils of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the pupil. We achieve this through a range of strategies including differentiated individual or group work and through support and challenge from working with teachers and learning support assistants.

## **5. Mathematics Curriculum Planning**

- 5.1. Mathematics is a core subject in the National Curriculum and we have developed a long term plan as the basis for implementing the statutory requirements of the programme of study. See Appendix 1 for the progression in the teaching of Calculation skills.
- 5.2. Curriculum planning in mathematics is carried out in three phases (long-term, medium-term and short-term).
- 5.3. Medium-term mathematics plans give details of the main teaching objectives for each term and define what is taught. They ensure an appropriate balance and distribution of work across each term. These plans are kept and reviewed by the mathematics subject leader.
- 5.4. Each class teacher completes weekly plans for the teaching of mathematics. These weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught.
- 5.5. In the Early Years Foundation Stage the mathematical aspects of the pupils' work is related to the statements set out in the Early Years Foundation Stage Framework, which underpin the curriculum planning for children aged to five. All pupils are given ample opportunity to develop their understanding of number, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

## 6. Contribution of Mathematics to Teaching in Other Curriculum Areas

### 6.1. English

Mathematics contributes significantly to the teaching of English at Danbury Park Community Primary School by actively promoting the skills of reading, writing, speaking and listening. For example, we encourage children to read and interpret problems in order to identify the mathematics involved. The pupils explain and present their work to others during teaching sessions. Younger pupils enjoy stories and rhymes that rely on counting and sequencing. Older pupils encounter mathematical vocabulary, graphs and charts when using non-fiction texts.

### 6.2. Computing and Information and Communication Technology (ICT)

Pupils use and apply mathematics in a variety of ways when solving problems using ICT. Younger children use ICT to communicate results with appropriate mathematical symbols. Older pupils use it to produce graphs and tables when explaining their results or when creating repeating patterns, such as tessellations. When working on control, children use standard and non-standard measures for distance and angle. They use simulations to identify patterns and relationships. Interactive White Boards are used in all classes as an integral part of the daily mathematics lesson to enhance teaching and learning. Calculators are introduced near the end of Key Stage 2 as an aid for checking calculations.

### 6.3. Homework (see Homework Policy)

We provide parents and carers with opportunities to work with their children at home. These activities may only be brief, but are valuable in promoting children's learning in mathematics. Activities may take the form of number games, learning mathematical facts such as multiplication tables, tasks to reinforce and support recent learning in class and more formal exercises for older pupils.

## 7. Assessment and Recording

7.1. Assessment has two main purposes:

- assessment of learning (summative assessment);
- assessment for learning (formative assessment).

7.2. At Danbury Park Community Primary School we recognise that assessment for learning lies at the heart of promoting learning and in raising standards of attainment. We further recognise that effective assessment for learning depends crucially on using the information gained.

7.3. The assessment procedures within our school encompass:

- Making ongoing assessments and responding appropriately to pupils during day-to-day teaching. These immediate responses are often orally given and may not be recorded;
- Using knowledge of pupils drawn from ongoing pupil tracking records and from their prior learning to guide planning and teaching;
- Adjusting planning and teaching within units of work in response to pupils' performance;
- Use of questions to check learning against objectives at the end of each lesson and unit of work. If necessary future planning is adapted in response to assessment outcomes;
- Use of information gained from statutory and school tests. Analysis is done at both a quantitative and qualitative level. Information gained is used to set focused targets and also to determine which strategies or methods are particularly effective in respect of specific areas of mathematics.

## **8. Reporting to Parents**

- 8.1. For pupils in Key Stages 1 and 2 written reports on achievements including targets for the coming term are completed and shared with parents/carers at the end of each term.
- 8.2. In the Early Years Foundation Stage parents receive a written report against the Early Years Foundation Stage Profile at the end of the Reception year.
- 8.3. Parents are given opportunity to discuss their child's progress with class teachers on three separate occasions throughout the year.

## **9. Resources**

- 9.1. There is a range of resources to support the teaching of mathematics across the school. All classrooms have a variety of appropriate small apparatus. Other resources are available in the ICT suite and the Design and Technology resource room. A range of software is available to support work using the computers.

## **10. Monitoring, Evaluating and Reviewing**

- 10.1. Monitoring the standards of pupils' work and of the quality of teaching in mathematics is the responsibility of the mathematics subject leader. The work of the mathematics subject leader also involves supporting colleagues in the teaching of mathematics, keeping informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.
- 10.2. The mathematics subject leader meets with the Headteacher in order to discuss an annual summary in which they evaluate strengths and weaknesses in the subject and to prepare an action plan for areas of further improvement. The headteacher allocates regular management time to the mathematics subject leader so that they can review samples of children's work, of teachers' planning, undertake lesson observations of mathematics teaching across the school and talk to pupils about their learning.
- 10.3. A named member of the school's governing body is appointed by the Curriculum Committee to monitor standards in mathematics. This governor meets with the subject leader each term to review progress against the subject improvement action plan. The subject leader prepares an annual report for presentation to the Curriculum Committee during the summer term.