



**The Contribution of Mathematics to the Curriculum**

Mathematics is important in enabling pupils to access the full curriculum and later to play a full part in adult working and social life. The mathematics curriculum at Bincombe Valley Primary School provides a solid grounding in numeracy and provides children with the mathematical skills needed for their future learning.

The skills developed within mathematics lessons link with and support several requirements of the literacy strategy e.g.

- reading commands
- following instructions
- interpreting diagrams and symbols.

**What is Numeracy?**

We adopt as our definition the one used by the National Numeracy Strategy: “Numeracy means knowing about numbers and number operations. More than this, it requires an ability and inclination to solve numerical problems, including those involving money or measures. It also demands familiarity with the ways in which numerical information is gathered by counting and measuring, and is presented in graphs, charts and tables.” The National Numeracy Strategy also extends to the knowledge of facts and conceptual understanding of shape and space.

**Aims**

**A. The teaching of mathematics at this school will:**

1. cover the requirements of the National Curriculum for KS1 and KS2 and the Foundation Stage.
2. offer a range of experiences of children’s learning to enable our pupils to:
  - become numerate
  - use and apply their mathematical understanding
  - develop positive attitudes to mathematics
  - grow in confidence and independence in mathematics

**B. We aim for children to:**

- have a sense of the size of a number and where it fits into the number system
- know by heart number facts such as number bonds, multiplication tables, doubles and halves
- use what they know by heart to figure out answers mentally
- calculate accurately, both mentally and with pencil and paper, drawing on a range of calculation strategies

- recognise when it is appropriate to use a calculator
- make sense of number problems, including non-routine problems, and recognise the operations needed to solve them
- have strategies for checking their answers to judge whether they are reasonable
- explain their methods and reasoning using correct mathematical terms
- suggest suitable units of measuring, and making sensible estimates of measurements
- explain and make predictions from the numbers in graphs, charts and tables;
- understand both two and three dimensional shapes
- learn and use appropriate mathematical vocabulary

## **Guidance on the teaching of Mathematics at Bincombe Valley Primary School**

### **A. Teaching time**

Nursery and Reception Classes have daily mathematical activities, of 45 minutes duration by the end of the Reception year.

There is a daily mathematics lesson of at least 45 minutes for KS1 and Years 3 and 4, increasing to 60 minutes for Years 5 and 6. In addition, mathematical skills will be taught through other subjects including ICT e.g.:

- measuring skills in design and technology
- data handling skills in science
- interpreting data in geography

### **B. Teaching methods**

“High quality direct teaching is oral and interactive” (NNS).

Teachers will use a range of approaches:

- |                                   |              |
|-----------------------------------|--------------|
| • didactic (straight instruction) | • discussion |
| • demonstration                   | • direction  |
| • explanation                     | • evaluation |
| • effective questioning           |              |

Activities provided for children will include:

- |                                 |                                           |
|---------------------------------|-------------------------------------------|
| • mental maths (see appendix 1) | • real life problem solving               |
| • practical maths               | • investigating within mathematics itself |
| • practice and consolidation    |                                           |
| • discussion                    | • evaluation                              |
| • explanation                   | • questioning                             |
| • demonstration                 |                                           |

### **C. Groupings**

All forms of grouping are appropriate in different circumstances:

- whole class
- small groups
- pairs
- individual

A typical lesson will start with about 10 minutes of high quality interaction between the teacher and the whole class, followed by differentiated group work as the main activity, concluding with a plenary session.

### **D. Planning**

The role of the subject co-ordinator is seen as crucial in promoting high quality teaching and learning. Teachers in parallel classes plan collaboratively, with numeracy planning based on the NNS. Good planning ensures:

- progression through the learning programme
- continuity through the school
- links made across the Attainment Targets
- regular revision and practice
- regular oral and mental work
- opportunities for assessment are provided
- assessment is used to inform future learning
- a range of teaching approaches is included
- ICT is used to support learning
- appropriate use of published materials
- opportunities for regular homework particularly at KS2
- attention to health and safety issues
- equal access to the mathematics curriculum for all children

### **E. Resources for mental work**

To develop skills and increase speed in mental number work, all pupils should be able to:

- see the board and move easily to it;
- see a large sized number line and 100 square for whole class interactive work;
- use smaller number lines, 100 squares and cards to improve level of participation.

