

# Coates Way School



## Mathematics Policy Spring 2017

## Philosophy Statement

The main principle of teaching mathematics at Coates Way School is that pupils should be actively involved in experiencing the mathematical curriculum in a variety of enjoyable ways. It is important that the pupils build a good understanding of mathematical concepts and develop their mathematical thinking and skills in line with the objectives within the National Curriculum document.

### 1 Aims and Objectives:-

- 1.1** Mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their every day lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.
- 1.2 The aims of Mathematics are:**
- To have quality teaching and learning in mathematics using a range of teaching styles to deliver a broad enjoyable, inclusive and balanced curriculum.
  - To develop a mastery of mathematical skills and mathematical thinking, promoting an understanding of mathematics within real life situations.
  - To cultivate children's enjoyment of mathematics by providing exciting and engaging opportunities throughout the whole curriculum including ICT.
  - To create a stimulating and motivating learning environment to encourage enthusiasm towards the subject by raising confidence and competence with numbers and the number system.
  - To develop a range of strategies in all areas of mathematics which reinforces mathematical concepts and vocabulary.

### 2. Teaching and Learning

- 2.1** The school uses a wide variety of teaching and learning styles in mathematics lessons. Our principal aim is to develop the children's mathematical thinking, knowledge, skills and understanding. We do this through daily mathematics lessons in each class throughout the school which include whole class, group and independent work. These lessons are highly interactive where children are encouraged to share their strategies and discuss the concepts. We include mathematics teaching through our whole curriculum through cross curricular topics. The children have opportunity to use a wide range of resources to aid and support their mathematical learning including ICT programs. These enhance the children's learning and reinforce concepts.
- 2.2** In all classes there are children of differing mathematical ability. We recognise this fact and group each class accordingly. These groups are provided suitably challenging

tasks matching the challenge of the task to the ability of the child. These groups are monitored closely throughout the year. We use available support staff and intervention schemes to work with groups identified by the class teacher to ensure all children can access the learning.

### **3. Planning**

- 3.1 Mathematics is a core subject in the National Curriculum and we use this, supplemented by other materials such as HfL maths resources, as the basis for implementing the statutory requirements of the programme of study for mathematics.
- 3.2 We carry out curriculum planning in 2 phases (long-term and short-term). The National curriculum and HfL maths resources are used to develop these plans and they are recorded and stored on our school server. They ensure an appropriate balance and distribution of work across each term and topic areas are revisited during the year.
- 3.3 The class teacher completes the weekly plans for the teaching of mathematics using the school's planning pro-forma relating to each block. These weekly plans list the specific learning objectives for each day's teaching, how the lesson is differentiated, ICT and resources and mathematical vocabulary. The teacher will use a range of tools to assess if the children have achieved the learning objectives and makes relevant notes which will inform future planning. The head teacher monitors planning on a fortnightly basis.
- 3.4 Through Assessment for learning strategies the children are regularly provided with next steps and termly targets. These targets are discussed with the child and stuck in their books.

### **4. Foundation Stage**

- 4.1 We teach mathematics in our Nursery and Reception class. We relate the mathematical aspects of the children's work to the objectives set out in the Early Learning Goals, which underpin the curriculum planning for the children aged three to five. We give all children opportunities to develop their understanding of number, measurement, pattern, shape and space through a variety of interactive activities allowing them to enjoy, explore practice and talk confidently about mathematics. The children are closely monitored on a regular basis the teachers create a Foundation stage profile and Learning Journey for each child. Assessments are made against the objectives in the Nursery record and Foundation stage Profiles.

## **5. Contribution of Mathematics to teaching in other curriculum areas**

- 5.1** English:-Mathematics contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing and speaking and listening. For example we encourage the children to read and interpret problems in order to identify the mathematics involved. The children explain and discuss the mathematics they are using. Lower down the school children enjoy stories and rhymes that rely on counting and sequencing. Older children encounter mathematical vocabulary, graphs and charts when studying non-fiction texts.
- 5.2** Science: - mathematics contributes to the teaching of Science through developing and refining methods of data collection and analysis, drawing graphs and tables and interpreting real data as well as drawing conclusions from their findings.
- 5.3** ICT: - Children use and apply mathematics in a variety of ways when solving problems using ICT. Children use ICT to consolidate mathematical concepts through mathematical games. They also use it for data handling programs and control technology work. ICT is effectively used to deliver and enhance the mathematics curriculum.
- 5.4** At Coates Way we are developing our curriculum to involve a wide range of subjects taught in a cross curricular manner. Mathematics is developed through the teaching of other curriculum subjects e.g. Geography, History, Design and Technology, Physical Education, Spanish and Music, through a variety of ways to develop the children's learning with a holistic approach.

## **6. Inclusion in Mathematics**

- 6.1** We teach mathematics to all children whatever their ability. It is part of the school curriculum and inclusion policies to provide a broad and balanced education to all children. Children with Special Educational Needs are identified by class teachers and the Special Educational Needs Co-ordinators (Senco) and their needs in mathematics are provided for through Pupil Passport targets which are taken into account and included in weekly mathematics planning.
- 6.2** As a school we use several intervention programmes to support children with difficulties in Maths. We use the Wave 3 support materials and Springboard intervention programmes in Key Stage 2 plus booster sessions and 1:2:1 support
- 6.3** We also want to provide challenge for all children and identify children who are gifted and talented in mathematics. These children are again identified by the class teacher

and Senco and provided for in lessons by extension work, questioning and extra challenge where necessary.

- 6.4 At Coates Way we are aware of all backgrounds and cultures of our learners. We monitor termly the achievement in mathematics for children of different ethnicity, children with English as an additional language (EAL) and children with free school meals.

## **7. Assessment for Learning**

- 7.1 All mathematics work is marked to a high standard using our school marking policy which shows children using a triangle system if they achieved the learning objective of the lesson. Teachers keep a record of the children not achieving objectives in a daily mark book. These and observations from the lesson are fed back into planning.
- 7.2 Formal assessments are carried out every half term, using a variety of resources, and in year 6 past SAT papers, to assess progress against the National Curriculum objectives. Every term an overall teacher assessment is made. These are analysed carefully to monitor children who are under achieving and children who need more challenge. In the summer term Years 2 and 6 complete the National SATs, and from Year 1 onwards the non-statutory assessment tests are used

Targets are set out in the summer term ready for the next academic year. This information is passed on to the next teacher for the following academic year.

- 7.3 Targets are monitored regularly and assessed by teachers
- 7.4 The mathematics subject leader analyses the end of key stage assessment results and papers to identify areas where the school needs to improve. These are fed back to the whole staff.
- 7.5 Parents are informed of their child's progress and targets are shared with them at Parent's evening and through their end of year school report.

## **8. Resources**

- 8.1 There is a huge range of resources to teach mathematics across the school. All class units have a range of resources that may be used regularly (e.g. calculators, number lines, whiteboards and multilink). All other resources are stored centrally separated into units of work and labelled accordingly in the cupboard in the dining room.

- 8.2** Each class teacher has several IWB programmes installed on their laptops with a range of mathematics programs (including problem solving and interactive maths games).
- 8.3** As a school we use resources from books and maths websites to support the teaching of Mathematics. Teachers keep their year group resources and other support materials in their class and other support materials can be found on the server.

## **9. Social Cohesion**

- 8.1** At Coates Way School we aim to promote a sense of community, this is achieved in mathematics through exposing the children to real life situations in maths through cross curricular teaching. We also give pupils opportunities to develop the economic welfare through activities for Design and Technology week costing their products and making profits. Children are also given the opportunity to apply mathematics to the wider world e.g. time differences, currency, data handling during Maths Week, World day or other celebration days.

## **10. Monitoring and Review**

- 10.1** Monitoring of the standards of children's work and of the quality of teaching and learning in mathematics is carried out termly. It is the responsibility of the subject leader. The subject leader must also support colleagues in their teaching of mathematics and continue to develop their own understanding of the subject following any new initiatives and developments.
- 10.2** The mathematics leader provides the head teacher and school governors with clear information about the development of mathematics in the school. A named member of the governing body is briefed and kept up to date with Mathematics in the school.
- 10.3** Strengths and weaknesses are set out in the subject evaluation form and necessary actions documented and monitored in the Action Plan. These will be linked to analysis of the subject and to the school development plan where appropriate.
- 10.4** The head teacher allocates regular time to the subject leader so that he/she can review mathematics development, progress and teaching and learning throughout the school.

This policy will be reviewed in Spring 2019