

# OASIS ACADEMY PARKWOOD



## Mathematics Policy

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## **Oasis Academy Parkwood Mathematics Policy**

### **1 Aims and objectives**

- 1.1 Mathematics teaches children how to make sense of the world around them through developing their ability to calculate, reason and solve problems. It enables children to understand relationships and patterns in both number and space in their everyday 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 Our objectives in the teaching of mathematics are:
- to promote enjoyment of learning through practical activity, exploration and discussion;
  - to promote confidence and competence with numbers and the number system;
  - to develop the ability 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 explore features of shape and space, and develop measuring skills in a range of contexts;
  - to help children understand the importance of mathematics in everyday life.

### **2 Teaching and learning style**

- 2.1 The school uses a variety of teaching and learning styles in mathematics. Our principal aim is to develop children's knowledge, skills and understanding. During our lessons, we encourage children to ask as well as answer mathematical questions. They 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. ICT is used in mathematics lessons for modelling ideas and methods. Wherever possible, we encourage the children to apply their learning to everyday situations. The

school's use of the 'block' and 'unit' approach as outlined in the Renewed Framework ensures that Using and Applying mathematics is integrated into planning and teaching.

- 2.2 In all classes, children have a wide range of mathematical abilities. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies – in some lessons through differentiated group work and in other lessons by organising the children to work in pairs on open-ended problems or games. We use classroom assistants to support some children, and to ensure that work is matched to the needs of individuals.

### **3 Mathematics curriculum planning**

FS to Y3 are now following the "Mathematics Mastery" approach to planning maths. Information on how this approach works is available on <https://www.mathematicsmastery.org/>

The following currently applies to Years 4 to 6 although many of these elements are included in "Mathematics Mastery".

- 3.1 Mathematics is a core subject and we use the National Curriculum maths 2014 as the basis for applying the statutory requirements for mathematics.
- 3.2 We carry out the curriculum planning in mathematics in three phases. Long Term Planning is based on the mathematics programme of study.
- 3.3 Medium Term Plans are produced in line with the programmes of study. The programs are taught according to year group in line with children's stage of learning or to link with the creative curriculum.
- 3.4 The class teacher completes weekly plans for the teaching of mathematics. These plans list the specific learning objectives and expected outcomes for each lesson, and give details of how the lessons are to be taught. The class teacher keeps these individual plans.
- 3.5 Activities are planned so that they build on the children's prior learning. While we give children of all abilities the opportunity to develop their skills, knowledge and understanding, we also plan progression, so that there is an increasing challenge for them as they move up the school.

### **4 Contribution of mathematics to teaching in other curriculum areas**

#### **4.1 English**

Mathematics contributes significantly to children's understanding of English in our school by actively promoting the skills of reading, writing, speaking and listening. This was recognised within the New Primary Framework for Mathematics where speaking and listening objectives are suggested for each block within each year group. For example, in mathematics lessons, we expect children to read and interpret problems, in order to identify the mathematics involved. They are also improving their command of English when they explain and present their work to others during plenary sessions. In English lessons, too, maths can contribute: younger children enjoy stories and rhyme that rely on counting and sequencing, while older children encounter mathematical vocabulary, graphs and charts when reading non-fiction texts.

#### **4.2 Science**

Almost every scientific investigation is likely to require one or more of the mathematical skills of classifying, counting, measuring, calculating, estimating and recording in tables and graphs. In science pupils will for example order numbers, including decimals, calculate simple means and percentages, use negative numbers when taking temperatures, decide whether it is more appropriate to use a line graph or bar chart, and plot, interpret and predict from graphs.

#### **4.3 Art, Design and Technology**

Measurements are often needed in art and design and technology. Many patterns and constructions are based on spatial ideas and properties of shapes, including symmetry. Designs

may need enlarging or reducing, introducing ideas of multiplication and ratio. When food is prepared a great deal of measurement occurs, including working out times and calculating cost; this may not be straightforward if only part of a packet of ingredients has been used. History,

#### 4.4 Geography and Religious Education

In history and geography children will collect data by counting and measuring and make use of measurements of many kinds. The study of maps includes the use of co-ordinates and ideas of angle, direction, position, scale and ratio. The pattern of the days of the week, the calendar and recurring annual festivals all have a mathematical basis. For older children historical ideas require understanding of the passage of time, which can be illustrated on a time line, similar to the number line that they already know.

#### 4.5 Physical Education and Music

Athletic activities require measurement of height, distance and time, while ideas of counting, time, symmetry, movement, position and direction are used extensively in music, dance, gymnastics and ball games.

#### 4.6 Personal, social and health education (PSHE) and citizenship

Mathematics contributes to the teaching of PSHE and citizenship. The work that children do outside their normal lessons encourages independent study and helps them to become increasingly responsible for their own learning. The planned activities that children do within the classroom encourage them to work together and respect each other's views. We present older children with real-life situations in their mathematics work on the spending of money.

#### 4.7 Spiritual, moral, social and cultural development

The teaching of mathematics supports the social development of our children through the way we expect them to work with each other in lessons. We group children so that they work together, and we give them the chance to discuss their ideas and results. The study of famous mathematicians around the world contributes to the cultural development of our children.

### 5 Mathematics and ICT

5.1 Information and communication technology enhances the teaching of mathematics significantly, because ICT is particularly useful for mathematical tasks. It also offers ways of impacting on learning which are not possible with conventional methods. Teachers can use software to present information visually, dynamically and interactively, so that children understand concepts more quickly.

### 6 Mathematics and inclusion

6.1 At our school, we teach mathematics to all children, whatever their ability and individual needs. Mathematics forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our mathematics teaching, we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents and those learning English as an additional language, and we take all reasonable steps to achieve this.

6.2 When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors so that we can take some additional or different action to enable the child to learn more effectively. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels. This ensures that our teaching is matched to the child's needs.

6.3 Intervention will lead to the creation of a School Support Plan for children with special educational needs. This may include, as appropriate, specific targets relating to mathematics.

6.4 We enable all pupils to have access to the full range of activities involved in learning mathematics. Where children are to participate in activities outside the classroom, we carry out a

risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

## **7 Assessment for learning**

- 7.1 Teachers will assess children's work in mathematics from three aspects. We use short-term assessments to help us adjust our daily plans. These short-term assessments are closely matched to the teaching objectives.
- 7.2 We make assessments at the end of each half term using the Assertive Mentoring Tests. We also use HeadStart termly assessments as recommended by Oasis. We also make use of teacher assessments. We can then set targets for and make a summary of each child's progress before discussing it with parents. We pass this information on to the next teacher at the end of the year, so that s/he can plan for the new school year.
- 7.3 We use the national tests for children in Year 2 and Year 6.

## **8 Resources**

- 8.1 All classrooms have a wide range of appropriate small apparatus. A variety of other equipment is available from the central storage area. Each classroom is equipped with an interactive whiteboard and the Foundation Stage classrooms have computers that are used by the children to support their learning in mathematics. Resources are audited and areas of need established. Subject to school budgets, new resources are purchased and allocated, as appropriate, to fill the areas of need.

## **9 Monitoring and review**

- 9.1 The coordination and planning of the mathematics curriculum are the responsibility of the subject leader, who also:
- supports colleagues in their teaching, by keeping informed about current developments in mathematics, and by providing a strategic lead and direction for this subject;
  - gives the headteacher an annual summary report in which she evaluates the strengths and weaknesses in mathematics, and indicates areas for further improvement;
- 9.2 A named member of the school's governing body is briefed to oversee the teaching of numeracy.

**Signed:**

**Date:**