

# Orchard Community Primary School



## Mathematics Policy

This policy was approved by the Governing Body of Orchard Primary School at their meeting on.....

Signed..... Chair of Governors

Version	Date	Author	Reason for Change
0.1	1/2019	FS	New Policy

Review Frequency	Next Review Date
Every 3 years	1/2022

# Orchard Community Primary School Mathematics Policy

## Introduction

*At Orchard Primary school we value every pupil and the contribution they have to make. As a result we aim to ensure that every child achieves success and that all are enabled to develop their skills in accordance with their level of ability.*

*Mathematics is both a key skill within school, and a life skill to be utilised throughout every person's day to day experiences.*

*The National Curriculum for mathematics (2014) describes in detail what pupils must learn in each year group. Combined with our Calculation Policy, this ensures continuity, progression and high expectations for attainment in mathematics.*

## Purpose

- Mathematics equips pupils with powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways.
- Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics that will stay with them.

## Aims

To encourage pupils to:

- Develop a positive attitude to mathematics through a structured, practical and fun curriculum which fosters and celebrates each child's contribution and achievements.
- Develop the ability to think clearly and logically; justify their ideas with confidence, flexibility and independence of thought.
- Be fluent in the fundamentals of maths, including through varied and frequent practice with increasingly complex problems, so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Develop an understanding of the connectivity of patterns and relationships within mathematics.
- Develop the ability to apply knowledge, skills and ideas in real life contexts outside the classroom, and become aware of the uses of mathematics in the wider world.
- Develop the ability to use mathematics as a means of communicating ideas.

## Time allocation

Mathematics is taught as a discrete lesson for approximately one hour, five days a week in Key Stage 1 and 2. Children in KS1 also practise and strengthen their mental maths skills by carrying out the Mental Maths 'Cracking Maths' number bonds scheme twice a week. In Years 3, 4 & 5, the children are introduced to 'Times Tables Rockstars' and complete 3 written tests per week on tables set by the teacher and are able to access online quizzes both in school and at home, As links arise, mathematics is also taught in topic to help enable pupils to consolidate and apply concepts taught in discrete lessons to real contexts.

We teach mathematics in our reception class using the Mathematical Development aspects of the EYFS curriculum as the basis of our planning. Throughout the day, the reception children 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.

## Subject Organisation

We use the objectives from the National Curriculum 2014 to support planning and to assess children's progress. The yearly Programmes of Study form a yearly overview which shows overall content of each year group.

We follow the White Rose Maths Hub Scheme of Learning which breaks down the learning in each year into blocks that encourage an integrated approach to fluency, reasoning and problem solving.

It is the class teacher who completes the weekly plans for the teaching of mathematics using the WRMH 'Small Steps' progression documents. These weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught. Weekly plans are uploaded to the school's Google Drive.

## Teaching and Learning

The school uses a variety of teaching and learning styles in mathematics providing children with the opportunity to engage in practical activities and mathematical games and problem solving investigations alongside the regular practice of the appropriate mental and written methods. Such activities may be completed individually, with a partner, in small groups or as a whole class. Our principal aim is to develop children's knowledge, skills and understanding. During our daily lessons, we encourage children to ask as well as answer mathematical questions. We use the appropriate mathematical terminology in our teaching and children are also expected to use it in their verbal and written explanations. We follow a concrete, pictorial, abstract approach and a wide range of mathematical equipment and models are used. ICT is used in mathematics lessons for modelling ideas and methods with children using computers as a mathematical tool. Wherever possible, we encourage the children to apply their learning to everyday situations. Teaching Assistants and Learning Support Assistants support small groups to consolidate /extend understanding, and to tailor work to match the needs of individuals.

Our pupils should:

- have a well-developed sense of the size of a number and where it fits into the number system (place value)
- know by heart number facts such as number bonds, multiplication tables, doubles and halves
- use what they know by heart to figure out numbers mentally
- calculate accurately and efficiently, both mentally and in writing, drawing on a range of calculation strategies
- make sense of number problems, including non-routine/'real' problems and identify the operations needed to solve them
- explain their methods and reasoning, using correct mathematical terms
- judge whether their answers are reasonable and have strategies for checking them where necessary
- suggest suitable units for measuring and make sensible estimates of measurements
- explain and make predictions from the numbers in graphs, diagrams, charts and tables
- develop spatial awareness and an understanding of the properties of 2D and 3D shapes

## Assessment and Monitoring

- **Formative Assessment (AfL) -**

Assessment is an integral and continuous part of the teaching and learning process at Orchard and much of it is done informally as part of each teacher's day to day work. Teachers integrate the use of formative assessment strategies such as: effective questioning, clear learning objectives, the use of success criteria, effective feedback and response in their teaching and marking and observing children participating in activities. Findings from these types of assessment are used to inform future planning.

- **Summative Assessment –**

More formal methods are used to determine the levels of achievement of children at various times during the school year. We use the White Rose Maths end of block and end of term assessments to monitor pupils' progress. Statutory End of Key Stage Assessment is carried out at the end of Key Stage One and Key Stage 2.

Formative and summative assessments are then use by the class teacher to update each pupil's progress on Classroom Monitor at the end of every assessment period.

## Marking and Feedback

Work is marked in accordance with the school's marking policy. Children's written work is marked on completion of a lesson or a task. A whole class feedback sheet is then completed and appropriate action taken, e.g. planning adjustments to planning or interventions where necessary. Children are informed at the beginning of the next lesson

## Inclusion

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 to 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.

When progress falls significantly outside the expected range, the child may have special educational needs. Class teachers with the support of the Inclusion Leader will look at a range of factors – classroom organisation, teaching materials, teaching style, differentiation – so that some additional or different action can be taken 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. Wherever mathematical targets are set as part of a child's Support Plan or Ever 6 provision, teachers will pay regard to such targets when designing lessons or setting individual tasks in mathematics.

## Resources

There is a range of resources to support the teaching of mathematics across the school. These include a wide range of books containing suggested teaching activities as well as games, measuring equipment and other practical apparatus. All these items are stored centrally in the maths cupboard. Staff are encouraged to use the resources they need but to ensure that they are returned to the appropriate place when finished with so that other classes can make use of them.

## Role of Subject leader

- To provide professional leadership and management for a subject to secure high quality teaching, effective use of resources and improved standards of learning and achievement for all pupils.
- A subject leader provides management and direction for the subject and ensures that it is well managed and organised to meet the aims and objectives of the school and subject.
- While the head teacher and governors carry overall responsibility for school improvement, a subject leader has responsibility for securing high standards of teaching and learning in their subject as well as playing a major role in the development of school policy and practice. Throughout their work, a subject leader ensures that practices improve the quality of education provided, meet the needs and aspirations of all pupils, and raise standards of achievement in school.
- A subject leader plays a key role in supporting, guiding and motivating teachers in their subject. Subject leaders evaluate the effectiveness of learning, the subject curriculum and progress towards targets for pupils and staff, to inform future priorities and targets for the subject.
- Subject leaders identify needs in their own subject and recognise that these must be considered in relation to the overall needs of the school. It is important that a subject leader has an understanding of how their subject contributes to school priorities and to the overall education and achievement of all pupils.