



## **WORTHAM PRIMARY SCHOOL**

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# Mathematics Policy

	<b>Date</b>	<b>Signed</b>
<b>Agreed By Governors</b>	<b>Summer 2021</b>	<b>Chair of Governors Jeanne Jenkins</b>
<b>Lead</b>	<b>Miss Rebecca Chenery</b>	
<b>Review Date</b>	<b>Summer 2023</b>	

## **Wortham Primary School - Mathematics Policy**

### **Introduction**

'Mathematics is a creative and highly interconnected 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 mathematical education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the power and beauty of mathematics, and a sense of enjoyment and curiosity about the subject.' (DfE, 2013)

As can be seen from the statement above, mathematics teaches us how to make sense of the world around us. It is therefore important to develop a child's ability to calculate, to communicate, to reason and to solve problems. Mathematics enables children to understand and appreciate relationships and pattern 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.

This policy outlines the teaching, organisation and management of the mathematics taught and learnt at Wortham Primary School. The school's policy for mathematics is based on the National Curriculum 2014 Framework. The policy sets out a framework within which all staff (teaching staff and support staff) should work.

Please read this policy with reference to -

- SEND Policy
- Equality Policy
- AfL and Marking Policy.
- The Assessment Toolkit

### **Ours Aims and Philosophy**

#### **Aims:**

- For children to become fluent in the fundamentals of mathematics
- For children to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- For children to solve problems by applying their mathematics to a variety of routine and non-routine problems
- To promote the importance and application of mathematics in everyday life
- To support parents in sharing the teaching of maths through homework

#### **Philosophy:**

Our philosophy is 'to teach children to be mathematicians by developing an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject'.

### **Teaching and learning style**

#### **Teaching Time**

A daily mathematics lesson may vary in length but will usually last for 50 to 60 minutes in Key Stage 2 and about 45 minutes in Key Stage 1. In Reception, children work on a variety of mathematics activities throughout the day, for short periods. By the end of the summer term the children will experience a more sustained period of mathematics in order to prepare them for the structure of the daily mathematics lesson in Key Stage 1. Links will also be made to mathematics within other subjects in order for pupils to develop and apply their mathematical skills. Opportunities will be sought to draw mathematical experience out of a wide range of activities to enable children to use mathematics in real contexts.

#### **Class Organisation**

The school uses a variety of teaching and learning styles in mathematics lessons. During these 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, Numicon and small apparatus to support their work.

In all classes there are children 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 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 or individually on open-ended problems or games. We use teaching assistants to support some children and to ensure that work is matched to the needs of individuals.

#### **A Typical Lesson**

A typical daily mathematics lesson in Year 1 to 6 will usually be structured thus:

- Oral work and recall (about 5 to 10 minutes). This will involve whole-class work to rehearse, sharpen and develop mental and oral skills.
- The main teaching activity (about 30 to 40 minutes). This will include both teaching input and pupil activities and a balance between whole class, grouped, paired and individual work.
- A plenary (about 10 minutes). This will provide an opportunity for assessment, both self and teacher, through well-structured AFL questions. Children take this time to reflect on their own learning and consider next steps.

### **Mathematics Curriculum Planning**

Mathematics is a core subject in the National Curriculum, and we use the National Curriculum Programme of Study as the basis for implementing the statutory requirements for mathematics. We also use the White Rose Mathematics Schemes of Learning to support our planning. They provide exemplification of objectives and support a mastery approach to the teaching and learning of mathematics.

Our medium term plans and daily plans list the specific learning objectives and success criteria for each lesson and give details of how the lessons are to be taught.

The head teacher and the mathematics subject leader are responsible for monitoring the mathematics planning within our school.

### **The Foundation Stage**

Throughout Foundation Stage, children are encouraged to use and develop mathematics through play in all areas of provision. Mathematical resources such as number lines and Numicon are available throughout. Concepts of shape, space, direction, size, length, capacity and mass are developed through sand, water and tactile play, outdoor provision, small world play, storytelling and nursery rhymes for example.

### **Teaching Mathematics to Children with Special Needs**

At Wortham Primary School we aim to provide a broad and balanced education to all pupils. Effective pupil tracking enables identification of pupils who may benefit from early 'intervention' at an appropriate level. Learning opportunities are also matched to the needs of children with special educational needs through appropriate differentiation. Work in mathematics takes into account the targets set for individual children in their Pupil Passports.

### **More-Able Pupils**

More-able pupils will be stretched through differentiated group work and extra challenges. When working with the whole class, teachers will direct some questions towards the more-able.

### **Equal Opportunities and Inclusion**

All teaching and non-teaching staff at Wortham Primary School are responsible for ensuring that all children, irrespective of gender, ability, ethnic origin and social circumstances, have access to the whole curriculum. We aim to give every pupil the opportunity to experience success and achieve as highly as possible.

### **Homework**

In Key Stage 1, homework is generally of a practical nature and is given to children to consolidate learning, as and when appropriate. In Key Stage 2, children are set weekly homework tasks. These homework tasks give the children opportunity to practise recall of their times tables; revise previous learning and consolidate their learning from the week's mathematics lessons.

### **Information and Communication Technology (ICT)**

ICT involves the use of computers and calculators and is valuable in supporting teaching and motivating children's learning. We aim to incorporate the use of ICT into our weekly mathematics lessons whenever possible and appropriate.

### **Assessment and recording**

Assessment is used to inform teaching in a continuous cycle of planning, teaching and assessment. Observations and quick assessments are an informal part of every lesson to check children's understanding and are used to inform teachers' day-to-day lesson planning. Three times a year (December, March, June), children will complete their PUMA assessments for mathematics. Their data is used by the school staff to monitor pupil progress and set teacher/class targets. The results of these assessments are passed on to the next class teacher.

The assessment procedures within our school encompass:

- Making ongoing assessments and responding appropriately to pupils during 'day-to-day' teaching. 'Immediate' verbal responses are given to children within lessons regularly. Written feedback in books is in response to the lesson's learning objective. Written feedback will also include clear next steps to extended thinking and consolidate learning.
- Adjusting planning and teaching within units in response to pupils' understanding.
- Termly PUMA assessments are carried out and tracked using our Attainment and Progress Tracker Report.
- Teachers use their tracking and their knowledge of the children to guide planning.

### **Responses to Children's Work**

We recognise the importance of responding to children's work, whether orally or in writing. We seek to encourage children by highlighting positive achievements. This might include praise for use of a viable method even if the end result were incorrect. Children are given opportunities, and actively encouraged, to explain their work to others. They are encouraged to value and respect the work of others.

### **Monitoring and Review**

Monitoring the standards of children's work and the quality of teaching in mathematics is the responsibility of the mathematics Subject Leader, who, in turn, reports to the Head Teacher. The work of the Subject Leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.

### **Links to other policies**

Calculations Policy

Teaching and Learning policy

