

# WHEATLANDS PRIMARY SCHOOL



## Mathematics Policy

Revised: April 2020

Review: April 2021

## Mathematics Policy

### Curriculum Statement:

"Mathematics is a creative and highly inter-connected 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, a necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation for the beauty and power of mathematics, and a sense of curiosity about the subject." (National Curriculum 2014)

### Curriculum Intent for Mathematics:

The 2014 National Curriculum for Maths aims to ensure that all children:

- Become fluent in the fundamentals of Mathematics
- Are able to reason mathematically
- Can solve problems by applying their Mathematics.

At Wheatlands Primary School, the intent of our mathematics curriculum is to provide an ambitious, connected curriculum, which is accessible to all pupils through planning a progressing scheme that will support and build on previously acquired knowledge, skills and understanding. Our curriculum will maximise the development of every child's ability and academic achievement by delivering lessons that are creative and engaging, and encourages our children to have a sense of enjoyment and curiosity about the subject.

In daily lessons, mathematics is taught with the intent of allowing children to become independent, resilient and competent mathematicians. Our curriculum provides opportunities for the children to make rich connections across mathematical ideas and become **fluent** in the fundamentals of mathematics, **reason** mathematically in a range of situations and develop skills in **problem solving** - three skills which are outlined in the National Curriculum.

In order for children to feel motivated, learning needs to be purposeful. Our mathematics curriculum ensures that our children are aware of the relevance of Maths in the wider world and that they are able to use their mathematical skills and knowledge confidently across the curriculum and in their lives in a range of different contexts.

## **1 Teaching and learning style**

- 1.1 Our school uses a variety of teaching and learning styles in maths. 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. They have the opportunity to use a wide range of resources to support their work. Wherever possible, we encourage the children to apply their learning to everyday situations
- 1.2 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. We use classroom assistants to support some children, and to ensure that work is matched to the needs of individuals.

## **2 Curriculum Planning**

- 2.1 Mathematics is a core subject in the National Curriculum, and we use the National Curriculum for Mathematics 2014 as the basis for implementing the statutory requirements of the programme of study for mathematics.
- 2.2 We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term). The National Curriculum for Mathematics 2014 gives a detailed outline of what we teach. We supplement this with the White Rose Maths scheme of work in order to ensure a balanced and structured coverage of objectives throughout the year.
- 2.3 Our medium-term mathematics plans, which are adopted from the White Rose Maths framework scheme, give details of the main teaching objectives for each term, together with the ongoing results from assessments based on elements of the Assertive Mentoring System, define what we teach. They ensure an appropriate balance and distribution of work across each term.
- 2.4 It is the class teacher who completes the short-term plans weekly for the teaching of mathematics. These weekly plans list the specific learning objectives and expected outcomes for each lesson and give details of how the lessons are to be taught.
- 2.5 Each class teacher is responsible for the mathematics in their class. All pupils in Key Stages 1 and 2 receive daily-dedicated mathematics lessons with a clear focus on direct, instructional teaching and interactive oral work with whole class and targeted groups, and which place a high emphasis on mental calculation.

Pupils in KS2 may be grouped for their daily mathematics lessons to allow children's needs to be met.

2.6 Learning activities in mathematics lessons are planned to build on pupils' prior understandings and are developed using targets and gaps identified by the teacher through ongoing assessments. While children of all abilities are given the opportunity to develop their skills, knowledge and understanding, we also ensure that there is sufficient challenge for those pupils who are working at or towards depth and mastery in mathematics.

2.7 To support the daily mathematics lessons, pupils in Key Stage 2 begin each day with a Mental Maths session which begins at 8:35am and follows the Schofield and Sims scheme of Mental Arithmetic.

### **3 The Foundation Stage**

3.1 We teach maths in our reception classes through adult led tasks with specific objectives. Our planning is linked to the Early Learning Goals, which provides the objectives that we relate to the mathematical aspects of the children's work. We then give all the children ample opportunity to develop their knowledge of number, measurement, pattern, shape and space, through varied activities that allow them to enjoy, explore, practise and talk confidently about Maths. This mixture of adult led and child-initiated experiences take place at different times throughout the day and in different contexts, both inside and outside of the classroom.

### **4 Mathematics and Technology**

4.1 Information and communication technology enhances the teaching of Maths significantly, because ICT is particularly useful for everyday tasks. Children throughout the school use iPads to support day to day learning. In Years 2-6 pupils log on to Times Table Rock Stars every week to enhance their learning of times tables. 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. Younger children use ICT to communicate results with appropriate mathematical symbols. Older children use it to produce graphs and tables when explaining their results, or when creating repeating patterns, such as tessellations. When working on control, children can use both standard and non-standard measures for distance and angle. They can also use simulations to identify patterns and relationships.

4.2 Calculators should be used throughout the school to promote play, exploration and fun with number. They may also be used at the teacher's discretion for children to check their own work.

4.3 There are a range of APPs downloaded onto the school iPads and subscribed programs uploaded on the shared network, which are used to support, supplement and enhance pupil's mathematical learning and understanding. Programmes that the school subscribes to are monitored by the mathematics coordinator for their effectiveness and cost.

## **5 Mathematics and Inclusion**

5.1 At Wheatlands Primary School, we teach maths to all children, whatever their ability and individual needs. It forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our 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 and disabilities. At the same time we take into account those children who are gifted and talented and those learning English as an additional language. For further details, see separate policies: Special Educational Needs; Disability Discrimination; Equality, English as an Additional Language (EAL).

5.2 When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors - classroom organisation, teaching materials, teaching style, differentiation - 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.

5.3 Intervention through School Action will lead to specific targets being set and outside agency support sought.

5.4 We enable all pupils to have access to a full range of activities outside of the classroom. We carry out a risk assessment to ensure that the activity is safe and appropriate for all our all pupils.

## **6 Assessment**

6.1 Teachers will assess children's work in Numeracy from three aspects (long term, medium-term and short-term). We use short-term assessments (weekly skills tests) to help us adjust our daily plans. These short-term assessments are closely matched to the teaching objectives for each year group.

6.2 We make medium-term assessments to measure progress against the key objectives, and to help us plan the next unit of work. We use the Assertive Mentoring half-termly tests to assess achievement and to help plan the next term's work.

6.3 We make long-term assessments towards the end of the school year, and we use these to assess progress against school and national targets. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents and carers. 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. We make the long-term assessments with the help of end-of-year tests and teacher assessments. We use the national tests for children in Year 2 and Year 6.

6.4 Children are continually encouraged to make judgements about how they can improve their own and each other's work.

## **7 Resources**

7.1 A variety of resources are used in the school to deliver a rich and stimulating curriculum. Children become fluent in mathematics when they have lots of 'hands on' experiences. Therefore children and staff draw on a wide range of practical resources in order to develop the conceptual understanding of maths; its structures and relationships - helping pupils transition smoothly to abstract representations and recorded methods.

7.2 All classrooms should be organised to contain an area dedicated to mathematical resources. These should be easily accessible to the children. Visual resources and displays, including working walls, are encouraged and should be updated regularly in accordance with the area of mathematics being taught at the time.

7.3 Resources which are not used or required regularly are stored centrally in the maths cupboard.

## **8 Parents**

8.1 The school recognises that parents and carers have a valuable role to play in supporting their child's mathematical learning. An overview of the Maths curriculum is available on the school's website. Paper copies of these documents are also available on request and the termly curriculum newsletter, sent home by each year group, also outlines the Maths topics to be covered.

8.2 Activities which link to each Maths topic are suggested for parents and carers to try at home with their child in each Reception newsletter.

8.3 Parents are informed of their child's progress at Parents Evenings and this is also communicated in written school reports.

8.4 Parents and carers are encouraged to speak to their child's Maths teacher at any point during the year, either informally or by making a specific appointment. Information about their child's standards, achievements and future targets in

Maths is shared during parent/carer meetings, as well as ways that parents/carers may be able to assist with their child's learning.

8.5 The school also provides a number of opportunities for parents/carers to learn about what their child is learning and the way their child is being taught through parental engagement workshops.

## **9 Monitoring and Review (Role of the Subject Leader).**

9.1 The subject leader will raise the profile of Maths at Wheatlands Primary School through best practice. They will ensure the SLT team and teaching staff are kept informed about current developments in mathematics, and provide a strategic lead and direction for this subject.

9.2 The subject leader will model lessons, as appropriate to new staff, NQTs and peers to support continued professional development. They will ensure the high quality of Maths displays around the school, present certificates of achievement for Timetables during 'Good Work' assemblies. The subject leader will support staff in providing opportunities for learning outside the classroom in Maths and will identify and organise opportunities which enable this, as appropriate.

9.3 The subject leader uses specially allocated management time to monitor progression and continuity of Maths throughout the school through lesson observations, drop-ins and regular monitoring of outcomes of work in Maths exercise books.

9.4 The subject leader will ensure that all staff have access to year group plans and the relevant resources that accompany them.

9.5 The subject leader will monitor children's progress through the analysis of whole school data. They will use this data to inform the subject development plan, which will detail how standards in the subject are to be maintained and developed further.

9.6 On a regular basis the subject leader will organise, audit and purchase central and class-based Maths resources.

9.7 The subject leader will extend relationships and make contacts beyond the school.

9.8 The subject leader will develop opportunities for parents/carers to become more involved in Maths education through 'Parental Engagement Workshops'.

9.9 This policy will be updated every year.