

Minsterley Primary School

Maths Policy

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General statement

We aim to develop lively, enquiring minds encouraging pupils to become self-motivated, confident and capable in order to solve problems that will become an integral part of their future. At Minsterley Primary School we aim to inspire all children to reach their full academic potential. In mathematics this means ensuring a curriculum that is meaningful, contextual and fully inclusive.

Aims and Objectives

Our school offers a broad foundation of mathematical experiences designed to provide all pupils with the understanding, skills and knowledge needed to deal with everyday situations and experiences. A sound understanding of mathematics enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives.

Teaching and Learning

Our principal aim is to develop children's knowledge, skills and understanding in mathematics. We do this through a daily lesson which combines whole class and group teaching. During these lessons we encourage children to use taught facts and skill sets to answer mathematical questions and to reflect upon their strategies for solving these questions and problems, as outlined in the National Curriculum.

The National Curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

In all classes there are children of differing 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. Teachers and TAs will facilitate all learning through quality first teaching and supporting children in whole class situations, smaller groups and 1:1 teaching where necessary.

Mathematics Curriculum Planning

Mathematics is a core subject in the National Curriculum. At Minsterley we implement the statutory requirements of the programme of study for mathematics using the National Curriculum.

Our medium-term mathematics plans give details of the main teaching objectives for each term and define what we teach. All planning ensures an appropriate balance and distribution of learning across each term. The key objectives for mathematics are set out year by year for Key Stages 1 and 2. Within each Key Stage, we have the flexibility to revisit objectives from earlier years to ensure complete understanding. Throughout the whole curriculum we look for opportunities to develop mastery and promote mathematical enjoyment.

Foundation Stage

The programme of study for the Foundation stage is set out in the EYFS curriculum. Mathematics involves providing children with opportunities to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems and to describe shape, spaces and measures.

Key Stage 1

The principal focus of mathematics teaching in Key Stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources (e.g. concrete objects and measuring tools). At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary.

Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money. By the end of Year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency. Pupils should read and spell mathematical vocabulary at a level consistent with their reading and spelling knowledge.

Lower Key Stage 2

The principal focus of mathematics teaching in lower Key Stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of Year 4, pupils should have memorised their multiplication tables up to and including the x12 multiplication table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their increasing word reading knowledge and their knowledge of spelling.

Upper Key Stage 2

The principal focus of mathematics teaching in upper Key Stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio. At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them. By the end of Year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils should read, spell and pronounce mathematical vocabulary correctly.

Assessment and Recording

iTrack is used to record attainment and progress towards meeting expectations at the end of the EYFS and Key Stages. We assess children's work in maths in the short, medium and long-term.

Formative assessments are used to inform our daily plans. These short-term assessments are matched to the teaching objectives. These assessments and monitoring of pupil progress

continues to take place, weekly and termly, during focus group teaching, through marking, questioning and observation. All planning is informed by ongoing assessment.

Medium-term assessments are made to measure progress against the key objectives, and to help us plan the next section of work. We use age related 'I Can' statements in line with the curriculum for children and staff to record attainment.

Summative assessments in KS1 and KS2 are made towards the end of each term and year. We make the long-term assessments with the help of tests and teacher assessments. Teachers identify children who are not making the progress expected and interventions for both KS1 and KS2 children are put in place to ensure maximum progress is made by all pupils. End of year assessments will identify which children are 'end of year ready.' We pass this information on to the next teacher at the end of the year, and update the iTrack system.

Equal Opportunities

As a staff we endeavour to maintain an awareness of, and to provide for equal opportunities for all our pupils in mathematics. We aim to take into account cultural background, gender and Special Needs, both in our teaching attitudes and in the published materials we use with our pupils.