



Minsterley Primary School  
**Maths Policy**

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Approved by Governors:

Written: Sept 2021

Reviewed Date: Oct 2023

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**Maths Policy**

**This policy should be read in conjunction with the Maths Calculation Policy, Teaching and Learning Policy, Feedback Policy and Assessment Policy.**

**Purpose**

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**

At Minsterley Primary School we believe that learning is a change to long term memory. We intend to create knowledge through spaced repetition and backwards and forwards learning. Our curriculum is built around repeated opportunities to strengthen key concepts. Opportunities are provided to revisit these skills within different mathematical contexts and other curriculum subjects.

Using the Statutory Framework for the Early Years Foundation (2021) programme for mathematics and the Programme of Study from the National Curriculum our aim is to develop:

- a positive attitude towards mathematics, where children are resilient and persistent in pursuing the answers they are seeking;
- competence and confidence in mathematical knowledge, concepts and skills, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately;
- the ability to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language;
- the ability to solve problems by applying their mathematics to a wide range of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions;
- initiative and an ability to work both independently and in co-operation with others;
- the capacity to communicate mathematical thinking both orally and on paper;
- the ability to use and apply mathematics across the curriculum and in real life situations;

**Teaching and learning**

This is achieved through high quality teaching and our commitment to endeavour that all pupils achieve mastery in the key concepts of mathematics, appropriate for their age group, in order that they make genuine progress and avoid gaps in their understanding that provide barriers to learning as they move through education. We ensure at all times to set work that is challenging, motivating and encourages the pupils to think about how they learn and to talk about what they have been learning. We believe that giving children opportunities to work in mixed ability pairs during maths lessons will enhance the use of mathematical thinking and vocabulary of all children involved.

## The Mathematics Curriculum

Our school scheme of work is a working document and as such is composed of on-going plans produced on a week by week basis. This is developed from the Statutory Framework for the Early Years Foundation (2021) programme for mathematics and The National Curriculum (KS1 and KS2) and takes into consideration the needs of our children.

### Early Years Foundation Stage (EYFS)

Children follow the EYFS curriculum working towards the Early Learning Goals (ELGs) 2021.

Mathematics is taught as both a discrete subject and within the whole Early Years Curriculum to give children opportunities to use their mathematical skills through play and in real life situations. *Direct teaching may be necessary, but effective early mathematics teaching strategies are playful, not formal, so that all children become cheerful, not fearful mathematicians.*

Gifford, S. (2018) Children have the opportunity to explore, enjoy, learn about and use mathematics in a range of situations. Teachers plan daily maths activities which are frequently guided by an adult (increasing towards the end of the Summer term). Towards the end of Reception, teachers aim to draw the elements of a more formal daily mathematics lesson together, so that by the time children move into Year 1 they are familiar with a more formal maths lesson.

Teachers use the Reception White Rose Hub scheme of learning as their medium-term planning document which will ensure clear progression in small steps. This scheme provides teachers with exemplification for maths objectives and are broken down into ten phases which cover number, shape, measure and spatial thinking. These are all linked to the key aims of the Early Learning Goals (2021).

### Key Stage 1 and 2

The National Curriculum for Mathematics 2014, provides the **long term planning** for mathematics taught in the school.

Teachers use the White Rose Maths Hub schemes of learning as their **medium-term planning** documents. These schemes provide teachers with exemplification for maths objectives and are broken down into fluency, reasoning and problem solving, linked to the key aims of the National Curriculum. They support a mastery approach to teaching and learning and have number at their heart. They support pupils working together as a whole group and provide plenty of time to build reasoning and problem-solving elements into the curriculum.

A main maths lessons of between 45 and 60 minutes will be taught daily, depending on the age of the children. The above schemes of learning support **daily** lesson/flipchart **planning** of the small steps set out in the White Rose Maths Hub MTP. Teachers can use a range of resources when planning. These may include: NCETM teaching spines (<https://www.ncetm.org.uk/resources/50640>), NCETM mastery assessment material, White Rose, Classroom Secrets, Third Space Learning, Nrich, Maths Shed teaching slides, No Nonsense Maths facts and Busy Ant Scheme or the teachers own ideas. The teaching of maths facts may be further supported through the online access (at school and home) of Times Tables Rock Stars, Maths Shed and NumBots.

## **Fluency**

In EYFS and KS1 children take part in 15 minute NCETM Mastering number session four times a week. The aim is to secure firm foundations in the development of good **number** sense for all children from Reception through to Year 1 and Year 2. Children in Year 4 take part in 15 minute NCETM Mastering number sessions four times a week. The aim is to enable pupils to develop fluency in multiplication and division facts, and a confidence and flexibility with number that exemplifies good number sense

In addition to the main maths session there will be regular daily fluency sessions linked to children becoming fluent in essential maths facts (number bonds within 10, rapid recall of times tables up to 12 (which is needed by the end of Year 4), related facts, prime numbers, square numbers and cube numbers below 100. These sessions allow children time to practise these skills. Online resources such as Times Tables Rock Stars, Maths Shed and NumBots are used both within school and at home to provide practise and also allow staff to track pupil understanding.

## **Cross-curricular Links**

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas, so through our creative approach to teaching and learning we also seek to explore and utilise further opportunities to use and apply mathematics across the whole curriculum in particular Science.

## **Special Educational Needs, group support and differentiation**

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next step. Pupils who grasp concepts readily should be challenged through being offered rich and sophisticated problems rather than by acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, same day intervention, before moving on. These children may benefit from pre-teaching to allow them to keep up.

Children with SEND are taught within the daily Mathematics lesson with additional adult support (if required). Within the daily maths lesson, teachers ensure that learning is accessible for all pupils using a 'Teaching for Mastery' approach to support the learning journey.

In addition, some pupils may require work on specific mathematical targets. This may be delivered through 1:1 or small group sessions. Please see the SEND policy for further guidance.

## **Recording of work**

Children are taught a variety of methods for recording their work and they are encouraged and supported to use the most appropriate and efficient method of recording e.g. formal written methods, informal jottings, bar models, pictures etc.

Children are encouraged to use mental strategies before resorting to a written algorithm.

All children are encouraged to work tidily and neatly when recording their work. When using squared books one square should be used for each digit. All straight lines should be drawn with a ruler using the lines in the book where appropriate.

### **Marking**

Where possible, children should have the opportunity to mark their own work (in a purple pen). This allows instant feedback for both pupils and teachers on who may need further intervention. This also fosters independence in the children and allows them the opportunity to discuss any mistakes/misconceptions with an adult or partner.

The quality of marking is crucial. A simple 'X' is of little assistance to a child unless accompanied by an indication of where the error occurred, together with a model to support explanation (this may not always be recorded in pupils' books). The school believes that this is best done through conversation with the child, but acknowledges this is not always possible. Our marking should aim to close the gap and address the misconceptions or further challenge the child's thinking. Feedback delivered closest to the point of action is most effective, and such feedback delivered in lessons is more effective than comments provided at a later date. See the Feedback policy for further details.

### **Assessment and Record Keeping**

Teachers are expected to make regular assessments of each child's progress and to record these systematically. Teachers are obliged to regularly assess and track each pupil's progress with age appropriate times tables. Plus, through good quality first teaching and the apps Whiterose Minute Maths and Numbots we monitor children's progress with number bonds; and through weekly paper times tables tests/Times Tables Rock Stars app we monitor children's progress with times tables facts.

### **Summative Assessment (see Assessment policy for further guidance)**

Once a term from the summer term of Reception onwards, the children undertake a summative assessment. As a school we use 'NTS' tests. The Standardised Scores from these assessments are recorded in the Excel Assessment Overview grids (Staff Server) and placed onto tracking grids to enable school staff to ensure that children are making expected progress. In addition to NTS, Y2 and Y6 will use past SATS papers. EYFS make a judgement using the appropriate Early Learning Goals and these are recorded on an Excel EYFS tracking document on the Staff Server. All documents are monitored and discussed with Pupil Progress meetings (termly).

At the end of each Key Stage (EYFS, KS1 and KS2) children are assessed against national criteria (Early Learning Goals/SATS) to see if they are meeting the standards expected for their age.

### **Formative Assessment (see Assessment policy for further guidance)**

As well as termly formal assessment, we assess children's work in Mathematics regularly (through teacher observation, AFL tasks/questions, marking, questioning, guided group work) and use these to help our daily plans/interventions in order to tailor learning activities to suit the needs of the class/groups/individuals.

### **Reporting to parents**

A written report is completed towards the end of the summer term and parents are given the opportunity to discuss their child's progress on two separate occasions (once in autumn and once in spring). However, if a teacher/parent/carer has a concern with a child's progress, they are welcome to make a convenient appointment at any point throughout the year.

### **Monitoring and Evaluation**

Monitoring the standards of children's work and the quality of teaching in mathematics is carried out frequently (at least termly) by the headteacher, Maths co-ordinator and Link Governor. The monitoring is done through learning walks, formal observations, book looks and pupil voice. The work of the Mathematics subject leader 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 school. The named Link Governor can be found on the school website.

### **Resources and Working walls**

All maths resources required on a regular basis (e.g. Numicon, Base Ten, Bead strings, Place Value counters etc) are accessible to all children and therefore will allow them to become familiar with resources and encourage independence. Every classroom should have one display board dedicated as the working maths wall. Here they should display support for the current area of learning, model written calculations, supporting images, bar models and provide support or challenge which will help children in their independent learning.

### **Homework**

Homework should be linked to the learning of maths facts (number bonds within 10, 20, 50, 100, rapid recall of times tables, prime numbers, square numbers or cube numbers etc). All pupils have home access to Times Tables Rock Stars and Maths Shed to support their learning of the times tables. To support the learning of number bonds all pupils have access to Whiterose Minute maths, NumBots and Maths Shed. Those children who can't access these resources at home are offered an opportunity to access them during lunch times or a paper version.