



Langham Primary School

Mathematics Policy

Adopted	October 2022	Author/ Owner/ Governor responsibility	<i>Charlotte Neale/ pupil related committee</i>
Last Reviewed		Review Cycle	<i>Three Years</i>

Mathematics is a tool for everyday life. It is a whole network of concepts and relationships which provide a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas and to tackle a range of practical tasks and real-life problems. It also provides the materials and means for creating new imaginative worlds to explore. In developing our policy and approach to teaching Mathematics, we have taken into account the expectations of [The National Curriculum](#), the [Statutory Framework for the early years and foundation stage](#) and evidence from [Education Endowment Foundation guidance reports](#) about improving mathematics.

This policy is monitored every three years by the pupil related committee. The Mathematics subject leader is responsible for ensuring the policy is implemented, providing support and training where necessary and accounting for its effectiveness to the headteacher and governing body.

At Langham Primary School, our aim is for children to develop:

- ✓ **a positive attitude towards mathematics and an awareness of the fascination of mathematics;**
- ✓ **competence and confidence in mathematical knowledge, concepts and skills, including fluency of mental calculation;**
- ✓ **an ability to solve problems, to develop reasoning, to think logically and to work systematically and accurately;**
- ✓ **initiative and an ability to work both independently and in cooperation with others;**
- ✓ **an ability to communicate mathematics effectively in both written and verbal form;**
- ✓ **an ability to use and apply mathematics across the curriculum and in real life;**
- ✓ **an understanding of mathematics through a process of enquiry and experiment.**

Planning for Progression

At KS1 and KS2 teachers use the National Curriculum Programme of Study as a basis for their planning, to ensure that all parts of the curriculum are met. We have developed our own scheme of work by adapting the White Rose progression framework which makes sure that children make rapid but secure progress through curriculum objectives and have the opportunity to develop a deep understanding of them.

Our school programme of study is a working document based on White Rose and The National Curriculum which has been adapted to ensure pupils are offered opportunities to revisit and further develop understanding in key areas such as Place Value and Calculations several times throughout the academic year. This enables pupils to consolidate previous learning and ensure that the essential building blocks of mathematical understanding are sound before developing skills and knowledge further. In KS2 there are also some 'floating units' (e.g., statistics), which are to be delivered through cross-curricular topics. We believe it helps children's understanding if these topics are taught in context. We have a calculations policy that ensures key skills and concepts in the '4 rules' are taught with clear progression throughout the school, taking into account the expectations of the mathematics National Curriculum.

Through careful planning and preparation, we aim to ensure that throughout the school, children are given opportunities for:

- ✓ practical activities and mathematical games – to develop enjoyment and a positive mindset when approaching 'challenge'
- ✓ problem solving – providing real-life contexts where possible
- ✓ paired, group and whole class discussions with an expectation that children start to use mathematical vocabulary with increasing confidence and precision
- ✓ individual, paired and group tasks to consolidate learning and explore new ideas
- ✓ open and closed tasks – to develop the children's reasoning and ability to discuss their thinking
- ✓ a range of methods when calculating e.g., mental, pencil and paper and using a calculator
- ✓ working with computers as a mathematical tool

As a school we have a topic-led approach. Throughout the whole curriculum opportunities, exist to extend and promote mathematics. Teachers seek to take advantage of all opportunities, including 'floating units' to support these cross curricular links.

Each class teacher is responsible for the mathematics in their class in consultation with and with guidance from the mathematics subject leader.

The approach to the teaching of mathematics within the school is based on three key principles:

- ✓ a mathematics lesson every day – making use of any natural opportunities for cross curricular links and application of existing skills to be encouraged
- ✓ a clear focus on direct, instructional teaching which promotes the use of mathematical language as well as interactive individual, paired or group activities
- ✓ an emphasis on mental calculation, which may be supported through the use of manipulatives

Mathematics is taught every day, usually in lessons of between 45 and 60 minutes determined by the age of children. Aspects of the Mathematics National Curriculum (Fluency, Reasoning and Problem Solving) need to be specifically highlighted or labelled on plans to ensure the three key aims are being addressed in each lesson.

Teachers of Early Years children base their teaching on the objectives in [Development Matters](#) this ensures that they are working towards the Early Learning Goals identified in the statutory framework for early years and foundation stage.

SPECIAL EDUCATIONAL NEEDS & GIFTED AND TALENTED

Children with SEND are taught within the daily mathematics lesson. As with other groups of children, they will be supported at times by a teaching assistant or teacher with carefully targeted work aimed at moving their learning on.

Where applicable children's One Plans incorporate suitable objectives from the National Curriculum and teachers keep

these objectives in mind when planning work. Children with specific maths objectives on their One Plan may get specific additional support to help them meet these objectives.

Within the daily mathematics lesson teachers not only provide activities to support children who find mathematics difficult but also activities that provide appropriate challenges for children who are high achievers in mathematics.

DIFFERENTIATION

Teachers are encouraged to refer to the [Mathematics Guidance: Key Stages 1 and 2 \(June 2020\) 'Ready to Progress' criteria](#) which supports teachers to pitch their lessons and activities to the needs of their pupils. Other methods that may be used to support meeting the needs of individual pupils are:

- ✓ Stepped Activities which become more difficult and demanding but cater for the less able in the early sections.
- ✓ Common Tasks which are open ended activities/investigations where differentiation is by outcome.
- ✓ Resourcing which provides a variety of resources depending on abilities e.g. counters, cubes, 100 squares, number lines, mirrors.
- ✓ Grouping according to ability so that the groups can be given different tasks when appropriate. Activities are based on the same theme and usually at no more than three levels.

PUPILS' WORK

There is an emphasis on the use of manipulatives and pictorial images, particularly in Key Stage 1 which support the practical nature of the activities set. Adults may record this work in the form of a photograph which demonstrates the pupils' achievements in the lesson and is presented in their workbook along with an objective and explanation of the task.

Children are also encouraged to use mental strategies they have been taught in class before resorting to a written algorithm. There are other occasions when it is both quick and convenient to carry out written calculations. It is also important that children are taught to record aspects of mathematical investigations including all the calculations involved. Children are taught a variety of methods for recording their work and they are encouraged and helped to use the most appropriate and convenient method of recording.

All children are encouraged to work tidily and neatly when recording their work. In Key Stage 1 and Key Stage 2 pupils work in books with squared paper. The squares sizes vary according to the child's age and pencil control. When using squares one square should be used for each digit. This helps reinforce their understanding of place value and avoid mistakes when recording calculations in columns.

MARKING

All work must be marked in order to acknowledge children's efforts.

Beyond this, effective marking can make a strong contribution to good progress. A number of strategies and approaches bring this about. At least **one piece of English** and **one piece of Maths** is **marked in depth** for each child each week. Children's books should include examples of the following.

- ✓ **Written comments** referring to learning objectives.
- ✓ **Next steps in learning** indicated and acknowledged when achieved or attempted.
- ✓ **Questions posed** to make children think about their work, with the expectation that children respond to these questions – placed in a bubble, so questions / challenges are easily recognised, and responses are in a 'safe place'.
- ✓ **Dialogue between pupil and teacher** making an effective contribution to the learning process.
- ✓ **Clear evidence** that children understand the level at which they are working.

Marking is in **green ink** (a colour that contrasts with the child's work and can be easily seen). Spelling and grammar must be accurate and handwriting legible.

ASSESSMENT, RECORD KEEPING & REPORTING TO PARENTS

Teachers are expected to evaluate each lesson on a daily basis to inform the next lesson and following week's planning. Children are encouraged to reflect on their learning at the end of each session, identifying successes and their own next steps, as well as those identified by the teacher.

We use Target Tracker software to track pupils' attainment and progress. We do this in accordance with our Assessment Policy.

PARENTAL INVOLVEMENT

- ✓ Parents are invited into school twice yearly to look at their children's work.
- ✓ When significant changes have been/are made to the mathematics curriculum parents are invited to a meeting or sent information via the newsletter.

MONITORING AND EVALUATION

The Mathematics subject leader is responsible for ensuring the policy is implemented, providing support and training where necessary and accounting for its effectiveness to the headteacher and governing body.

We monitor standards in mathematics by:

- ✓ Checking planning to make sure the programme of study is being covered in full
- ✓ Looking at children's work in their maths books
- ✓ Observing lessons
- ✓ 'Progression checks' which involves all staff using examples of children's work in a particular area of mathematics across the school
- ✓ Talking to pupils about their work in mathematics.

Teachers are supported in delivering the mathematics curriculum by:

- ✓ Termly staff meetings with a mathematics focus
- ✓ Team teaching and coaching with the mathematics leader
- ✓ Development sessions with teachers from other schools in the partnership
- ✓ Attending training (online or face to face) and self study, for example using

The mathematics lead is provided with release time from classroom duties to carry out these tasks.

STAFFING AND RESOURCES

All teachers should organise an area within the classroom dedicated to mathematics resources. This area is easily accessible to all children and allows them to become familiar with all resources and develop independence when selecting the materials, they need for enquiry.

Teachers should also ensure that relevant mathematical vocabulary is displayed in the classroom for reference (e.g.) time language near an analogue clock to support telling the time or to support the areas being taught.

Resources which are not used or required regularly are stored centrally and can be accessed when required for lessons.