

Introduction

At Wool CE Primary School we believe that Mathematics is a vital part of the curriculum which helps pupils to **flourish**. It investigates the relationship between numbers and other variable properties, thereby revealing patterns from which children can begin to make wider connections. Maths enables young people to make sense of the world, to question thoughtfully and to tackle practical tasks and problems with **perseverance**. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. Maths is not seen as an isolated subject but one that is related to the whole curriculum therefore opportunities should be sought to make links in a cross-curricular way so that children see the relevance of having numerical skills. To ensure children achieve their full potential, we provide support alongside our teaching, which is underpinned by our Curriculum Drivers and therapeutic approach. This develops children's emotional resilience as well as builds their confidence and skills to problem solve.

Our Aims and Objectives:

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 develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- **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.

At Wool CE Primary we want to teach Maths in a way that:

- delivers Maths in line with National Curriculum guidelines
- ensures the delivery of Maths is filled with cross curricular opportunities
- creates a lively, exciting and stimulating environment
- promotes the concept that acquiring Maths knowledge and skills provides the foundation for understanding the world around the children
- develops mental strategies and automaticity in number fluency facts
- encourages children to use mathematical vocabulary to reason and explain
- allows time for partner talk in order to stimulate and develop a curiosity for Maths
- challenges children to stretch themselves and take risks in their learning
- creates a sense of awe and wonder surrounding Maths
- provides children with the opportunity for low-entry, high-ceiling challenges

Our Approach

Teachers implement a progression of skills and knowledge document which underpins their weekly planning. These objectives are based on the National Curriculum expectations and will be used to ensure children are taught the learning journey that is required. It is important that children are allowed to explore Maths and present their findings not only in a written form but also visually and verbally; to that end the school adopts the CPA approach: concrete, pictorial, abstract. This allows pupils to experience the physical aspects of Maths to help them explore a way to present their findings and understandings in a visual form before relying on the

abstract numbers.

In addition, we have made the important decision to allocate time each day to maths fluency. The reason behind this is because it plays an important part in the national curriculum. Maths fluency means that children will be able to use their skills to know the best way to figure out a maths problem. It also refers to developing number sense and using those skills in a variety of contexts. For example, when presented with a multiplication problem, children could tackle it in a variety of ways depending on the size of the numbers involved.

When asking a child, the answer to 3×4 , they may choose to work it out mentally or use repeated doubling. They could also use their existing skills to know that $3 \times 2 = 6$ so they'd just need to double that. As fluency is also about choosing the most efficient and accurate method, it would be significantly more long-winded to choose to answer this through column multiplication.

However, if you were to ask them the answer to 17×18 , it's unlikely that they'd be able to tackle it in their heads straight away. They could use their knowledge of place value to break it down into smaller chunks or they could use a column-based method. For example, they're more likely to be able to recall the answer to 17×10 first. From here, they might choose to double their answer before subtracting 17×2 . What ultimately matters is that children know which method works most efficiently and accurately for them.

Most importantly, maths fluency allows learners to understand the relationship between numbers. It means that not only do they get to grips with how they answer something, but they also understand why they've reached their answer.

Teaching staff at Wool CE Primary attend staff meetings that regularly have a Maths focus, and which provide information on current thinking, monitoring feedback, introducing staff to new teaching methodologies and ideas etc. Any relevant thinking with regards to how children learn are always disseminated across the school so that every opportunity is provided for consolidating the topic areas.

Planning and Assessment

Long term planning

The National Curriculum for Mathematics and the Early Learning Goals (Number, Shape Space & Measure) provide the long term planning for mathematics taught in the school.

Medium term planning

Years 1-6 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 (key aims of the National Curriculum). They support an **aspirational** mastery approach to teaching and learning and have number understanding at their heart. They ensure teachers stay in the required key stage and support the ideal of depth before breadth. They encourage pupils to work together as a whole group and provide time to build reasoning and problem solving elements into the curriculum.

For fluency we use a combination of Maths Hub (NCETM) in EYFS and KS1, Fluency Bee in LKS2 and in UKS2 we use a range of arithmetic sources to prepare the children for the statutory assessments at the end of Year 6. These are clarified and captured in an overarching Fluency Progression document.

Short term planning

The above schemes of learning support daily lesson/flipchart planning. Lessons are planned using a common

weekly planning format and are monitored at intervals by the maths subject leader.

Our EYFS Approach

Our approach to mathematics as children enter the school in reception is developed from the new EYFS Statutory Framework 2021 where:

1. Every child deserves the best possible start in life and the support that enables them to fulfil their potential. Children develop quickly in the early years and a child's experiences between birth and age five have a major impact on their future life chances. A secure, safe and happy childhood is important in its own right. Good parenting and high quality early learning together provide the foundation children need to make the most of their abilities and talents as they grow up.
2. The Early Years Foundation Stage (EYFS) sets the standards that all early years providers must meet to ensure that children learn and develop well and are kept healthy and safe. It promotes teaching and learning to ensure children's 'school readiness' and gives children the broad range of knowledge and skills that provide the right foundation for good future progress through school and life.
3. The EYFS seeks to provide:
 - quality and consistency in all early years settings, so that every child makes good progress and no child gets left behind
 - a secure foundation through planning for the learning and development of each individual child, and assessing and reviewing what they have learned regularly
 - partnership working between practitioners and with parents and/or carers
 - equality of opportunity and anti-discriminatory practice, ensuring that every child is included and supported

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children are taught to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing daily maths fluency sessions as well as additional varied continuous provision opportunities we can help children to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting . This provision helps pupils to develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. Children are encouraged to develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

Our Learning Environments

As you walk into every classroom the Maths working walls contain essential information including:

- pictures and labels of all the manipulatives that the children will come across over the course of the year. This will vary between key stages and even certain years as we introduce the children to new resources.
- the current vocabulary for the topic area that is being covered
- examples and working methods for the learning that is taking place within the class
- a celebration of children's work that has been completed

Around the room there will be appropriate number lines visible for the children to see, and trays labelled with the resource names to encourage independence.

Lessons

In all lessons, learning objectives and success criteria are clearly displayed and discussed. The emphasis in lessons is to make teaching interactive to engage all children through questioning and well matched task design.

Lessons involve elements of:

- Recap – recapping the previous session and checking they understand what it is they were learning
- New input – giving out the new information and structuring it well;
- Modelled work – showing, describing and modelling mathematics using appropriate resources and visual displays;
- Independent work – this will include: questioning and discussing; consolidating prior learning, reflecting and evaluating responses by identifying mistakes and using them as positive teaching points;
- Reviewing – reviewing mathematics that has been taught enabling children to focus on next steps

Special educational needs & disabilities (SEND)

Daily mathematics lessons are inclusive to pupils with special educational needs and disabilities. Where required, children's EHCP's incorporate suitable objectives which link to personalised outcomes and these targets may be worked upon within the lesson as well as on a 1:1 basis outside the mathematics lesson. Maths focused interventions in school help children with gaps in their learning and mathematical understanding. These are delivered by trained support staff and overseen by the SENCO and/or the class teacher. Within the daily mathematics lesson teachers have a responsibility to not only provide differentiated activities to support children with SEND. It is the teachers' responsibility to ensure that all children are challenged at a level appropriate to their ability.

Assessment

Assessment of individual pupils progress is on-going throughout the lesson by the class teacher and informs future planning. Progress is informed through a combination of both formative and summative assessment. As topics are introduced the teacher questions the children about the upcoming learning and assesses the children's level of understanding. This information is used to inform planning, and any possible interventions/targeted feedback that may be needed to address identified misconceptions. Formative assessment uses more informal strategies to determine what children understand and what they still need to learn to master a goal or outcome. In Year 2 and across Key Stage 2 these will be in the form of a termly test that the children will sit to track their level of understanding, and enables the teachers to monitor their progress over the year.

Teachers mark work in line with the school marking policy. Children are given feedback that encourages them to review their work. See separate Marking Policy for more information.

Teachers use a data system called 'DC Pro' to track pupils' progress over the year.

- **Below:** where the child is working at least 2 years below their year group
- **Working Towards:** where the child is working below the year group and are at an early stage of development (support needed)
- **National minus:** where the child has a growing ability and independence (prompting needed to sustain the level for their year group)
- **National:** where the child is working within their year group independently

- **Above:** where the child exhibits skill spontaneously and with confidence above their year group

Parental Involvement

At Wool we encourage parents to be involved by:

- Inviting them into school twice/three times yearly to discuss the progress of their child at parent teacher consultations
- Providing parents/carers with an annual report outlining their child's achievements (issues at end of summer term)
- Holding workshops for parents/carers at intervals during the year
- Sending home learning activities weekly to be completed by or with their child (often a combination of online and written activities)