Walverden Primary School



Maths Policy
(Sep 2022)

Curriculum Statement
Intent

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 Walverden Primary School, these skills are embedded within Maths lessons and developed consistently over time. We are committed to ensuring that children are able to recognise the importance of Maths in the wider world and that they are also able to use their mathematical skills and knowledge confidently in their lives. We want all children to enjoy Mathematics and to experience success in the subject, with the ability to reason mathematically. We are committed to developing children's curiosity about the subject, as well as an appreciation of the beauty and power of Mathematics.

Implementation

To ensure consistency and progression, the school uses the nationally recognised White Rose Maths scheme. The White Rose curriculum is a cumulative curriculum, so that once a topic is covered, it is met many times again in other contexts. For example, place value is revisited in addition and subtraction and multiplication and division. The curriculum recognises the importance of children's conceptual understanding of number. It is therefore designed to ensure that time is invested in reinforcing this to build competency.

Lessons are planned to provide plenty of opportunities to build reasoning and problem-solving elements into the curriculum. When introduced to a new concept, children have the opportunity to use concrete objects and manipulatives to help them understand what they are doing. Alongside this, children are encouraged to use pictorial representations. These representations can then be used to help reason and solve problems. Both concrete and pictorial representations support children's understanding of abstract methods.

Mathematical topics are taught in blocks, to enable the achievement of 'mastery' over time. These teaching blocks are broken down into smaller steps, to help children understand concepts better. This approach means that children do not cover too many concepts at once which can lead to cognitive overload.

Our curriculum is implemented in the following way:

- Teachers reinforce an expectation that all children can achieve high standards in Mathematics.
- Most of the children progress through the curriculum content at the same pace; significant time is spent developing deep knowledge of the key ideas that are needed to underpin future learning. This ensures that all can master concepts before moving to the next part of the curriculum sequence.

- Lesson design identifies the new mathematics that is to be taught, the key points, the difficult points and a carefully sequenced journey through the learning.
- Carefully designed variation within this builds fluency and understanding of underlying mathematical concepts.
- Teachers use precise questioning in class to test conceptual and procedural knowledge and assess children regularly to identify those requiring intervention.
- Children's explanations and their proficiency in articulating mathematical reasoning, with the precise use of mathematical vocabulary, are supported using stem sentences.
- Key facts, such as multiplication tables are learnt to automaticity to avoid cognitive overload in the working memory.

The school has been part of the DfE funded Maths Hubs Programme for the last four years which ensures that staff at all levels understand the mastery approach.

EYFS Curriculum

Nursery

Children in Nursery have four maths sessions per week, during which time they begin to develop their understanding of simple mathematical concepts. These are informed by the Development Matters Framework. Children are taught these concepts using physical resources, pictorial resources, songs, games and role-play.

Reception

Maths is a specific area of learning within the EYFS Statutory Framework. In Walverden, we teach maths four times per week using the White Rose scheme (together with Development Matters). This is supplemented with a daily fluency session following the (NCETM) Mastering Number materials. This combination creates firm foundations for a deep understanding of number and provides clear links with Year 1 and the rest of the primary curriculum.

In both Nursery and Reception, the independent activities in continuous provision link to the focus for the week.

National Curriculum

Maths is taught daily in KS1 and KS2 using the White Rose Maths scheme of learning for Years 1 to 6. In addition to this, all classes teach a daily fluency session (Year 1 follow the NCETM Mastering Number materials and Years 2-6 follow Fluent in Five (Third Space Learning).

The White Rose Maths progression document, available on the school website, provides an overview of how the scheme covers the statutory requirements of the 2014 National Curriculum. It also shows how concepts build over time and how the teaching blocks are sequenced in each year group.

KS1 and KS2

Our KS1 and KS2 teachers use White Rose Maths Premium lesson slides, which they adapt accordingly. When adapting teaching slides, carefully considered stem sentences may be added along with additional questions that provide further challenge for children who are quick to grasp new concepts. Years 4 to 6 also utilise the Flashback 4 slides to enable children to retrieve and revisit previous learning, as well as developing their number fluency.

Inclusion

Taking a mastery approach, differentiation occurs in the support and intervention provided to different children, not in the topics taught, particularly at earlier stages. There is little differentiation in the content taught but the questioning and scaffolding individual children receive in class as they work through problems will differ, with higher attainers challenged through more demanding problems, which deepen their knowledge of the same content before acceleration onto new content. Children's difficulties and misconceptions are identified through immediate formative assessment and addressed with rapid intervention – commonly through individual or small group support later the same day or within the lesson.

Teachers are also aware of the special educational needs of the children in their Maths class, as well as those who have English as an additional language. Although the expectation is that most children will move through the programmes of study at broadly the same pace, if a child's needs are best met by following an alternative plan, including coverage of the content from a previous year, this will be provided. Specific arrangements for the provision of children with SEND will be communicated to parents and carers.

Equal Opportunities

The school is committed to ensuring the active participation and progress of all children in their learning.

All children will be given equal opportunities to achieve their best possible standard, whatever their current attainment and irrespective of gender, ethnic, social or cultural background, home language or any other aspect that could affect their participation or the progress of which they are capable.

Resources

Each classroom has its own supply of mathematical equipment, in line with the White Rose Maths calculation policies, which the school as adopted. This is also available on the school's website.

The mathematical development of staff is encouraged in a number of ways: primarily through working with the mathematics leader in school, attending school staff meetings and INSET days together with courses provided by the LA, White Rose, Maths Hubs and other providers.

White Rose Maths block by block CPD videos are available to all staff. This ensures that teachers have the means to be able to expertly teach and explain mathematical concepts, in a way that is accessible and challenging to all. This may include scaffolding such as:

• A representation of the worded problem, such as a bar model, so children can see relationship between amounts.
• A partially provided answer or working out that exposes the structure of the maths behind the question.

Assessment

Teachers use 'assessment for learning' in every lesson to adapt each part of the lesson and to inform their next day's teaching. Live marking and questioning during lessons enable teachers to make assessments. Rapid intervention takes place to address misconceptions, any gaps in knowledge and conceptual understanding. Formal assessments take place termly using Pixl and Star assessments, then are recorded on Target Tracker. This data will be used for teachers and leaders to track the children's attainment and progress.

In EYFS assessment is ongoing through whole class teaching, small, focussed groups and observations. Practitioners move children on and address misconceptions immediately.

In line with statutory requirements, children are formally assessed at key points during their journey through school:
• End of EYFS: Teacher assessment against the Early Learning Goals
• End of KS1: Teacher Assessment Framework (DfE) supported by Arithmetic and Reasoning tests.
• End of Year 4: Times Table Check
• End of KS2: Externally marked Arithmetic and Reasoning tests.

Parental Involvement and Homework

It is our school policy to provide parents and carers with opportunities to work with their children at home. These activities are valuable in promoting children's learning in mathematics. Tasks relating to the week's learning are set on Class Dojo or Centurytech each Friday from Nursery to Year 6 and take the form of number games and tasks with more formal exercises for older children.

There are many opportunities for parents to be involved in mathematics in school:

- Parent workshops are regularly delivered in school.
- When significant changes have been/are made to the mathematics curriculum parents are invited to a meeting or sent information.
- Videos and parental handbooks are available for each year group on the school website, as are curriculum and progression maps to help support children at home.

Impact

The children will:

- Demonstrate a quick recall of facts and procedures (including the recollection of times table to 12 x 12).
- Use efficient mental and written calculation methods.
- Will be resilient and have a positive attitude towards maths.

- Will confidently use mathematical vocabulary.
- Have mastered the mathematical concepts or skills expected at the end of each year group.
- Have an ability to solve problems, to reason, to think logically and to work systematically and accurately even when posed in unfamiliar situations.
- Have initiative and an ability to work both independently and in cooperation with others.

This will be measured in a number of ways:

- % of children reaching end of key stage expectations.
- % of good or accelerated progress from previous benchmark.
- Children are enthusiastic about their learning and speak confidently about what they have learned and how it links to other things they know.
- Work in books is of a high standard, showing progression in skills.
- Children show enjoyment in being challenged.

The mathematics subject leader, alongside other members of the Senior Leadership Team, monitor the impact of what is being taught via:

- Learning walks / lesson observations.
- Book looks.
- Pupil conferencing.
- Data analysis.
- Moderation of work.

The Governing Body

The Maths Leader reports back to the curriculum committee on a regular basis.