

Purleigh Primary School



Maths Policy

“Achievement for all within a community that cares”

Date adopted: Autumn 2023

Date of review: Autumn 2026

1. Intent

The intention of the maths curriculum at Purleigh is that children are taught to become competent mathematicians who can explain their reasoning and show their understanding using a variety of different representations whilst continually repeating key basic skills. We work in line with the 2014 National Curriculum for Maths which 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 Purleigh, we strive to embed the skills and processes necessary to enable children to use and apply their maths learning in a variety of contexts. We aim to develop children's enjoyment of maths and provide opportunities for children to build a conceptual understanding of maths as well as apply their knowledge to everyday problems and challenges. Our approach to the teaching of mathematics develops children's ability to work both independently and collaboratively. Through mathematical talk and reasoning, children will develop the ability to articulate and discuss their thinking.

Within our school, the skills are embedded within maths lessons and developed consistently over time through three levels of learning:

Shallow learning: surface, temporary, often lost

Deep learning: it sticks, can be recalled and used

Deepest learning: can be transferred and applied in different contexts.

At each stage of learning, children should be able to demonstrate a deep, conceptual understanding of the topic and be able to build on this over time. By teaching maths through a mastery approach, we aim for children to achieve the deep and deepest levels of learning.

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 in a range of different contexts. By the end of Key Stage Two, children will leave our school prepared for the next step in their mathematical education.

2. Implementation

To ensure we maintain whole school consistency and progression, we follow the White Rose scheme of learning, which supports the idea of mastery. We feel this provides the children with opportunities for challenge as well as offering support where needed, through the use of concrete and practical resources as well as abstract thinking strategies. We give all children the opportunities they need to learn new concepts, revise existing ones and put their understanding to practical use. They will have the opportunity to revisit topics through the year, as well as maintaining a weekly focus on arithmetic skills. This will include weekly maths homework for all children, allowing the children to consolidate and show off their maths knowledge.

Teachers reinforce an expectation that all children are capable of achieving high standards in mathematics where the large majority of children progress through the curriculum content at the same pace. Differentiation is achieved through precise questioning, individual support and resourcing. Teachers challenge those who have grasped the content by 'going deeper' and encouraging children to further explore the ideas and concepts of the lesson rather than moving them through the curriculum faster. Through ongoing formative and

summative assessments, teachers are able to identify gaps in understanding and plan for those requiring intervention as soon as possible.

The White Rose scheme supports the 'Concrete, Pictorial, Abstract' (CPA) approach driven by the mastery programme. This helps children to show and talk about their understanding of mathematical thinking in different ways. Practice and consolidation play a central role. Carefully designed variation through different models e.g. Dienes, bar model, number lines etc within this builds fluency and understanding of underlying mathematical concepts. This in turn empowers children to select the most appropriate method for solving a calculation or problem and also one that is a preferred method for them.

Through careful planning we aim to ensure that the teaching of mathematics at Purleigh Community Primary School provides opportunities for:

- Practical activities and mathematical games, including the use of ICT;
- Individual, paired, group and whole class discussions, teaching and activities;
- Mathematical talk and reasoning with an emphasis on understanding and using mathematical vocabulary;
- Open and closed tasks; some of which will be problem solving and investigations;
- A range of methods of calculating e.g. mental strategies, jottings, formal written methods, use of practical equipment

White Rose provides teachers with daily, weekly and termly planning overviews. This ensures that there is full coverage of the National Curriculum with suggested routes that teachers should take when teaching sequences of learning. In addition to this scheme, teachers are provided with access to other mathematical schemes and platforms, such as: Hamilton Trust, Classroom Secrets, TT Rockstars etc. This ensures children have a range of visuals, resources and activities to ensure the depth and breadth of learning that they might need to truly master a concept.

3. Impact

The school has a supportive ethos and our approaches support the children in developing their collaborative and independent skills, as well as empathy and the need to recognise the achievement of others. Students can underperform in mathematics because they think they can't do it or are not naturally good at it. The White Rose programme addresses these preconceptions by ensuring that all children experience challenge and success in mathematics by developing resilience and independence. All year groups maintain a growth mindset in their mathematical approach, allowing the concept of mastery to run through all aspects of the curriculum.

Regular and ongoing assessment informs teaching, as well as intervention, to support and enable the success of every child. These factors ensure that we are able to maintain high standards, with achievement at the end of KS2 well above the national average and a high proportion of children demonstrating greater depth, at the end of each phase.

4. Assessment

We continually assess our pupils in various ways and record their progress through daily marking and feedback; children are formally assessed at least once a term in Years 1 to 6. Assessment is seen as an integral part of the teaching process and we strive to make our assessment purposeful, allowing us to match the correct level of work to the needs of pupils, thus benefiting the pupils and ensuring progress. It is the responsibility of the class teacher to assess all pupils in their class.

Short term assessment is a feature of each of the lessons. Observations and careful questioning enable our teachers to adjust lessons and brief other adults in the class if necessary. This allows for any misconceptions to be addressed. Following learning within lessons, teachers are expected to give written or verbal feedback to children and challenge children further through additional tasks in their books. The children are given 'response time' to complete these challenges and make any corrections in their books. This can be completed independently or with adult support.

5. EYFS

Maths is everywhere! Children learn about it through play and daily experiences in meaningful ways. They actively learn to sort, explore, compare, count, calculate, describe, subitise and manipulate numbers through the resources and activities in their environment. They learn to become creative, critical thinkers, problem solvers and brave learners. Maths lessons are taught daily as a discrete teaching session, followed by a maths carrousel to embed and explore what they have learnt. We base our lessons upon White Rose Maths. Following a mastery approach, children use a combination of concrete objects, pictorial representations, and abstract ideas to develop reasoning and problem-solving skills and ultimately deepen their understanding.

The following main principles form the structure of the EYFS curriculum:

To UNDERSTAND in depth numbers to 10, including number bonds

To RECOGNISE the pattern of the counting system

To COMPARE quantities in different contexts

To EXPLAIN, REASON & PROBLEM SOLVE using numbers to 10.

In Reception, the teaching of mathematics derives from the Development Matters Early Learning Goals (ELG) framework. We provide the children with a range of activities that give them the opportunity to meet the following aims:

Number

Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

Shape, space and measure.

Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

After initial baseline assessments, which are used to inform the teachers of each child's starting point in Maths, teachers can then plan accordingly and address misconceptions. Following whole class input, for example naming of 2D shapes, children then complete adult-led activities linked to the concept within small groups (6 children mixed ability) or in some cases, on a 1:1 basis. It supports assessment on a daily basis, as well as individual feedback to children, ensuring that children receive immediate intervention as required during the supported focus activity. This also allows for children to be challenged accordingly.

In addition to adult-led activities, the children are provided with child-led/initiated activities which link to the mathematical focus for the week. For example, if the focus is addition, then activities presented to the class will often link to this. In addition to these planned child-led/initiated activities, allowing children to consolidate and develop their Maths learning further. We recognise the importance of play-based learning and therefore encourage children to develop their understanding during their play, during which time adults ask

questions to extend children's thinking and learning. Play-based opportunities are provided in both the inside and outside environment.

6. Role of the Subject Leader

- The subject leader will monitor progression and continuity of maths throughout the school through lesson observations and regular monitoring of outcomes of work in maths exercise books.
- The subject leader will ensure that all staff have access to year group plans and the relevant resources which accompany them.
- The subject leader will monitor children's progress through the analysis of whole school data. They will use this data to inform the subject development plan which will detail how standards in the subject are to be maintained and developed further.
- The subject leader will, on a regular basis, organise, audit and purchase central and class-based Maths resources.
- Through ongoing involvement in the Eveleigh LINK Academy Trust, the subject leader will keep up to date on current developments in maths education and disseminate information to colleagues.
- The subject leader will extend relationships and make contacts beyond the school.
- The subject leader will develop opportunities for parents/carers to become more involved in maths education.
- The subject leader will ensure that all staff have access to professional development including observations of outstanding practice in the subject.

7. Parents/Carers

- The school recognises that parents and carers have a valuable role to play in supporting their child's mathematical learning. An overview of the maths curriculum is available on the school's website, as well as guidance in the progression in calculation methods used by the school. Paper copies of these documents are also available on request and the curriculum letter, sent home by each year group, also outlines the Maths topics to be covered each term.
- Children are given regular maths homework, which will focus on arithmetic relevant to their year group. This will link to the maths subject taught in class that week, allowing the children the chance to consolidate their learning.
- Throughout KS2, parents are encouraged to practise times tables on a regular basis with their children. This will enable further practise in preparation for the Government's multiplication tables check to be taken in June (from 2022) for all Year 4 pupils. All KS2 children will have a personal login for Times Tables Rockstars – an online learning app which can be used to aid this process both within school and at home.
- Parents are informed of their child's progress at parents' evenings and this is also communicated in written school reports.
- The school also provides a number of opportunities for parents/carers to learn about what their child is learning and the way their child is being taught through parent workshops.