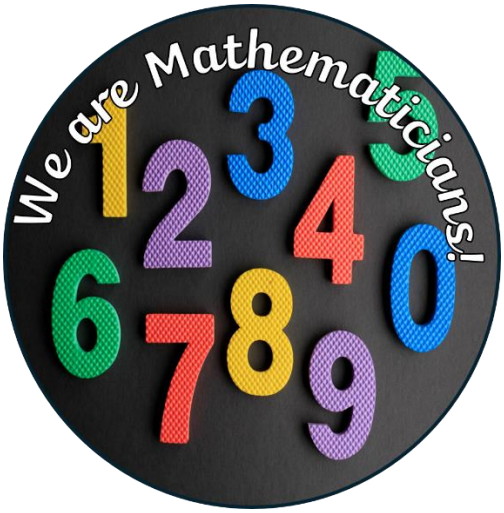
One Community, Many Cultures; Growing and Learning Together

Curriculum Overview 2024/25

Maths



At Gosford Park we have designed a curriculum for our community that aims to equip them with the tools they need to succeed in the next stage of their development, whilst nurturing curious learners who are responsible members of the local, national and global community.

Intent

At Gosford Park, we have adopted a mastery approach to deliver the three aims of the National Curriculum: fluency, reasoning and problem solving. We believe that all children can achieve in maths, and all children are expected to succeed and make progress from their starting points. We enable children to deepen their understanding by employing a variety of mastery strategies with teaching for conceptual understanding at the heart of everything we do. Our approach aims to provide all children with full access to the curriculum, enabling them to develop the confidence and competence to be independent mathematicians who are well equipped to apply their learning to the wider world.

Maths Long Term Plan

Implementation

From nursery to year 6, we use the White Rose Maths Scheme of learning, which is designed to support a mastery approach to teaching and learning and is in line with the aims and objectives of the National Curriculum. The White Rose small steps approach ensures that learning is carefully scaffolded to enhance current understanding and allows teachers to ascertain the children's current understanding within a unit and build from there. Content is carefully structured so that each step builds carefully from what came before. The curriculum is organised into blocks of learning carefully sequenced. Each block is made up of a series of 'small steps' which again are sequenced in order of difficulty and dependency. Each step builds carefully from the previous step, building on pupils' prior knowledge. Built into the curriculum are opportunities for pupils to revisit, consolidate and practice taught skills later in the year and to build further on these skills in subsequent years.

At Gosford Park, pupils' acquisition of knowledge and understanding of Mathematical concepts is supported using the Concrete, Pictorial and Abstract (CPA) approach. Starting with concrete resources allows the children to see a physical representation of the maths concepts they are learning. Being able to manipulate the resources allows them to begin to build a picture of the mathematical process and structure. Moving onto pictorial representations of the same models aids the children to move their understanding onto the more formalised and abstract representations of mathematical concepts.

Lesson starters, which may include anchor tasks, allow children to activate prior knowledge, consolidate and extend learning in a range of mathematical topics by allowing children to explain their methods and develop reasoning skills. Well-targeted questioning is used by teachers and support staff to assess pupils' understanding and to challenge mathematical thinking further. Lessons build on prior learning and concepts are taught through making useful connections between identified mathematical ideas and using a variety of representations that aid understanding and retention. Teachers focus on variation and mindful selection of work to avoid mechanical repetition. All lessons include elements of fluency, reasoning and problem solving and formative and summative assessment enable the next steps of learning to be appropriately planned for.

In maths lessons, we aim to promote mathematical talk and there is a strong emphasis on using precise, correct mathematical language and targeted, open-ended questioning to assess pupils' understanding. Lessons use a mixture of collaboration and independent practice to explore maths in depth and to develop resilience and perseverance when problem-solving.

Teacher modelling and the use of 'my turn, our turn, your turn' is widely used to help generate discussion and help to aid understanding. Pupils are encouraged to answer questions in full sentences, sometimes with sentence starters given to help articulate thoughts. They are encouraged to share both mental and written strategies for working and to consider the efficiency of methods used.

Links with other curriculum areas are made as appropriate, including data handling in science and representing data using computer programmes. Weekly home learning further allows children to consolidate and build on objectives covered in class teaching, as does the use of Times Tables Rockstars.

Nursery and the EYFS

In the Nursery and Early Years Foundation Stage, continuous provision is carefully planned to ensure a variety of mathematical activities are available for children to access freely. These child-led activities are balanced with adult-led opportunities to work more directly with children 1:1 or in small groups. Teachers and other adults in the setting, model and use questioning to encourage pupils to explore mathematical concepts. Mathematical language is modelled to pupils to encourage discussion during play, through books and rhymes. In both reception and nursery, children are also taught a daily maths lesson from the White Rose Scheme of Learning to support the Early Learning Goals and to ensure that children are given the opportunity to master the fundamental mathematical skills.

Mastering Number NCETM Projects

In addition to the White Rose scheme of learning, children in Reception, Year 1 and Year 2 are supported to secure firm foundations in the development of number sense through the NCETM Mastering Number Reception and Key Stage 1 programme. These lessons are delivered daily and separately from our White Rose mastery lessons with the aim being that over time, children will leave Key Stage 1 with fluency in calculation and a confidence and flexibility with number to support success with future maths.

Likewise, children in Year 4 and Year 5 are involved with the NCETM Mastering Number Key Stage 2 programme. This project enables pupils to develop fluency in multiplication and division facts and provides children with further confidence and flexibility with number sense, building on the work they started in Key Stage 1.

Maths White Rose progression

Impact

By following our mastery approach, maths lessons are engaging and well-resourced. Pupils are confident, have a positive attitude towards maths and will talk enthusiastically about their maths learning. They are keen to attempt a range of problems and choose the equipment they need to help them to learn, along with the strategies they think are best suited to each scenario. Pupils develop skills in being articulate and can reason verbally, pictorially and in written form. Well-planned sequences of learning support pupils to develop and refine their maths skills so that they are ready to progress to the next stage of their maths learning and can independently apply their knowledge to a range of increasingly complex problems. Children make connections within their maths learning, but also

understand how their learning relates to the real world. They are resilient in their work and display a 'can do' attitude.

Enrichment

Over their time with us at Gosford Park, pupils are given the opportunity to build firm foundations in maths to be confident problem solvers, with resilience and a tool kit of resources they can draw upon to support them with future learning. In addition to daily maths lessons, the discrete ways children are involved with maths at Gosford Park is growing: 'Aspirations and Get Active' week allow pupils to look at real life issues involving money and budgeting, and NSPCC Number Day is celebrated annually allowing children to participate in a range of engaging mathematical investigations linked to a whole-school text. Greater Depth children across the school regularly have the chance to attend maths problem solving workshops at a local primary school with a leading maths specialist.

Are you a keen mathematician?

Here are a few sites where you can discover more about maths and practise your skills.

- KS1 Maths - BBC Bitesize
- KS2 Maths - BBC Bitesize
- Times Tables Rock Stars – Times Tables Rock Stars (ttrockstars.com)
- Maths - Topmarks Search
- Home | NRICH (maths.org)