

Mathematics Intent, Implementation, Impact Statement

Vision for Mathematics at Claygate Primary School

Mathematics is an integral aspect of everyday life and at CPS we ensure children develop a positive and enthusiastic attitude towards mathematics that will stay with them, providing a foundation for their understanding of the world. Through a mastery curriculum, all children will develop: skills in mental calculation, problem-solving strategies and articulate their reasoning through the appropriate use of stem sentences and mathematical vocabulary in context. Children at CPS will develop an enjoyment and curiosity of the subject together with a resilience and independence to seek their own challenge.

Curriculum Intent for Mathematics

At Claygate Primary School, we believe that children should experience the awe and wonder of mathematics as they learn to solve problems; develop ways of looking at patterns; discover efficient strategies and make links between the different areas of maths. We believe maths is a universal language; it helps us to describe, make sense, investigate, understand and respect our ever-changing world. We believe all children can achieve in mathematics, and teach for secure and deep understanding of concepts through fluency, reasoning and problem solving. Where possible, we try to make our maths 'real', making our learning and experiences relevant to everyday life. We use mistakes and misconceptions as an essential part of learning and provide challenges through rich and varied problems. We encourage children to use approaches, which work for them, by equipping them with a range of efficient strategies and ensuring an understanding of them. At our school, the majority of children will be taught age related content and will be supported in understanding this through pre-teaching and same day intervention when necessary. We aim to make maths an exciting and varied experience to enable children to be confident mathematicians.

Curriculum Implementation for Mathematics

Our mastery curriculum is an ambitious, connected curriculum, which is accessible to all pupils. Children are taught a concept in depth over a prolonged unit, moving through small progressive steps to develop a deep, lasting competence and understanding. We want pupils to become fluent in the fundamentals of mathematics, to be able to reason and to solve problems. Our curriculum embraces these National Curriculum aims.

At CPS, we use a concrete-pictorial-abstract approach to support children to understand the maths they are learning and to be able to use it in a real-life context. The "small step" approach means all curriculum objectives are broken down into accessible parts that build on each other so the learning journey is complete.

At CPS, maths lessons begin with feedback intervention time (Maths FIT). Teachers use CREW to assess learning and drive next steps. C – Correct and convince. R – Review. E – Extension. W – Work with me. Next, children complete number fluency tasks and revisit prior learning via daily WRM Flashback 4. New learning is completed in mixed ability pairs, with a focus on oracy so that children are able to reason using precise mathematical vocabulary. Each pupil has an opportunity to receive differentiated learning within the lesson. We also use pre-teaching and same day interventions to aide catch up and extension activities are offered to challenge. At the end of the lesson, children review and self-assess their learning against a traffic light system. This self-reflection process feeds into the next Maths FIT session and next steps for learning in order to meet pupils needs.

Teachers use questioning to probe and extend understanding, and encourage children to think for themselves.

Daily arithmetic for children forms part of our early morning work offer. Children from Year 1 complete Fluent in 5 activities every morning. These daily routines are designed to aid recall and transfer learning into long-term memory. This work supports our vision for maths at CPS.

Our medium and long-term plans and sequencing of lessons follow the White Rose mastery approach (Reception - Year 6) where the goal is to deepen understanding so that each lesson builds upon the last. We tailor our sequential plans to individual cohorts.

Curriculum Implementation at CPS:

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.

Nursery – In Little Acorns, children have access to a variety of mathematical resources to support their early mathematical thinking. Through play, children understand mathematical concepts and vocabulary; they adopt positive attitudes to problem solving.

EYFS - Maths is taught to the whole class in a daily 20-minute discrete lesson. There are opportunities for mathematics woven into continuous provision, both indoors and outdoors and a dedicated Maths area within one of our classrooms. Opportunities for Maths are embedded in our daily practice, for example the use of a tens frame to self-register followed by counting the total number of children and representing this a numeral. There is a focus number each week, this is explored and represented in a variety of different ways.

Mathematics is taught daily in every class from EYFS to Year 6. There is a strong focus on language development, using maths vocabulary needed for future learning.

Y1, Y2 are taught Mathematics in lessons for duration of 45-55-minutes.

Y 3, 4, 5 and 6 are taught in maths lessons for duration of 1 hour +.

New Initiatives:

Multiplication - Key facts such as multiplication are learnt to automaticity to avoid cognitive overload in the working memory and enable pupils to focus on new concepts. Effective teaching systems in place, daily times table challenge for Years 2, 3 and 4 – to develop fluency in times tables and a high proportion of pupils achieve ARE in the MTC.

Assessment – Maths FIT – Daily formative assessment and feedback to drive next steps in learning and meet needs of learners.

Maths FIT is used to address misconceptions from the previous lesson and/or work with targeted children to extend and challenge their learning. The CREW acronym is used:

C: Corrections

R: Review learning

E: Extend learning

W: Work with teacher

A learner of this subject, when they leave CPS can:

When children leave CPS, we want them to feel confident mathematicians, prepared for the KS3 curriculum with a love of the subject.

In addition:

Have deep and secure timetables knowledge.

Be able to apply their learning to different contexts.

Have a strong number sense and be able to manipulate numbers mentally.

Reason and problem solve efficiently and confidently.

Children will be able to apply their maths learning in wider contexts through making connections in order to equip them for the wider world.

Be self-aware of their capabilities and challenge themselves appropriately.

Curriculum Impact for Mathematics

2021/2022 Internal Data – outcomes for children shows positive pupil progress in children reaching ARE and GDS

Evidence of impact through subject leader monitoring: learning walks, book looks, marking and feedback, low stake testing, formative assessment, Maths FIT, focused interventions, pupil voice and staff CPD.

