

Maths

Intent

At Crosby-on-Eden we intend to provide a Mathematics curriculum that is rich in knowledge and skills whilst promoting independent and motivated learners. We are committed to ensuring that children develop confidence and resilience in their learning and have high aspirations, enabling them to be successful in their education and beyond in their adult lives.

We intend that all pupils:

- Become fluent in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Can solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios.
- Can reason mathematically by following a line of enquiry and develop and present justification, argument or proof using mathematical language.

At Crosby-on-Eden we encourage children to communicate effectively throughout lessons, enabling them to share knowledge or deepen understanding of a concept.

Implementation

Mathematics is taught daily in each class focusing on developing fluency, problem solving and reasoning. Power Maths is used in KS1 and KS2 to ensure consistency and progression and is supplemented with additional resources to personalise learning. Progressive units, mapped out following Power Maths progression, enable children to build on prior knowledge and skills. To provide pupils with a deeper understanding of key mathematical concepts, learning is shared within real-life contexts and scenarios.

Quality first teaching is used with an inclusive approach to use careful modelling, questioning and discussion of strategies following a CPA approach. The progression of a consistent CPA approach enables pupils to build on prior knowledge using representation they are familiar with (place value counters, base 10, numberlines, part-whole models, place value grids, bar models...) with access to the concrete manipulatives, if required. Each class organises their resources in the way best suited to the children's needs and the room layout but all children have access to the concrete resources to support and deepen their understanding. Children are encouraged to talk about their learning in lessons, developing their explanation skills and ability to deepen their understanding.

Concrete – *Children have the opportunity to use concrete objects and manipulatives to help them understand and explain what they are doing.*

Pictorial – *Children then build on this concrete approach by using pictorial representations, which can be used to reason and solve problems.*

Abstract – *With the foundations firmly laid, children can move to an abstract approach using numbers and key concepts with confidence.*

To ensure that progress is made by all individuals, learning is personalised with a focus on developing fluency, deepening understanding or by challenge. In the classroom this may take the form of: adult support, access to manipulatives to support their acquisition of maths knowledge and use of partner talk/peer mentoring. Children are encouraged to reflect on their learning and are given

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opportunities address any misconceptions. Staff continually assess pupils' understanding, which is used to inform planning and intervention, matching their teaching to the needs of the children.

Year group specific vocabulary in mathematics is shared with all pupils at the beginning of a unit. Pupils will be expected to use the vocabulary both verbally and in written form to discuss, reason and communicate their methods and answers.

Children in Reception, Year 1 and Year 2 are taking part in a Mastering Number program from the NCETM. This aims to secure firm foundations in the development of good number sense for all children. The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention will be given to key knowledge and understanding needed in Reception classes, and progression through KS1 to support success in the future.'



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Impact

By the end of the Early Foundation Stage and each Key Stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the subject of mathematics (ELGs and National Curriculum). Continual assessment and monitoring of progress ensures that all children are challenged and able to succeed.

Children can:

- Show they have 'mastered' a concept by representing it in a variety of ways (CPA)
- Use mathematical language to explain a concept and independently apply their knowledge/skills in a range of situations.
- Retrieve mathematical knowledge and be able to reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.
- Demonstrate resilience to solve problems by applying their mathematics to a variety of situations with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios.