

Curriculum Statement for the Teaching and Learning of Mathematics

Intent Statement:	<p>Mathematics at Parc Eglos encompasses all of the elements needed to become proficient mathematicians. As well as providing tools to tackle everyday problems and questions, it also supports children's ability to embrace real world maths with confidence and curiosity. Maths weeks provide opportunities for our children to make better sense of the world around them by engaging in 'real' maths, including Cornish maths week where we celebrate the rich mathematical learning opportunities that Cornwall has to offer. We recognise that mathematics is more than just the units of study in the National Curriculum and is, in fact, threaded through every experience and opportunity in life beyond school.</p> <p>When teaching mathematics at Parc Eglos, we intend to provide a curriculum which caters to the needs of all individuals and sets them up with the necessary skills and knowledge for them to become successful and aspirational with regard to their future adventures and careers. We incorporate sustained levels of challenge through varied and high-quality mastery activities, with a focus on fluency, reasoning and problem solving.</p> <p>Pupils are required to explore maths in depth, being taught to use mathematical vocabulary to develop their mathematical reasoning skills through carefully structured lessons, which include opportunities for discussion and collaboration. We encourage resilience and the understanding that to struggle is often a necessary step in learning.</p> <p>Irrespective of ability, children leave Parc Eglos as confident, passionate and enthusiastic mathematicians who embrace the opportunity to be challenged and are excited about continuing their mathematical journey at secondary school and beyond.</p>
Key Concepts	<p><u>Make connections</u> <i>'Mathematics is a set of ideas, connections, and relationships that we can use to make sense of the world. At its core, mathematics is about patterns.'</i> Jo Boaler. We look for and understand connections within and across strands of learning, across curriculum subjects, with future and past learning, and within the real world. We look to not only make connections with the current maths we are learning today and how it will help with future ambitions, but we are looking to understand how our work in the mathematics field can potentially change the world, like the work of so many great mathematicians before us.</p> <p><u>Be curious</u> Being curious is about having a strong desire to find an answer and understand. As mathematicians, pupils are encouraged to ask questions, stay with problems for longer, be enthusiastic and enjoy the maths they are working on. We aim for all pupils to be intrigued and curious by mathematics. Our termly Maths' Weeks focus on the creative and real life nature of mathematics, and capture our pupil's engagement. <i>'Our curriculum is like a set of separate bike parts- each have their value but are useless without being put together. When you teach the whole of maths, the beauty and creativity of the subject, you experience true mathematics.'</i> Jo Boaler.</p> <p><u>Be Fluent</u> Fluency is often misinterpreted as knowing facts. Although we encourage children to know key mathematical knowledge, we understand the importance of not over burdening the working memory. If a child has a deep and conceptual understanding of these pieces of information, they will 'make sense' and be stored in the long-term memory. This is when true fluency will be achieved. Fluency is also being able to interpret when and how to use this knowledge to be able to solve problems, reason and work mathematically.</p> <p><u>Have Number Sense</u> This is a child's fluidity and flexibility with numbers. It is understanding what numbers mean, having the ability to visualise numbers and recognising different representations of numbers. Children with poor number sense will focus on the procedure, rather than making connections and spotting patterns. For example, the difference between counting in ones on a bead string and recognising that they can count more quickly in tens by using the visual aid of the white and red colours. Children with good number sense will be creative and want to spend more time exploring numbers.</p> <p><u>Be Efficient</u> Being efficient is understanding mathematical concepts well enough to choose the most appropriate strategy for the task- the simplest method with the most accurate results.</p>

In order for pupils to achieve mathematical efficiency, we encourage them to take chances and make mistakes. Recognising the power of mistakes is crucial so children can evaluate their ideas and understand how to work more efficiently next time. We strive for classrooms where pupils value their mistakes and the mistakes of others, voicing constructive feedback and viewing their workings as useful learning opportunities.

Understand and Apply

True mathematical understand is being able to use and apply knowledge in new situations. This requires an understanding of equality- when one thing is mathematically the same as another, and looking at the direct relationship between two quantities. It is one of the most important mathematical concepts ever created. This concept leads to the successful transition to the understanding of algebra.

Underpinned by:	<u>The Teaching of Fluency</u>	<u>The Teaching of Problem Solving</u>	<u>The Teaching of Reasoning</u>	Collaboration	<u>Oracy</u>	<u>Vocabulary</u>	Modelling
	We intend for all pupils to become fluent in the fundamentals of mathematics (including the four operations) through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.	We intend for all pupils to solve problems by applying their mathematics to a variety of problems with increasing complexity, showing resilience and perseverance.	We intend for all pupils to reason mathematically by following a line of enquiry- conjecturing, generalising, arguing, justifying, proving and explaining along the way.	A consistent approach to maths between all staff, pupils and parents is key. Calculation methods and other important strategies are shared. A passion for maths is developed by breaking the barriers between home and school maths.	The frequent opportunity for children to talk and discuss work in pairs and groups is integral to successful learning in maths.	We intend to create a vocabulary rich environment where key vocabulary, stem sentences and working walls are used to develop the confidence of pupils to explain mathematically.	Teachers teach key mathematical skills by modelling and demonstrating key methods and models. Good practice and consistent approaches are key (e.g. calculation policy).

Implementation - We implement our approach through:	Plan Objectives are taken from the White Rose in order to provide consistency and progression throughout school. A range of planning resources are used to give all children the opportunity to complete fluency, reasoning and problem solving based activities, including those provided by the White Rose, NCETM and NRIC. Objectives are broken down into small steps in order to provide an explicit teaching sequence. Planning extra-curricular activities such as maths days and Enterprise week	Teach Direct modelling from the teacher will enable all children to learn new knowledge, skills and concepts within a unit. The school calculation policy will be used to ensure clear progression and consistency of approach. Manipulatives will be readily available to ensure support and extension opportunities for all children. Within lessons, work conferences will be evident in order to challenge or support groups of children based on formative assessment throughout a unit.	Collaborate Continuously striving to better ourselves and frequently share ideas that have been particularly effective through: staff meetings, planning time and moderation meetings with our year group partners. Collaboration is also key with our wider community, we seek out opportunities to make links within our local area. For example, Culdrose running assemblies sharing the importance of maths within the Navy. Collaboration between Parc Eglos and other local schools allows opportunities for our children to be taught by a variety of maths co-ordinators in a variety of settings and other like-minded peers. Previous maths projects have included 'Gifted and Talented' mathematicians, lower attaining girls and 'amber' children. Sessions have been conducted in as many as six different primary schools, and large day events at the 'Light and Life Centre'.	Excite Our children are given an abundance of opportunities that engage and excite them, learning the power and enjoyment of maths within and beyond the classroom: <ul style="list-style-type: none"> • Maths week makes links between maths and reading, with focuses being on story maths. • Visits from a Mathmagician build on children's imagination. • Outdoor maths promotes the vital link between maths in the classroom and the environment around us/ our wonderful world. • Enterprize week promotes entrepreneurial development and the value of money- making clear and important links to charity within the local community. • Cross curricular links show the importance of maths within every area of our life and learning. For example, the recent visit from Barclay Bank for a PSHRE unit. Our children love maths and understand the significance and importance of it.	Train and Share Teachers and Teaching Assistants take part in training opportunities and networking events. <ul style="list-style-type: none"> - Maths network meetings within the MAT - Termly training by Babcock (out of county) - Maths Hub training events - Maths projects- Rekenrek for F/Y1/Y2 Big Maths in Nursery/ F Maths mastery- NE, KH Maths SLE development- KC - MAT development of new calculation policy - TA mastery training - Leading maths training for ITT at TLI - Maths SLE work within the MAT and further afield 	Monitor Continuously monitoring pupils' progress against expected attainment for their age, making summative assessments at the end of each term. Tracking meetings are in place each term to identify successes and priorities for the coming term. The main purpose of all assessment is to ensure that we are providing excellent provision for every child.	External Support Valuing the external scrutiny of teaching and learning at Parc Eglos in mathematics from our external agencies such as the Cornwall Maths Hub.

Impact	Pupil Voice	Evidence in Knowledge	Evidence in Skills	Outcomes
	Children talk enthusiastically about maths and understand the importance of this subject. Our children are confident and can all talk about maths and their learning and the links between mathematical topics. Children are engaged and challenged, with a genuine love of the subject.	Children can make links between different areas of maths and make reference to previous learning to support their ongoing learning journey. They are able to use the four operations by making use of the formal written methods taught progressively throughout school. Summative and formative assessment shows an increased knowledge of the fundamentals of maths.	Children are taught maths progressively and at a pace appropriate to each individual child. Teachers' subject knowledge ensure that skills taught are matched to National Curriculum objectives, using the White Rose as guidance. Reasoning and problem solving is evident throughout lessons in every year group.	At the end of each year we expect the children to have achieved Age Related Expectations (ARE) for their year group. Some children will have progressed further and achieved greater depth (GD). Children who have gaps in their knowledge receive appropriate support and intervention.