



# Maths Curriculum

for Northern Parade Infant & Junior Schools

## What is our vision for mathematics at King's Academy Northern Parade?

At Kings Academy Northern Parade, we believe that a high-quality Mathematics curriculum helps to grow curious, enthusiastic individuals who develop a lifelong passion for mathematics. We aim to provide children with the fundamental mathematics knowledge needed in order to excel mathematically as they move from Early Years, through to KS1 and beyond. We encourage all children to become highly skilled, inquisitive, forward thinking mathematicians who understand the importance of mathematics within everyday life. To develop a growth mindset within mathematics, teachers facilitate opportunities for children to approach complex problems with an open mind set, taking risks and understanding that making mistakes is part of the learning journey. Through carefully planned activities, our mathematics culture inspires resilient independent learners who are able to think logically and work systematically and accurately.

Our pupils benefit from a practical approach to Mathematics which supports language development in tandem with skills, knowledge and a deep understanding of mathematical concepts. Through our rich and meaningful mathematics curriculum, we provide all children with the necessary skills, knowledge and understanding to become successful in their future ventures. We strive to develop a mind set in everyone that maths is achievable for all. Building upon prior knowledge and understanding in order to develop the child as an accomplished mathematician is at the heart of our curriculum. In order to achieve this, since 2017, King's Academy Northern Parade has followed a teaching for mastery approach. This approach allows us to develop mathematicians who are accurate, eloquent and fluent in the fundamentals of mathematics, can apply their conceptual understanding to a variety of increasingly complex mathematical problems and can reason with increased confidence.

## How is Mathematics at King's Academy Northern Parade planned and taught?

At King's Academy Northern Parade Schools, Mathematics is planned and taught using a combination of the NCETM Primary Mastery Professional Development materials and the White Rose scheme of work. The teaching of Mathematics is led through purposeful, well-developed learning journeys, where all children are challenged and supported to reach their full potential. Our long-term curriculum maps set out a programme of study in line with the National Curriculum which aims to develop pupils' conceptual understanding of mathematics. Our approach is a combination of a spiral and cumulative curriculum, where maths skills and knowledge are built on pre-existing maths skills and knowledge, and the same key concepts are revisited each year and increase in complexity. This allows teachers to plan lessons based on spaced recall in order to embed learning in the long term memory.

In EYFS, through our rich curriculum we provide children with daily, whole class direct teaching of both the Mastery of Number Programme through the NCETM and further provision of the EYFS mathematics curriculum. Through the Mastering Number programme in the EYFS stage and KS1 our children will develop a deep understanding of number through a focus of subitising, counting, comparison of numbers, composition and number facts. As a result, they will be fluent in calculation and confident and flexible in number. This then extends into the pupils continuous provision and adult-led group activities. Whole class direct teaching utilises language, stem sentences and modelling with hands and bodies. This gives our children the opportunity to sensorily engage with the learning. These opportunities allow children to consolidate the building blocks needed in order for a solid foundation of knowledge. We also include daily counting based on the 5 principles of counting number writing or recognition in order for children to develop quick recall and understanding of number. As well as our guided activities, the children are able to explore maths concepts throughout the day in 'discovery' time and day-to-day class routines. These enhancements allow them to practise skills learnt and explore maths concepts. Woven within our curriculum we include problem solving and reasoning opportunities, which allow children to spot patterns, make connections and solve real-life problems.

We value the importance of rich problem solving tasks and believe this is paramount to developing future mathematicians. In order to develop forward thinking, resilient learners we ensure that children are given plenty of opportunities to apply their skills to problem solving. Across both schools and starting from Early Years, pupils are taught to use technical mathematical vocabulary to support their reasoning, and are expected to talk in full STEM sentences to show their understanding in lessons.

To develop a deep and sustainable understanding, children's skills are developed through the use of the 'Concrete, Pictorial and Abstract' (CPA) approach. In all classes, children consistently use concrete resources and pictorial representations alongside their written methods and mathematical workings. Visualising the mathematics whilst manipulating concrete materials ensures children secure a deepened conceptual understanding. Working walls within the classrooms mirror the CPA approach and allow children to make clear links to previous learning.

## **How do teachers ensure that all children make progress?**

A maths mastery approach is applied throughout the schools to ensure our learning is designed in small steps, prioritising the most important conceptual knowledge and understanding that pupils need. The school uses termly diagnostic assessments and question level analysis to ensure maximum progress is made by all learners. This supports teachers to identify any gaps in understanding, so that they can be minimised in a timely manner. The school also uses interleaving and spaced retrieval to ensure recall of previously taught topics. The schools also have access to a range of online tools to support teaching and learning of mathematics beyond the classroom.

## **As a result of our curriculum, what will our pupils learn?**

Pupils will:

- Become fluent in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly, accurately and with automaticity
- Have an appreciation of number and number operations, which enables mental calculations and written procedures to be performed efficiently, fluently and accurately
- Solve problems by applying their mathematics to a variety of problems with increasing sophistication by recognising relationships and making connections
- Reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language
- Enjoy maths, love the challenges that maths brings and understand the importance of maths in real life
- Be equip with the foundations to enable them to be successful in the next stage of their mathematical learning journey.

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