



# St. Luke's Mathematics Intent Statement 2024-26

## **Our Intent**

At St Luke's, our aim is to provide every pupil with the opportunity to grow and develop a love of Mathematical learning and strive to understand concepts taught in Maths. To achieve this, we have designed a Maths programme that embodies the element of mastery. Through this approach we endeavour to support and create an environment in which pupils are able to explore and gain greater understanding of those concepts rather than simply resorting to rote memorisation alone. With this in mind, we are working to ensure that our pupils have a secure sense of number, the desire to think mathematically and make connections which will allow them to apply their mathematical knowledge in other fields. We aim to equip our pupils with the confidence to choose and explore different strategies with higher expectations in mind and also to build independence in them. Also, we aim to get all of our pupils mathematically ready for the next stage of their academic life as well as their lives outside of education. As such, we have made sure that our approach is as progressive as it is inclusive.

#### **Our Implementation**

Using the CPA approach (concrete, pictorial and abstract), all our maths lessons start with a **fluency** session. The aim is to help pupils build fluency and understanding within the four operations, fractions and decimals. This session allows pupils a chance to practise key concepts but also to support those pupils who might still not have secured a particular method or key concept. This ensures that our pupils are keeping up and not constantly having to catch up with basic mathematical skills.

An **exploration** session then follows the fluency task. In this part of our learning, we encourage pupils to explore and share ideas using strategies from our 'Walkthrus' such as partner work and blending knowledge with concrete resources and experiences. Pupils have the full responsibility over their learning at this point and take full advantage of the setting to make mistakes and form their own misconceptions. As all pupils will be working





together to solve the same problem, it allows for inclusivity and pupils are generally excited to share their ideas and support each other. Our exploration sessions are built around real life situations and stories. By using contextualised problems and situations, we aim to make maths accessible as well as relatable but more so to help our pupils develop their critical thinking, increase their motivation, and boost active learning.

It is then followed with a **mastering** period of unpicking misconceptions and enriching pupils understanding through modelling of different methods and strategies. The aim here is to enrich their vocabulary and facilitate their deeper understanding of the key concepts being taught as opposed to only providing a few methods with which they are able to solve problems. As such, we have adopted Rosenshines's 'Principles of Instruction' to facilitate pupil understanding by modelling new and existing concepts in small steps, providing pupils with models and pictorial representations, using variation as a means to support yet still teach with higher expectations in mind to the same outcome, to ask questions as a facilitator to move our pupils learning on and check for understanding in the moment.

The Maths No Problem (MNP) approach (Singaporian in origin but based on studies of effective maths teaching in England in the 1980s) shares our vision of maths and also allows pupils to **apply** their learning abstractly. This is to allow pupils enough practice and to expose them to a wider range of examples. We use the practice sessions, which are very much inline with our 'Walkthru' (Sherrington & Caviglioli) led retrieval practices, to give the children the opportunity to choose and use different strategies (most effective to them) and to make their learning 'stick'. As pupils practise, it is natural for them to make progress but also at varying rates. Struggling pupils are exited into small groups for pre or re-teaching or modelling sessions to resolve any misconceptions.

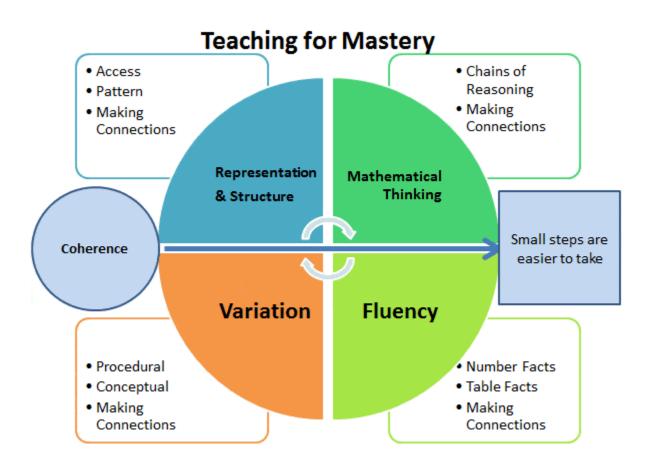
**Variation** is planned into our Maths No Problem approach to give teachers the opportunity to plan to support and challenge pupils through varying methods and resources without having to change the lesson outcome. Through variation, higher expectations can be set for all pupils and the aim is to get all pupils to the same learning point. This helps our pupils' motivations, engagement and progress.

**Journaling** has become an important part of our mastery approach. It serves as a purposeful and effective retrieval technique. When journaling, pupils are able to describe their understanding of key concepts, investigate and explain their reasoning behind their thinking and start to evaluate their work. It serves as a great diagnostic assessment and can be used to inform planning.





**Paired Reasoning Friday**- During the Friday maths session different year groups work together to solve reasoning problems and to discuss and share their ideas on how best to reach a solution. This allows children of different ages to work together to solve problems.



Our approach is in line with the mastery approach which is underpinned by these four concepts. Representations used in lessons aids pupils' understanding and enables them to make connections as well as help them draw conclusions on mathematical equations. With the introduction of reasoning strategies, our pupils are able to think and start to discuss how best reasoning questions should be approached.

Coherence - using the Maths No Problem approach, our lessons are planned and taught in small steps to help pupils make connections and help them build on prior knowledge. By doing so, it is easy to assess where pupils might have missed crucial learning and as such we are able to help our pupils keep up without having to catch-up.





## Maths in Early Years

In EYFS (Nursery and Reception use elements of the MNP scheme for future continuity) we follow the EYFS framework. Through the Continuous Provision approach, teachers and support staff ensure our pupils learn through a mixture of adult-led activities and child-initiated activities both inside and outside of the classroom. Mathematics is taught through this integrated approach using material from White Rose Maths and supported with Numberblocks. Our pupils are provided access to a wide range of structured play resources available to them throughout the terms and this is linked to their learning in other subject areas such as Science and Design and Technology. Adults model the use of these resources and the appropriate mathematical language as they support the children in their learning through play. Stem sentences are used to ensure that language is modelled correctly.

From Reception to Year 1, we have implemented the Mastering Number maths project as part of our membership of the NE London maths hub. This project aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2. The aim over time is that our pupils will leave KS1 with fluency in calculation and confidence and flexibility with numbers. At the moment, attention is being given to key knowledge and understanding needed in Reception classes, and progression through KS1 to support success in the future.

Our mastering number sessions cover all of the number work that will support our pupils to meet the Early Learning Goals and the learning trajectories that build children's understanding and help them make connections between different mathematical concepts.

## **Special Educational Needs**

At St Lukes we understand that some of our pupils with wide variety of different special educational needs can struggle in maths and for our teachers this means taking into account each individual's specific requirements (inline with our Walkthrus) when lesson planning. Some of our pupils may require additional support outside of the whole-class setting or might need a one-to-one support, these assessments are made inline with the school's SENCO and measures put into place.

However, we encourage all pupils(including pupils with SEN) to explore the CPA approach, from the concrete resources to pictorial representations and finally to the abstract. We





understand that when pupils are struggling with a concept, they will need more encouragement to move through these stages and it is important for them to do so. We strongly believe that manipulatives should always be available to pupils (either those with SEN or without) and they should feel confident to go and collect them if they need to. Teachers and support staff use pictorial representations as part of a whole-class teaching or in groups, as we know that they reveal the underlying patterns and structures of mathematical problems.

Time to explore is so important for all learners, especially in a topic like number sense. As a result, we encourage pupils to explore concrete resources and number so they are able to understand the connections between numbers and how to easily manipulate them to their advantage.

To ensure that inclusivity becomes a fundamental part of our ethos at St Lukes, pupils are encouraged to stay in the whole class lesson and the use of variations and exit slips are adopted to support pupils to reach the same learning outcomes in class. However pupils who are unable to access the same learning in their year groups are planned for and supported under guidance with the SEN lead.

Parental Guidance			
<u>KS1 Parental</u> <u>Guidance - Addition</u> <u>and Subtraction</u>	Lower KS2 Parental Guidance - Addition and Subtraction	Upper KS2 Parental Guidance - Addition and Subtraction	Embedding Journal use at St Lukes
<u>KS1 Parental</u> <u>Guidance -</u> <u>Subtraction and</u> <u>Division</u>	Lower KS2 Parental Guidance - Multiplication and Division	<u>Upper KS2 Parental</u> <u>Guidance -</u> <u>Multiplication and</u> <u>Division</u>	

## **Our Impact**

Before leaving for Secondary school, our pupils are equipped with the basic skills needed to support their learning in their higher education and also with a love and understanding for maths. During the Summer Term in Y6 our pupils take part in Borough approved transition units that are designed to distil the many different ways Maths can be taught in primaries into some more common secondary methods. Our returning Year 7 pupils speak highly of how inline they find strategies and methods they were taught here at St Lukes. They speak of how this is helpful and has given them an easier stepping stone to establish themselves in secondary education.





Our pupils would have learned at first hand how to use and apply maths in real-life situations and how best to apply their basic mathematical skills in these situations outside of their learning environment. At the point when they leave, they would have gained an understanding of how mathematics is a tool that isn't just based in the classroom but as an essential tool in many different fields: engineering, social sciences, architecture, medicine etc.

Lastly, by the end of this year, we hope our impact on our leavers and those pupils still making their way through school are confident in their ability to reason about mathematical problems and minimal or no anxiety when approaching these.

#### **Enrichment Programmes**

- The End of Year Times Tables Bee, allows pupils who have enjoyed showing off their skills to battle amongst different year groups to come out with the best declarative knowledge.
- Wonder Maths, Challenge, (formerly Count On Us which is founded by the Mayor's Foundation for London School) are also used.
- Number Day with Times Table Rock Stars (TTRS)
- The Euclid Academy Remote Programme
- Activities and learning introduced through the NE London maths Hub