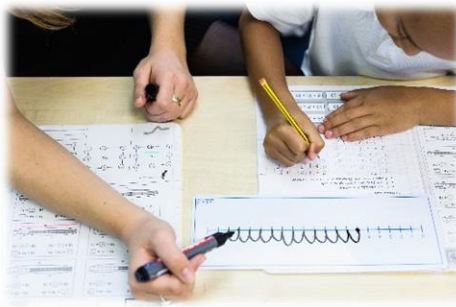




## St Jude's C of E Primary School's Subject Stories Mathematics



### Intent

Here at St Jude's we have a passion for high quality teaching and learning of mathematics. We believe that every child can succeed in maths and we aim to instil this belief in the children themselves.

In Mathematics, we are clear that Intent is the knowledge and skills the children acquire in our curriculum, which builds towards clearly defined end points.

We understand the importance of the **Early Years** for building the mathematical foundations for future years. Our educational programme ensures that our children:

- Have a secure grounding in number
- Can use mathematical vocabulary to describe relationships and connections they find in their learning
- Develop their spatial reasoning across all areas of mathematics
- Have positive attitudes towards mathematics and are not afraid to make mistakes

Through our **Key Stage 1 and Key Stage 2** mathematics curriculum, we aspire that all learners:

- Become fluent in the fundamentals of mathematics
- Develop a deep conceptual understanding, and the ability to recall and apply knowledge rapidly and accurately
- Reason mathematically by conjecturing relationships and generalisations, and proving their understanding using mathematical language and representations
- Have the opportunity to solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication
- Are guided to break down problems into a series of simpler steps and persevere in seeking solutions.

By the **end of their time at St Jude's**, our children will be equipped with:

- An understanding of the important concepts and an ability to make connections within mathematics.
- A broad range of skills in using and applying mathematics.
- Fluent knowledge and recall of number facts and the number system.
- The ability to show initiative in solving problems in a wide range of contexts, including the new or unusual.
- The ability to think independently and to persevere when faced with challenges, showing a confidence of success.
- The ability to embrace the value of learning from mistakes and false starts.
- The ability to reason, generalise and make sense of solutions.
- Fluency in performing written and mental calculations and mathematical techniques.
- A wide range of mathematical vocabulary.
- A commitment to and passion for the subject.



# St Jude's C of E Primary School's Subject Stories

## Mathematics



### Implementation

The principles of Teaching for Mastery, a product of extensive research into the highly successful teaching practice in Singapore and Shanghai, are used consistently throughout the school. A whole class teaching approach is adopted, keeping the class working together, with no acceleration to new content. This is to avoid superficial, surface learning and foster a deep, secure understanding of all the concepts taught. The learning needs of every child are addressed through skilful questioning and appropriate, immediate intervention – this provides the necessary scaffolding or challenge for all.

In our reception class, children work towards the Early Learning Goals for Number and Numerical Patterns. Rich, varied opportunities are also created to develop their spatial reasoning, building and embedding their knowledge and understanding of shape, space and space. Daily teaching adopts the Teaching for Mastery principles, where appropriate, and is carefully planned to enhance the unique pedagogy for the EYFS, with a balance of both adult and child-led learning.

The Key Stage One and Key Stage Two curriculum focuses on four areas: number, measurement, geometry and statistics across the year. Within these areas, concepts are taught slowly and at great depth to ensure the learning is secure and sustainable. Included in every lesson are fluency, reasoning and problem solving tasks, giving the children the opportunity to explore the concept being taught extensively before moving on to the next. Questions are designed carefully by the teachers to provide intelligent practice, developing and embedding conceptual fluency. We believe in exposing the children to multiple representations of a concept, using concrete, pictorial and abstract examples simultaneously to support the children's understanding.

At St Jude's, we place high importance on mathematical talk. As a result, lessons (and learning in the Early Years) include regular opportunities for the children to discuss their understanding and explain their thinking, both with the adults and their peers. Accurate use of vocabulary and terminology features prominently in our lessons, with teachers both modelling and expecting it from the children. We believe this will support our children when faced with a range of mathematical problems.

Children are given maths homework weekly at St Jude's – mathematical activity will be provided, linking to the learning done in class that week and encouraging the children to practise and embed their skills further.

### Impact

#### EYFS

	2017	2018	2019
<b>Good Level of development</b>	83% (National Average 71%) (Lambeth Average 71%)	87% (National Average 72%) (Lambeth Average 72%)	81% (National Average 72%) (Lambeth Average 72%)

#### KS1

	2017	2018	2019
Expected Level +	93% (National Average 75%) (Lambeth Average 79%)	81% (National Average 76%) (Lambeth Average 79%)	83% (National Average 76%) (Lambeth Average 79%)
Greater depth standard	23% (National Average 20%) (Lambeth Average 24%)	33% (National Average 22%) (Lambeth Average 26%)	27% (National Average 22%) (Lambeth Average 23%)

#### KS2

	2017	2018	2019
Expected Level +	81% (National Average 75%) (Lambeth Average 83%)	96% (National Average 76%) (Lambeth Average 80%)	81% (National Average 84%) (Lambeth Average 79%)
Working at higher standard	26% (National Average 23%) (Lambeth Average 30%)	44% (National Average 24%) (Lambeth Average 27%)	23% (National Average 27%) (Lambeth Average 31%)

- ✓ Our math's curriculum and the teaching strategies we employ have promoted progress in our attainment scores in KS1 and KS2 since 2017. As seen in the tables above show, overall we have made progress to be performing above national averages and above Lambeth averages in KS1, and in KS2 in most years.



# St Jude's C of E Primary School's Subject Stories Mathematics



- ✓ EYFS – In 2021, 100% of children were the expected standard in maths. 13% of children exceeded the expected standard.
- ✓ Monitoring of staff lesson design shows strong evidence of staff subject knowledge and understanding of the mathematical concepts being taught. Layered tasks and microscopic progression between tasks allow children to make connections in their learning.
- ✓ All learning is matched appropriately to the age group being taught.
- ✓ Our pupils' work in books consistently shows evidence of opportunities for fluency, reasoning and problem solving.
- ✓ Children are prepared year on year for the next step in their mathematics education.

### If you were to walk into mathematics lessons at St Jude's, you will see:

- Small steps between and within lessons.
- Each lesson has one, small key point.
- Questions are carefully planned and used throughout the lesson to target children's fluency and reasoning skills.
- Ping pong style teaching where ideas and activities regularly move from teacher to children and back again.
- Children are given opportunities to share and critique answers or strategies.
- Children are given opportunities in a lesson and encouraged to identify and recognise patterns and rules, rather than just shown how to find the answer.
- A CPA approach where concrete, pictorial and abstract representations are used fluidly to allow deep, sustainable learning for all
- Children are expected to understand and use the correct, precise mathematical vocabulary when explaining their maths. Due to a consistent approach across the school, the children are confident to do this both verbally and in written work.
- Children will be given opportunities to practise and use their number skills, and apply them in different contexts.
- Adults in lessons will quickly identify children who are struggling within the lesson. Adults will float between tables to support and question children to deepen their understanding.

### An example of skill progression within our mathematics curriculum:

Mathematical area of learning: Number and place value						
Reception:	Year 1:	Year 2:	Year 3:	Year 4:	Year 5:	Year 6:
Selects the correct numeral to represent <b>1 to 5</b> , then 1 to 10 objects.	Count, read and write numbers to <b>100</b> in numerals.	Read and write numbers <b>to at least 100</b> in numerals <b>and</b> words.	Read and write numbers up to <b>1,000</b> in numerals and in words.	Recognise the place value of each digit in a four digit number.	Read, write, order and compare numbers to at least <b>1,000,000</b> and determine the value of each digit.	Read, write, order and compare numbers to at least <b>10,000,000</b> and determine the value of each digit.

### Our Diverse Curriculum

As a school, we are passionate that our children receive a broad, balanced, inclusive and diverse curriculum. We have developed anti-racist commitments, and endeavor to fulfill these in every curriculum area, including mathematics. Within this subject, we will ensure:

- Diverse texts about STEM (Science, Technology, Engineering and Mathematics) are present in our class and virtual libraries, especially those which celebrate key figures of different ethnic backgrounds
- Time in the school calendar is allocated to celebrating significant figures in history who have contributed to the knowledge and understanding of mathematics. These celebrations will include a diverse range of people, including different ethnicities, genders and cultural backgrounds.



## St Jude's C of E Primary School's Subject Stories Mathematics



- Other opportunities are utilised to explore, promote and celebrate diverse figures, such as Family Learning Projects, Home Learning activities, newsletter items, Twitter posts, World Book Day, Science Week, and local community events.

### Outstanding examples of learning outcomes and mathematics at St Jude's



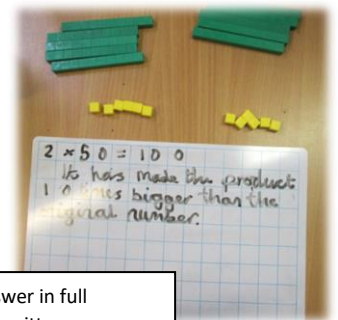
Visit from Debbie Morgan, NCETM (*National Centre for Excellence in the Teaching of Mathematics*) Director for Primary in 2018. She met with the children to discuss their learning and the impact of their maths lessons.



Our maths displays are interactive and relevant to the learning happening the lessons. They are updated regularly to support the children's understanding.



Examples of children using varied representations to access their learning.



The children are encouraged to answer in full sentences, both in their verbal and written answers.

### Remote Learning

Whilst children are learning remotely, the following approaches are taken to ensure mathematics teaching and learning is consistent and of a high quality:

- Maths lessons are planned daily and uploaded to the Google Classroom
- Resources are planned and designed carefully to support the learning objective each day
- Teachers use the DfE ready-to-progress criteria to inform their planning and monitor progress
- Google Forms are designed to assess end-of-block learning (similar to when the children are in the classroom)
- Lessons include a 'Do it Now' task at the beginning of each lesson to review prior learning
- Teachers plan a 'Math's Moment' session into each week to review and recap key concepts and the DfE ready-to-progress criteria
- Children upload their work at least once a week to receive feedback.