

**St Leo's and Southmead Catholic
Nursery and Primary School**



Nurture, Inspire, Succeed

**Mathematics Policy
2022-2023**

As part of the St Leo's and Southmead family; our children are happy, resilient and successful. Our school community is enriched by positive role models who nurture and support; delivering a curriculum which embraces memorable opportunities and lifelong skills.

Our Promise

Nurture



We will provide a safe, warm and welcoming environment where everybody is valued

We will develop the whole child through our pastoral approach where inclusive attitudes are modelled every day

Inspire



We will celebrate the skills, talents and natural abilities of everybody in our school community

We will deliver exciting and memorable learning opportunities through our creative curriculum in order to provoke thoughts, dreams and life-long goals

Succeed



We will guide our children so that they are eager to exceed their full potential in all that they do

We will encourage confidence and risk taking through quality first teaching, effective feedback and challenge

Our Values

*Everybody is valued
We are all role models
Talents are celebrated
We never give up*

SAFEGUARDING STATEMENT

Safeguarding and promoting the welfare of children is defined for the purpose of this guidance as:-

- Preventing children from maltreatment
- Preventing impairment of children's health or development
- Ensuring that children grow up in circumstances consistent with the provision of safe and effective care and
- Taking action to enable all children to have the best outcomes.

PROMOTING BRITISH VALUES AT ST LEO'S AND SOUTHMEAD CATHOLIC PRIMARY SCHOOL SERVING THE COMMUNITY

At St Leo's and Southmead Primary School we aim to help, guide and prepare our children as future citizens. Our mission statement permeates everything that we do in school and captures what British Values are about:-

- Democracy
- The Rule of Law
- Individual Liberty
- Mutual Respect
- Tolerance of those of different faiths and beliefs.

We grasp every opportunity throughout the school day to teach, model and show by examples all of the above. We have provided further information on our school website. We are proud of our school and are proud of the British Values that we live and learn about.

Introduction

Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject. **(National Curriculum 2014)**

SMSC Statement - Mathematics

At St Leo's and Southmead Catholic Primary School we recognise that the personal development of pupils, spiritually, morally, socially and culturally, plays a significant part in their ability to learn and achieve. We therefore aim to provide an education that provides pupils with opportunities to explore and develop their own values and beliefs, spiritual awareness, high standards of personal behaviour, a positive, caring attitude towards other people, an understanding of their social and cultural traditions and an appreciation of the diversity and richness of the cultures.

The teaching of Mathematics offers opportunities to support the social development of our children through the way we expect them to work with each other in lessons. For example:

- The history of maths, for example, the origins of Roman Numerals and important mathematicians.
- Respect and resilience are a very important part of our lessons. Our children experience different learning situations; small collaborative, partner and independent.
- Children are encouraged to think and make links between their learning in maths. Pupils are always encouraged to delve deeper into their understanding of Mathematics and how it relates to the world around them.

- Problem solving skills and teamwork are fundamental to Mathematics, through creative thinking, discussion, explaining and presenting ideas. Pupils are encouraged to develop their Mathematical reasoning skills, communicating with others and explaining concepts to each other. Self and peer reviewing are very important to enable pupils to have an accurate understanding of where they are and how they need to improve. Working together in pairs or groups and supporting others is a key part of Maths lessons.
- To be aware globally of sharing, supporting and respecting. To also learn from others in different parts of the world.
- The development of future life skills are vitally important for our children. Children will be encouraged to be ambitious and aspire for future employment.
- They are able to manage their budget and live quality lives.

Aims for Early Years

By the end of the Early Years we aim that our children can:

- Count reliably with numbers from one to twenty, place them in order and say which number is one more or less than a given number.
- Add and subtract two single digit numbers and count on or back to find the answer using quantities and objects.
- Solve problems, including doubling, halving and sharing.
- Use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.
- Recognise, create and scribe patterns.
- Explore characteristics of everyday objects and shapes, using mathematical language to describe them.

Aims for Key Stage 1 and Key Stage 2

The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including 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
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Computing

Technology is used regularly within maths lessons. All classes have an interactive smartboard which they use to deliver Power Maths. Each Teacher has an I Pad which can be linked to the smartboard. Visualisers are also used to model/ demonstrate work from the teacher and pupils. The majority of classes also have a group set of iPads which are used to support the mathematics curriculum.

Spoken Language

In our school we understand the importance of spoken language in pupils' development across the whole curriculum - cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their mathematical vocabulary and presenting a mathematical justification, argument or proof. They must be assisted in making their thinking clear to themselves as well as others, and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

Curriculum Planning in the Early Years

In the Early Years, we plan using the Early Years Foundation Stage (EYFS) Development matters guidance to support children's mathematical learning and development. Within this framework, maths is split into two distinct sections - (1) Numbers and Shape, (2)

Space and Measure. Mathematical development involves providing children with opportunities to practice and improve their skills in counting numbers, calculating simple addition and subtraction problems, and describing shapes, space and measure. These aspects are explored within the broader framework, which promotes communication and language development, physical development, personal, social and emotional development and making relationships.

Teaching for Mastery

We are continuing our mastery approach to the teaching and learning of mathematics and have purchased the Power Maths scheme of work as approved by the DFE. This ensures consistency and progression across the school. This scheme rejects the notion that some children 'Can't do maths.' Instead it develops a growth mindset and encourages hard work, practice, collaboration and a willingness to see mistakes as a learning opportunity. The whole class work on the same concept and establish deep understanding in small steps.

Teaching and Learning

A typical lesson using Power Maths lasts approximately 1 hour. Maths is taught daily during the morning or afternoon. Children begin with a short fluency activity which supports the conceptual understanding of number facts and recall. Following this, the main lesson begins with a 'Discover' and 'Share' task in which a contextual problem is shared for the children to discuss in partners. This helps promote discussion and ensures that mathematical ideas are introduced in a logical way to support conceptual understanding.

Teachers use careful questions to draw out children's discussions and their reasoning and the children learn from misconceptions through whole class reasoning. Following this, the children are presented with varied similar problems which they might discuss with a partner or within a small group. At this point, scaffolding is carefully reduced to prepare children for independent practice. This is the 'Think together' part of the lesson and the children might discuss with a partner, record some of their working out

in their Maths books or on a mini whiteboard. The teacher uses this part of the lesson to address any initial errors and confirm the different methods and strategies that can be used. The children are then shown a 'challenge' which promotes a greater depth of thinking. Following this, the class progress to the 'Practice' part of the lesson, which is designed to be completed independently. This practice uses conceptual and procedural variation to build fluency and develop greater understanding of underlying mathematical concepts. In this part of the lesson, children are supported in different ways. A challenge question and links to other areas of Maths encourages children to take their understanding to a greater level of depth.

Fluency

In KS1, children complete number facts on a regular basis, beginning with addition and subtraction.

In KS2, arithmetic practice questions are completed at least once a week to help develop and maintain fluency in both mental and written calculations. This ensures that calculation skills are not forgotten.

We have also subscribed to 'Times Tables Rock Stars' and this is completed 4-5 times each week from Y2- Y6. At present, we are trialling 'Numbots' for EYFS and Year 1.

Marking and Feedback

Feedback within a lesson is the most effective form of marking. Marking will also be done in accordance with the school's Marking Policy. In addition, opportunities will be regularly provided for children to discuss their work with a peer, and, for example, investigate if they had differing answers.

Cross Curricular Skills and Links

Opportunities are taken to develop mathematical skills needed to support other subjects. Examples include: measuring in design technology, charts and graphs in science

and geography, time and dates (including Roman Numerals) in history, patterns in art, music and dance, scoring and counting in P.E.

*"They should also apply their mathematical knowledge to science and other subjects."
(National Curriculum 2014)*

Mathematics and Inclusion

It is important that children develop positive attitudes towards mathematics through enjoyable, purposeful activity, which brings them success at their own level. During whole class teaching and learning, the use of open and closed targeted questions ensures that all children are included. Practical activities, games, visual prompts and other materials are provided as necessary to support independent learning. Teachers ensure that the level of challenge is suitable to the individual child, including those with a SEN need or who are talented within maths.

Assessment

Assessment for learning is an important part of our assessment process. Through discussion, observation, marking and feedback teachers are continually assessing children's progress and attainment. Teachers ensure that our children know how they have been successful and what steps they can take to make further progress.

Assessment will be continually made against the expectations at the end of each year group and in particular the Key Performance Indicators (KPI's). Daily, weekly and half termly assessment will inform future planning. NFER tests are taken at the end of each term

For further details please see the school Assessment Policy.

Resources

A wide range of relevant resources are provided for our children. A range of practical resources are available in each class room for use on a day to day basis. These enable children to move from the concrete to the pictorial and then the abstract approach. I Pads have been purchased which further support the children's learning.

Display

The mathematics displays in our classrooms are to be used as a tool for learning and raising attainment. These reflect the current Power Maths unit and are built up over time.

Roles and Responsibilities

Subject Leader

- Take a lead in policy development
- To have an impact on raising standards of attainment for mathematics across the whole school.
- Ensure the correct implementation of the National Curriculum for Mathematics.
- To monitor teaching and learning throughout the school and provide feedback to develop practice.
- Take responsibility for the purchase and organisation of resources.
- Keep up to date with developments in mathematical education and disseminate information to colleagues through INSET days and staff development meetings.

Class Teachers

- Ensure the effective implementation of the Statutory National Curriculum for Mathematics.
- To ensure learning that is differentiated to enable all children to reach their full potential.
- To make effective use of assessment for learning within mathematics.
- Be committed to raising standards for all children.

Parents/Carers

During Parents' Evenings, children's progress and targets are shared and a written report is produced annually. Parents are kept informed throughout the year using Class Dojo. Parents are encouraged to assist their child to develop their fluency at home, using recommended online sites. E.g Times Table Rockstars

Review: September 2023

Signed: J McIntyre (Maths Subject Leader)

Addendum - Autumn 2020

- Progression has been discussed, gap analysis is available on Target Tracker, prior learning/ need to take account of any gaps, subjects/ topics can be flexible and moved. Teachers to refer to/ use 'Ready to Progress' materials.
- Equipment needs to be sterile or quarantined if moving between bubbles, adaption to planning and whole class teaching if not enough equipment is available.
- Computing- cross curricular use of Ipads needs to be planned in line with the computing timetable to ensure Ipads are sterile for next bubble
- Teaching from the front as much as possible. Visor to be worn when working close to children or giving feedback.
- Use of visualiser to demonstrate and model practical tasks
- Inset - gap analysis was discussed within each subject.
- Handover with previous and next teacher.
- 1-1 well- being meeting to discuss what subjects children were looking forward to in class.
- Provide opportunities for remote/blended learning opportunities in Maths for children should they be working from home or in isolation/ website kept updated.
- Ensure all children have passwords to access Power Maths and Times Table Rockstars should they be working from home or in isolation

