



Mathematics Policy

Mission Statement

Following in the footsteps of Jesus; we live, love and learn.

Inclusion Statement

In this school, we are educating our children to:

- know who they are - a special and unique gift from God
- know why they are here - we all have a purpose and responsibility to look after God's world
- work hard and aim high for their future - find and use their God given talents to become everything that God intends them to be

We are a Catholic community, in a modern society, where everyone is equal. As a Catholic School, we strive to reflect the teachings of Christ and live out the Gospel Values in everything that we do. The most loving and merciful Jesus Christ is our role model, and He welcomed everyone. All children are welcome in our school; they and their families become part of our St. Joseph's family. We will love and nurture them, and do our best to help them to become everything that God intends them to be.

At St Joseph's Catholic Primary School our values reflect our commitment to a school where there are high expectations of everyone. Children are provided with high quality learning opportunities so that each child attains and achieves all that they are able to. Everyone in our school is important and included. We promote an ethos of care and trust where every member of our school community feels that they truly belong and are valued. We work hard to ensure there are no invisible children here, recognising everyone's uniqueness and success. We recognise learning in all its forms and are committed to nurturing lifelong learners. We are a safe school, committed to improving children's confidence and self-esteem. We know that safe and happy children achieve.

Adopted by Governors	
Date	17.05.2022
Review Date	17.05.2024

(signed on hard copy)

The new National Curriculum states that:

“Mathematics is a creative and highly inter-connected 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.”

POLICY INTENT

The Intent of our Mathematics curriculum is for children to believe, regardless of ability, race or gender, that they will be encouraged and helped to realise their full potential in Mathematics. We want the children to see Mathematics as being relevant to their world and applicable to their everyday life as well as being something that they will need as they move on through their school life and ultimately to the world of employment.

We want to see Mathematics at the forefront of each child’s God-given talents. To that end, a high-quality, inter-related and creative Maths experience should be one that develops the children’s ability to think mathematically. One which allows them to apply the tools that they have been exposed in a variety of ways. We place strong emphasis on teaching Mathematical skills and concepts in concrete and practical contexts. Teachers should use models and practical activities, which enable children to use and apply skills, knowledge and understanding. Working with parents, we intend that our pupils leave St Joseph’s with a positive outlook on Mathematics and the skills they have gained and nurtured so that they are ready for the next stage of their educational journey.

“So teach us to number our days that we may get a heart of wisdom.” [Psalm 90:12](#)

AIMS

We follow the aims of the statutory Early Years Foundation Stage framework and the KS1 and KS2 National Curriculum. These aims form the basis upon which our distinctive curriculum is built.

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.
- 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.

IMPLEMENTATION OF THIS POLICY

SUBJECT LEADER ROLE

The subject leaders for Mathematics are **Mr Karl Broomhead and Mr Daniel Hansen**.

The subject leaders are responsible for the day to day management of resources, keeping up to date in curriculum innovation, sharing good practice with staff and ensuring that planning for the subject is progressive and in line with national expectations.

Subject leaders are the ‘expert’ in school and can offer support to other staff including signposting where necessary. Together with the Headteacher and Governors, they are involved in the monitoring, review and evaluation of their subject both as a standalone and as part of the wider curriculum.

RESOURCES USED

At St Joseph's we understand that the use of a progressive and systematic approach is crucial to building children's mathematical skills. With repetition, sequencing and consolidation, pupils know and remember more, mastering both arithmetic and reasoning skills.

We use the 'St Joseph's planning scheme' to ensure progression in Mathematics teaching. This helps pupils build on prior knowledge through sequencing and making sure that pupils are taught the correct vocabulary as they progress through school. Each class teaches a '4 a Day' at the start of every maths lesson to embed mental maths and arithmetic scores. All children in school have access to Times-Table Rockstars both at school and home, this enables children to embed times-table facts - improving on mathematical skills. Key Stage 2 children also have access to White Rose Maths, Maths Shed and Target Maths, as programmes that can be used to set maths work, which supports and consolidates work in class and is differentiated to meet their level.

Key Stage 1 children are encouraged to use practical resources such as numicon, counting bears and base ten as much as possible to enhance knowledge and understanding. Across both Key Stages, consistency and sequencing is the key to breaking through barriers. In the classrooms there should be, either on display or easily accessible to children, appropriate resources, particularly concrete and pictorial apparatus to support children to grasp concepts.

Mathematical vocabulary should be displayed so that children use this in the communication of their understanding. There should be maths work on display in classrooms and in other areas of the school in order to encourage a positive attitude and enthusiasm towards mathematics for all groups of children.

CURRICULUM PROGRESSION THROUGH THE STAGES

EYFS: We follow EYFS curriculum guidance for Mathematics. Maths is taught through all areas of continuous provision and play as well as through small guided group sessions. We are committed to ensuring the confident development of number sense and put emphasis on mastery of key early concepts. Pupils initially explore numbers to 20 and the development of models and images for numbers as a solid foundation for further progress.

At the start of the year Maths is taught as a whole class daily lesson and guided maths sessions take place each day. By the end of the year Maths will progress to being taught as a whole class 1 hour lesson. Maths games are played weekly across the phase and there are mathematical opportunities offered daily throughout the learning environment, both inside and outside the classroom. It is important that the basics are taught as the sequencing of mathematics eliminates gaps in learning.

Years 1-6: There is an hourly maths lesson, once a day every week which includes our '4 a Day' arithmetic practice, this is to be completed at the start of every maths lesson. We place a strong emphasis on the teaching of basic maths skills, knowledge and understanding (times tables, calculation methods etc.). Every Friday each class takes part in 'problem-solving Friday' where children get the opportunities to reason and learn to solve problems logically using journaling.

PLANNING AND SEQUENCING LEARNING

Mathematics is taught in two different ways, in groups and as a whole class. Staff follow the St Joseph's planning scheme, which builds on prior knowledge and learning, the planning scheme helps develop vocabulary and teach mathematics in a sequence like building blocks. All children complete their differentiated '4 a Day' questions independently to build arithmetic skills. Every week we have a problem solving Friday to develop reasoning skills, help children to solve problems logically and understand systematic approaches.

Whole class teaching

Maths lessons should be taught in all classes once per day for an hour. Lessons are planned using the St Joseph's planning scheme and built on prior learning running alongside the Target Tracker statements, if children haven't grasped the concept of a lesson it is okay to revisit and strip the lesson back the following

day. All our maths lessons are inclusive and differentiated for the needs of every child. We look to take a practical approach across the whole school but in particular KS1.

4 a Day

This is to be completed at the start of every maths lesson, they are 4 questions using the four operations of maths. They are differentiated and usually taught as a whole class. Support staff could focus on a group if needed.

Problem solving Friday

This is taught in both groups and as a whole class. Children work collaboratively and sometime independently to solve problems both logically and systematically. We also use White Rose Maths, Maths Shed and the testbase software in order to enhance reasoning skills.

Times Table Rockstars

All children have access both at home and in school, the app allows children to learn their times-tables and inverse calculations. Children should be accessing the software 2-3 times a week.

EQUALITY

All pupils at St Joseph's will be protected against discrimination according to the protected characteristics of the Equality Act. We aim to serve our community as our pupils deserve the best learning experiences. Positive attitudes towards mathematics are encouraged, so that all children, regardless of race, gender, ability or special needs, including those for whom English is a second language, develop an enjoyment and confidence with mathematics. This policy is in line with the school's 'Racial Equality' policy.

The aim is to ensure that everyone makes progress and gains positively from lessons and to plan inclusive lessons. Lessons involving lots of visual, aural and kinaesthetic elements will benefit all children including those for whom English is an additional language (EAL). Differentiated questions are used in lessons to help children and planned support from Teaching Assistants and other adults are used to extend and enhance learning. We ensure that we spend Pupil Premium funding well in order to reduce disadvantage.

Children who are not making expected progress in Maths are monitored closely. Advice may be sought from the Maths subject leaders, in the first instance. They may be assessed using tests designed to indicate the curriculum. They will be involved with extra intervention, whether this is a one-off input to support a misconception in learning or a more structured course of sessions.

Support staff are trained with the calculation policy and have had INSET delivery of reasoning and problem solving. Parents may be invited to workshops or given strategies on how to support their child at home from the class teacher or SENCO.

ENRICHMENT AND MASTERY

We give our children opportunity to demonstrate mastery in a variety of ways, through knowing each individual child and what their wants and needs are in maths. We do this through specific questioning, children are encouraged to discuss problem solving skills through collaborative learning and give opinions on how to solve problems. Through assessment we challenge our more-able students with reasoning intervention groups and their roles as Subject Ambassadors.

We work closely with the DebtAware Foundation, who deliver the full Money Management programme to pupils in Year 5 and 6. Children are trained to understand and deal with personal finance, how to manage their money taking into account 'wants' and 'needs', savings, credit cards and debt. This exceptional programme develops important life skills in our pupils for managing their personal finances.

All staff are trained in the calculation policy enabling them to lead different types of intervention groups. Staff are seen as role model mathematicians giving children aspiration and confidence in the ability to solve problems logically. We look to include visitors to enhance the knowledge, skills and understanding of the children. An example of this is the Debt Aware foundation who introduce money management and teach financial skills to our children to prepare them for their future financial life. Maths Ambassadors promote maths throughout the school and help with the planning and delivery of Chrismaths Day/Shape and Space Days.

EXPERIENCES THROUGH THE CURRICULUM

Maths is a vital part of the curriculum for children in later life. Problem solving in class could often be subject linked, reinforcing vocabulary and improving subject knowledge. This then extends to the outdoor environment where activities take place through other subjects.

ICT Information and communication technology enhances the teaching of maths, where appropriate, in all key stages. In maths, children use excel spreadsheets and formulae to help complete data. In KS1 shape is used on interactive software to enhance children's knowledge and skills.

Geography A maths orienteering course is set up around school, children have to complete maths calculations and solve problems while navigating themselves around the school grounds using 4 and 6 figure grid references.

PE Maths fractions relays and time games have been used in the hall to help develop mathematical knowledge while being active. The daily challenge of Marathon Kids is led by Maths Ambassadors to collate the data for each Year group.

Science Using measuring equipment and use of scales whilst working scientifically. Recording results using time and measure.

HOME SCHOOL LINKS

Weekly homework is sent home at the end of each week to consolidate prior learning. Parent workshops within the different Key Stages help support parents in understanding how their children learn methods and reinforce mathematical skills. Parents are invited to assemblies and school events to celebrate their children's learning in maths and can communicate through the dojo platform. Parents can also access resources through Times-table Rockstars and Maths Shed.

MEASURING THE IMPACT OF OUR POLICY

RECORD KEEPING AND ASSESSMENT

Class teachers are responsible for the day to day assessment of mathematics. The Foundation Stage Profile is used in EYFS to Year 1, and end of year national expectations are used in KS1 and KS2. Class teachers are continually tracking progress of the children through formative assessment using books and classwork. The subject leader is responsible for both book scrutinies and pupil conversation to ensure pitch and expectation is at the right level.

Assessment for maths is formative using Target Tracker steps and statements. Termly data on maths progress is analysed by the SLT. Groups of children are monitored, e.g. gender, SEN, PP, EAL. Termly assessments are used for summative assessment. These tests inform teacher assessment.

National Standards

Each year the outcomes of the EYFS, end of KS1 and KS2 tests are analysed by the Headteacher, SLT and Governors. Data led priorities will then inform our next course of action. We compare the progress and attainment of our children against national standards and have ambitious aims for each cohort.

MONITORING, REVIEW AND EVALUATION

Learning walks, lesson observation, book scrutiny, staff discussion, pupil conversations, presentation to Governors.

Teachers will work in pairs within each Key Stage group to plan and deliver lessons that suit the particular learning styles of the children within their year groups. Teachers continuously assess the children informally (formative assessment) through their marking and interactions with the pupils during lessons.

Across a range of lessons children should be allowed to engage in mathematical discussion (talk partner or group work), open-ended investigations, problem-solving, practical experiences and written methods, as well as allowing for time to demonstrate their understanding through intervention. In EYFS children's attainment and progress is tracked on a daily and weekly basis.

Termly pupil progress meetings will give the teacher opportunity to discuss progress against targets with the Head teacher. Interventions are evaluated and reviewed; new interventions are planned.

STAFF DEVELOPMENT

Staff and the subject leader have regular CPD regarding Maths. '4 a Day' and problem-solving sessions are repeated for staff in twilights and new staff are refreshed for those requiring it. Questioning skills are also a focus. Peer coaching and the CPD through the YTSA also provides a forum for discussion and development.

GOVERNORS INVOLVEMENT

The link Governor for this subject is **Mr Andrew King**

Subject leaders are asked to present their work to governors. This may be done in the form of a presentation to a committee or a professional dialogue with a link governor. Action plans are shared with Governors. There is a formal written report to governors annually. Link governors may come into school to watch lessons and take part in events or workshops. They may talk to pupils and look at written evidence.

CONCLUSION

The ability to use number and problem solve confidently and with enjoyment is a crucial aspect to success not only in school but later in life when our children go out into the wider world to be everything God intends them to be. We aim to give St. Joseph's pupils the best possible start to their school lives and beyond.

Reviewed by staff and governors - **May 2022**.

This policy will be reviewed every two years.