

St Joseph's Catholic Primary School

Inspiring everyone to **REACH** through Faith, Hope, Love

At St Joseph's, we strive for academic excellence through encouraging resilience, empathy, aspiration and challenge. We have high expectations for ALL so that we can be 'The best we can be.' With Faith, Hope and Love at the heart of our school family, our children feel safe, secure and supported.



Policy for Mathematics

Subject Leader:

Link Governor:

Approved by:

Date Approved:

Review due:

Other relevant policies:

Learning & Standards

1st July 2019

July 2021

Marking Policy, Calculations Policy, SEN policy

THE NATURE OF MATHEMATICS

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. (National Curriculum 2014)

The purpose of mathematics in our school is to develop:

- a positive attitude towards mathematics and an awareness of the relevance of mathematics in the real world
- competence, fluency and confidence in mathematical knowledge, concepts and skills
- an ability to solve problems, to reason, to think logically and to work systematically and accurately
- initiative and an ability to work both independently and in cooperation with others
- an ability to communicate mathematics
- an ability to use and apply mathematics across the curriculum and in real life
- an understanding of mathematics through a process of enquiry and experiment

BREADTH OF STUDY

Through careful planning and preparation we aim to ensure that throughout the school children are given opportunities for:

- practical activities and mathematical games
- problem solving
- individual, group and whole class discussions and activities
- open and closed tasks
- a range of methods of calculating eg. mental, pencil and paper
- working with computers as a mathematical tool when necessary and appropriate

Through our creative curriculum approach we also seek to explore and utilise further opportunities to use and apply mathematics across all subject areas, for example science and geography.

TEACHERS PLANNING AND ORGANISATION

Each class teacher is responsible for the mathematics in their class in consultation with and with guidance from the mathematics subject leader and senior leadership. The approach to the teaching of mathematics within the school is based on clear principles:

Two mathematics lesson every day - a maths KITE lesson and an MOT (maths on track) session

Maths lesson planning is completed and lessons are taught using the maths hubs (<http://mathsnav.com/ks1.html>)

MOT sessions are a range of activities provided from GLOW maths and picking up of misconceptions linked to kite lessons

A clear lesson objective for the KITE lesson is provided

All Kite lessons follow the same framework of: Do it, Secure it, Deepen it (see appendix)

Each class organises two daily lessons of for mathematics. The KITE lesson lasts 45 minutes and the MOT lesson 20 minutes. They are taught at different times as they teach different concepts.

Teachers of the EYFS ensure the children learn through a mixture of adult led activities and child initiated activities both inside and outside of the classroom.

Across the school, lessons are taught in a similar format. Children are encouraged to take responsibility for their own learning and ask for help and guidance when they need it. Teachers begin the lesson with all children working as a class on the carpet. Teacher completes class input and uses AfL to see if any children need support. These children will wither remain with the teacher of work with the class TA.

During the lesson children will follow the 4Bs if stuck.

Long term planning

The National Curriculum for Mathematics 2014, Development Matters and the Early Learning Goals (Number, Shape Space & Measure) provide the long term planning for mathematics taught in the school.

Medium term planning

The curriculum documents have been put into smaller steps and objectives by GLOW maths. Teachers use the maths hub (<http://mathsnav.com/ks1.html>) to obtain objectives for each lesson. Teachers follow them in the order provided.

Short term planning

Lessons are planned and delivered using the weekly planning format. This contains the lesson objective, stem sentence, key vocabulary, the teaching input and the activities the children will complete during the lesson.

SPECIAL EDUCATIONAL NEEDS

The daily mathematics lessons are inclusive to pupils with special educational needs. Where required, children's my plans incorporate suitable objectives from the different year groups for Mathematics or Development Matters and teachers keep these objectives in mind when planning work. These targets may be worked upon within the lesson as well during an intervention outside the Mathematics lesson. Maths focused intervention are planned by teachers based on the need of the children to help children

with gaps in their learning and mathematical understanding. These are delivered on a by trained support staff, overseen by the class teacher and monitored by the school SENCO.

Within the daily mathematics lessons teachers must provide differentiated activities to support children with special educational needs where necessary. Also they must ensure activities provide appropriate challenges for children who are high achievers in mathematics. It is vital that all children are challenged at a level appropriate to their ability.

EQUAL OPPORTUNITIES

We incorporate mathematics into a wide range of cross-curricular subjects and seek to take advantage of multi-cultural aspects of mathematics. We ensure that all children are able to fulfil their potential regardless of race, religion, disability or gender.

PUPILS' RECORDS OF WORK

Children are taught a variety of methods for recording their work and they are encouraged and helped to use the most appropriate and convenient method of recording. All children are encouraged to work tidily and neatly when recording their work. Children's books must include the following:

- Each lesson will start with a learning label / ladder
- This ladder must be filled out to say where the child finished the lesson
- One digit per square
- Work in two columns with the page folded to identified these
- Every KITE lesson starts with the short date and the title corrections underlined
- Corrections from the previous lesson must follow this
- Children must label each section of the maths lesson (do it, secure it, deepen it) and number questions clearly
- All underlining must be done with a ruler
- Additional activities must be labelled in books

At KS1 1cm square exercise books are to be used. This changes to 7mm square exercise books in Year 3 through to Year 6.

EYFS record informally within the setting. For example:

- on the playground
- on whiteboards
- using jigsaws
- physically ordering numbers

Books are also used to record work. These don't have square but have plain pages.

Staff in Foundation use photos to ensure records of each child's achievements are maintained.

MARKING

Marking of children's work is essential to ensure they make further progress. All work is marked, in line with the school marking policy. Work is to be marked daily to ensure misconceptions are picked up and planned for either in the next lesson or in the MOT sessions that week in accordance with the school marking policy.

Children can self-assess their own work using calculators or answer sheets [this is more apt in KS2 and children will need guidance about how to do this]. Children should be given time to read teachers' comments and make corrections.

Work in mathematics can generate a great deal of marking and it is recognised that it can be helpful for a TA to help with marking. If this is done, it is vital that the TA feedback either verbally or through writing to the teacher about where each child is and where they need to start in the next lesson.

The quality of marking is crucial. Just seeing pink is of little assistance to a child unless accompanied by an indication of where the error occurred, together with an explanation of what went wrong. This could be verbally or through written feedback. It must be obvious that there has been adult intervention to correct children's errors. This could be done through putting a V or S next to the child's work or an additional activity which reinforces the skill or recaps the previous step to help the children move on.

Some children may find aspects of the journey easier than others and it important children are challenged and moved on if they understand a concept. This could be within a lesson or through marking. Teachers must recognise this in a child's book through the use of a V or a comment such as, 'move on'.

ASSESSMENT AND RECORD KEEPING

Teachers make regular assessments of each child's progress and record these systematically. A record of each child's attainment against the key objectives for the appropriate year group is recorded.

Short term

Children's class work is assessed frequently through:

- daily marking
- analysing errors
- questioning
- discussion

This is used to inform future planning and teaching. Based on AfL both in lessons and through marking, activities and lessons are adapted and planned on a daily basis. This

could be through additional activities, moving children on or a focused teaching group with a TA or teacher.

Medium term:

At the end of each journey planning alongside judgements from class work will be used to inform the teacher of whether the child has grasped the concept and consequently used to fill in the schools tracking system [insight tracker]. Children will also complete termly NFER maths tests to ensure they are comfortable in this type of questioning and also to inform teachers overall judgements on insight.

Long term

Y2 and Y6 to complete SATs assessments every May.

REPORTING TO PARENTS AND PARENTAL INVOLVEMENT

Reports are completed before the end of the summer term and parents are given opportunity to formally discuss their child's progress at two parents' evenings in the autumn and spring terms. Parents can make an informal appointment to discuss their child's progress at any time over the school year. Parents are encouraged and offered support and guidance to support their children's learning of mathematics.

MONITORING AND EVALUATION

The mathematics subject leader along the HT monitors and evaluates the teaching of mathematics. Book looks, learning walks and lesson observations are all used to monitor and evaluate the teaching of maths across the school. Any observations are undertaken in line with the school improvement plan. Opportunities for teachers to review the scheme, policy and published materials are given during staff meetings.

STAFF RESPONSIBILITIES

Headteacher/Deputy headteacher

- lead, manage and monitor the development of mathematics in the school
- support the mathematics subject leader in taking mathematics forward
- carry out annual audits, set targets, review the action plan and monitor its progress
- ensure that arrangements are made to meet the training needs of teachers and other adults involved
- manage the school's allocation of resource funding, including leadership time
- ensure parents are informed and involved

Mathematics Subject leader

- Assist the headteacher/deputy headteacher in carrying out the audit, reviewing and amending of the action plan
- Prepare, organise and provide school based INSET meetings, workshops and staff meetings.

- Assist with the monitoring of teaching and planning and the analysis of SATs results.
- Preparation, review and implementation of school policy documents and guidelines taking into account the recommendations of the New National Curriculum and EYFSP.
- Liaison with staff in school - working alongside them giving guidance and support.
- Introduce, organise and maintain the school's mathematics resources.
- Take responsibility for own professional development by attending courses and keeping up-to-date with current developments within mathematics education.
- Liaison with mathematics subject leaders in other schools where necessary
- To provide an example to the school by taking a lead in teaching mathematics and classroom organisation.
- Maintaining contacts beyond school with numeracy consultants, advisory staff and other outside agencies.
- Ensuring equality of opportunity for all pupils.

SENCO

- Supporting and working co-operatively with the mathematics subject leader to implement and develop mathematics throughout school
- Organising and providing INSET for staff special needs mathematics issues
- Advising staff how best to support children with varying needs during mathematics lessons so that they meet the expectations of the yearly teaching programmes where possible
- Advising staff on the inclusion of mathematical objectives in my plans for children with SEN in mathematics.
- Helping to ensure that children who are capable of catching up their peer group do so as quickly as possible.
- Advising staff on the effective use of teaching assistants and helping support staff to develop their role.

Class Teachers

Class teachers are responsible for the planning, teaching and assessment of the daily mathematics lesson and the organisation of additional adults in the classroom. They are also responsible for implementing the contents of this policy within their classroom.

Support Staff

HLTAs and TAs that work with the children support the teaching of mathematics under the direction of the class teacher.

Governing Body

There is an identified maths governor. They are invited to attend relevant school INSET. The maths governor visits school to talk with the subject leader and when possible, observes some daily maths lessons. The maths governor reports back to the curriculum committee on a regular basis.

STAFF DEVELOPMENT

All staff are encouraged to develop, assess and improve their teaching of mathematics. Whenever possible we:

- encourage staff to attend mathematics courses
- make provision for the mathematics subject leader to work alongside colleagues in the classroom or shared areas
- provide school based training
- involve staff with policy and decision making
- provide the opportunity to learn from colleagues expertise
- encourage parental involvement at home and in school

RESOURCES

All teachers should organise an area within the classroom dedicated to mathematics resources. This area is easily accessible to all children and allows them to become familiar with all resources. There should also be a working wall area within every classroom that the children can access. This needs to be updated daily in accordance with the area of maths being taught at the time. It shows working examples of what children are doing in class at the time. It should also provide children with the vocabulary they will be using for that journey. It could include key and useful facts which are relevant to the journey. Children should be confident with using the working wall to help their learning if they are stuck. Resources which are not used or required regularly are stored away as not to clutter the classroom or confuse children.

HOMEWORK

It is important to provide parents and carers with opportunities to work with their children at home. These activities may only be brief, but are valuable in promoting children's learning in mathematics. Activities as part of homework are sent home to all children when the teacher deems necessary. The activities should reinforce and support what is happening during lessons in school and thus may be different for each child. These can take the form of games, activities or quick written tasks.