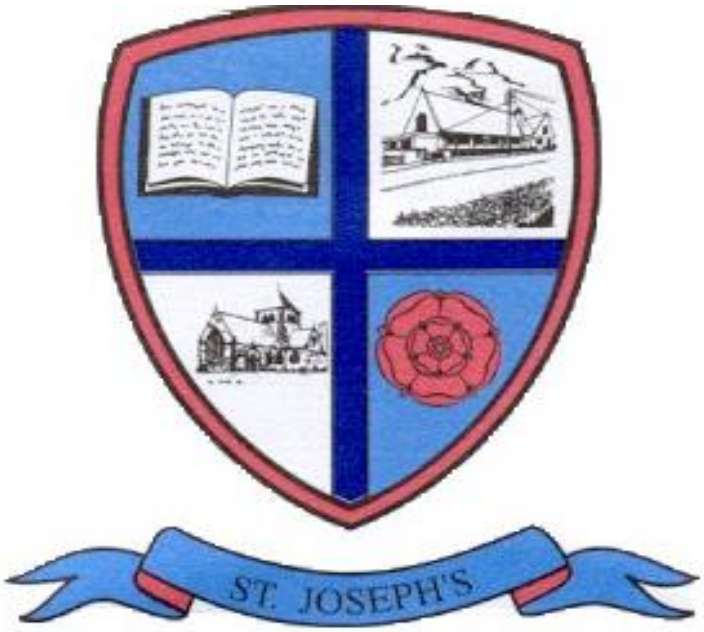
ST JOSEPH'S CATHOLIC PRIMARY SCHOOL



MATHEMATICS POLICY

Reviewed: October 2022

To be reviewed: October 2024

ST JOSEPH'S PRIMARY SCHOOL WRIGHTINGTON
MATHEMATICS AND CALCULATIONS POLICY

Mathematics is a tool for everyday life.

Our intent: At St Joseph's Catholic Primary School we intend to provide a Maths curriculum, which is accessible to all children and will provide them with a future tool for life.

We deliver lessons that are creative and engaging. We want our children to develop a rich understanding of maths vocabulary and understanding through enquiry and experiment.

Our children will be able to work independently and co-operatively with a positive attitude and awareness of the fascination of mathematics.

We want children to make rich connections across mathematical ideas to develop fluency, mathematical reasoning and we want to give children competence and confidence to have the ability to think logically and solve mathematical problems.

We intend for our pupils to be able to apply their mathematical knowledge to science and other subjects in school; and recognise its importance in the world of employment.

At the end of their time at St Joseph's Catholic Primary School, we strive to ensure that every child is ready for the next step in their mathematical journey.

Mathematics is a whole network of concepts and relationships which provide a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas and to tackle a range of practical, real life tasks and problems. It also provides materials for new imaginative worlds to explore.

Our aims are to develop:

- A positive attitude towards mathematics and an awareness of the fascination of mathematics;
- Competence 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 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:

Opportunities are offered for children to develop their mathematical knowledge and skills through tackling problems and through purely mathematical activities.
There is a balance between short activities and those which can be developed over a longer period of time.

- Children experience practical activities, games and the use of computers in lessons and independently.
- Children are encouraged to problem solve.
- Children are involved in individual, group and whole class discussions and activities.
- Children experience both open and closed tasks.
- Children develop a range of methods of calculating e.g. mental, pencil and paper and using a calculator.
- Children are encouraged to make jottings and annotations to support their work.
- Children develop skills using computers and a wide range of mathematical tools and practical activities.

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.
The approach to the teaching of mathematics within the school is based on three key principles:

- A mathematics lesson every day
- A clear focus on direct, instructional teaching and interactive oral work with the whole class and groups
- An emphasis on mental calculation

Lessons are planned using a common format: both for weekly plans and guided plans.

Unit summaries and guided maths plans are attached to weekly plans. Each teacher has a maths file; in which all maths planning and grouping lists are kept. Teachers plan using The National Strategy for Mathematics.

In Y3 - Y6 guided group sessions are led by the outcomes of the weekly basic skills assertive mentoring tests. In Y2 and Y1, guided group sessions are led by KLIPS**.** In Reception, teachers base their teaching on objectives in the EYFS Development Matters framework for Reception; this ensures that they are working towards the 'Early Learning Goals for Mathematical Development'. Towards the end of Reception, teachers aim to draw the elements of the mathematics lesson together so that by the time children move into Y1 they are familiar with a 45 minute lesson.

Planning is regularly monitored by the SLT and the Subject Leader. We seek to address all the different styles through our teaching of mathematics through the use of practical and visual resources and speaking and listening.

The Daily Mathematics Lesson.

Oral and Mental Starter:

- Short quick fire questions
- Counting
- Tables
- Vocabulary

Teacher Input:

- To teach the objective from the Primary National Curriculum and Lancashire KLIPs (Appendix 1)

Guided Mathematics session:

- This should be to target group needs identified from gaps in KLIPS. Guided work will not necessarily be the same as what the rest of the class are doing.

Mathematics table:

- One group per day to choose appropriate activities that are related to current unit of work and also use Mathletics.

Plenary:

- The plenary should use Higher order/Socratic questioning to ensure children's learning is assessed and moved forward (AFL).

EYFS:

Children are taught through Development Matters in order to reach the Early Learning Goals for Mathematics. Children access the curriculum through a balance of teacher led tasks and through Continuous Provision.

Transition from Foundation Stage begins in Reception Summer Term, when the Reception and Y1 teachers will meet to discuss the children's progress and learning styles. During this time some children will need to continue to work on Early Learning Goals.

Differentiation:

Teachers plan for differentiation in the daily lessons in a variety of ways to ensure all children make progress.
Grouping:-according to ability so that groups can be given different tasks when appropriate.
Common Tasks:-which are open ended activities/investigations where differentiation is by outcome.
Stepped Activities: - which are accessible to all initially but allow more able children to go further.
Resourcing: - provide a variety of resources which children may access freely to support their learning e.g counters, numberlines, mirrors and scales.

Pupils' records of their work:

There are occasions when it is both quick and convenient to carry out written calculations. It is also important to record aspects of mathematical investigations. Children are taught a variety of methods for recording their work and they are encouraged to and helped to use the most effective and convenient method of recording
(*Calculation Policies appendix 1*). Children are encouraged to use mental strategies before resorting to a written algorithm.

Exercise books for recording:

It is school policy that the following books are used:

- Reception – Learning Journals
- Year 1 – 1cm squares
- Year 2 - 1cm squares
- Year 3 – 1cm squares
- Year 4 - 7mm squares
- Year 5 - 7mm squares
- Year 6 - 7mm squares

All children are encouraged to work tidily and neatly when recording their work. When using squares, one square should be used for each digit. When involved in routine practice of calculations, the children are encouraged to fold a page in half to create two columns for answers. All work should be dated and underlined. 'Guided work' stamps should be used to identify when that child has taken part in guided work. When a child has received 'next step marking', this should be clearly identified on their work and any questions/ tasks completed.

Marking:
(See Marking & Presentation Policy).

Marking should be done in line with the Marking Policy.

- All marking should be done focused on the learning objective. Where the objective has been achieved this can be indicated by a tick, star or smiley face as appropriate to the age of the children.
- Marking should regularly indicate 'next steps' for the children so that they ***can achieve*** their objective or *are supported* to reach a higher level (for children in Reception, Year 1 and Year 2 this feedback is likely to be done verbally but should be indicated on work if this is the case.)
- Children must be given time to complete their next steps and 'fix-its'.
- On daily plans, groups that are to receive next step marking should be clearly identified, so that each group receives this in-depth marking once a week.

Assessment and Record Keeping:
(see Assessment, Recording and Reporting Policy).

Teachers are expected to make regular assessments of each child's progress and to record and evaluate these systematically on the weekly planning/ guided plans.

When planning and teaching, teachers take account of individual children's progress and levels of understanding in order to move them forward in their learning. Teachers ensure that their planning includes a clear focus on specific objectives for each lesson, with success criteria shared with the children. During lessons teachers continually assess children through questioning, children's responses, paired discussion and marking and adjust teaching accordingly. Children begin to assess their own learning against the lesson objectives and evaluate their own understanding and learning.

Daily Assessment:

Teachers use:-

- Questioning in whole class teaching, ensuring open ended questions allow for discussion.
- Paired discussion
- Focused group work
- Questioning in the plenary
- Marking of work done independently and in the guided sessions

This informs their planning and teaching.

Assessments:

Children's progress in Reception is assessed against 'Development Matters.' Children's progress in Y1 – Y6 are assessed against half termly tests and KLIPS. ***(see Intervention Policy).***

Ideally, through high standards of teaching and learning all children will make expected progress through mathematics. However, where children are identified as under-achieving progress is monitored closely by teachers. Teaching assistants' support is used, where appropriate, to help these children to make expected progress. Intervention groups are also used for specific children outside the mathematics lesson and the impact of these is closely monitored and evaluated.

INTERVENTION REGISTER FOR MATHS

The 5 MINUTE BOX
SPRINGBOARD 3
SPRINGBPOARD 4
SPRINGBOARD 5
SPRINGBOARD 6

Special Educational Needs:
(see SEND Policy).

Children with SEND are taught within the daily mathematics lesson. Where applicable, children's PCPs incorporate suitable objectives from the National Strategy for Mathematics or in some cases PIVATS and teachers keep these objectives in mind when planning work.

When additional support staff are available to support groups or individual children they work collaboratively with the class teacher and are directed by the class teacher to implement PCP.

To aid children with language and hearing problems we assist them in different ways:-

- repeating instructions;
- speaking clearly;
- emphasising key words; using picture cues;
- playing mathematical games;
- encouraging children to join in counting;
- finger games;
- chanting;
- rhymes.

Able, Gifted and Talented:
(see AGT Policy).

Within the daily mathematics lesson, teachers provide challenging activities for children who are high achievers in mathematics. The school has a register of Able, Gifted and Talented children whose progress is closely monitored.

Multi-cultural issues:

We incorporate mathematics into a wide range of cross-curricular subjects and seek to take advantage of multi-cultural aspects of mathematics.

Learning Environment:
(see Classroom Display Policy).

The learning environment in all classes is used to support learning through the use of visual resources, learning prompts, models and images and the use of a **Working Wall.** Key vocabulary linked to learning is displayed.

All children have easy access to practical and visual resources to support their learning and they are actively encouraged to use these, in the form of a maths table/ box that is used daily by different groups.

Speaking and Listening:

We actively promote and encourage the development of children's speaking and listening skills in mathematics with an emphasis on them using correct mathematical language, developing understanding and communicating their methods and reasoning.

Parental Involvement :

- Parents are invited to school to discuss their children's work at Parents' Evenings in the autumn and summer terms and at monthly Consultation Evenings throughout the year.
- When significant changes have been /are made to the mathematics curriculum parents are invited to a meeting or sent information via the newsletter.
- Our Calculations Policy is on the school website so that parents can find the appropriate method for their child; to enable them to support their children.

Reporting to parents :

(see Assessment, Recording and Reporting Policy).

Reports are completed in the summer term. Parents are given the opportunity to discuss their child's progress on two separate formal occasions. They are encouraged to come and speak to the teacher at any time through the year. Teachers use the information from their half termly assessments to help them comment on individual children's progress. Teachers report to parents Termly.

COMPUTING:

Teachers use computing as appropriate to enhance children's learning. They ensure that the objectives of the lesson are reflected in the computer program being used. Computing is increasingly used as a whole class and group teaching resource. Interactive Teaching Programs and other interactive whiteboard mathematics resources and games are available on the school server.

Times Tables

Knowledge of the times tables is a vital part of every child's education and one which should be undertaken both at school and at home. Learning the times tables off by heart is essential for the transition to upper Key Stage 2 where division, fractions, decimals, percentages and algebra are secured.
Children who know their times tables facts will be able to answer questions more quickly and be able to focus on using other mathematical strategies in more complex problems rather than being slowed down by the multiplication. Knowing times tables can also increase confidence levels as this particular part of the question becomes easy.
In 2020 the Government introduced a statutory Multiplication Test for all pupils in Year 4.
Learning the times tables requires lots of practise both in school and at home.
Stages for knowing the times tables are:

- Stage One 2, 5 and 10 times tables (Expectation by the end of Year 2)
- Stage Two 4, 8, 3 and 6 times tables (Expectation by end of Year 3)
- Stage Three 6, 7, 9, 11 and 12 times tables (Expectation by end of Year 4)

The Governing Body:

We have a designated Mathematics governor who:

- is a member of the curriculum committee;
- liaises with the subject leader;
- regularly updates the Governing Body.

Homework:

(see Homework Policy).

It is our policy to provide parents and carers with opportunities to work with their children at home. These activities are valuable in promoting children's learning in mathematics.

Activities are sent home on a regular basis Homework that is sent home may be an activity that consolidates the learning that has been going on in class; or work from their guided sessions. KS2 now access the 'Mathletics' online maths tool/game. Tasks are set for children to complete at home.

Monitoring and Evaluation:

(see the Monitoring & Evaluation Policy).

The Mathematics subject leader is released regularly, in line with the school monitoring cycle. The subject leader monitors and evaluates the quality and standards of mathematics throughout the school and supports teachers in their teaching.
Monitoring focuses on:

- Lesson observations
- Work scrutiny
- Planning scrutiny
- Assessment Data
- Moderating teacher assessments

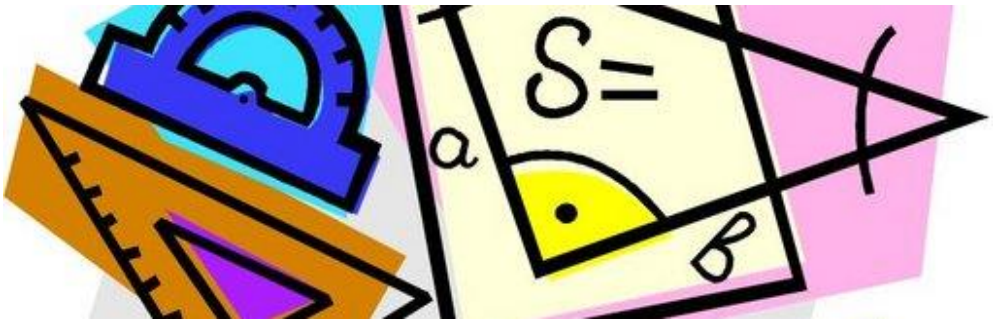
Maths plans will be moderated by the subject leader every term and by the head teacher throughout the year.

Staffing and resources:

All teachers should organise an area within the class dedicated to mathematics resources. This area should easily be accessible to children and allows them to become familiar with all resources.

Resources which are not used or required regularly are stored centrally in the maths boxes in the library.

Vision for Mathematics



"Mathematics is a subject which has its own unique place within our curriculum. It provides learners with powerful ways to describe and investigate an ever changing world.

Children can experience a sense of awe and wonder as they solve a problem for the first time; they will develop ways and means of looking at the patterns that make up our world, discover more sophisticated solutions and make links between different areas of Mathematics."

Mrs Swarbrick

Mathematics Subject Leader