

St Francis' Catholic Primary School and Pre-School Mathematics Policy



Mission Statement

'Everyone at St.Francis' Catholic Primary School and Pre-School tries to be like Jesus. We work together to make our school and community a welcoming and happy place to learn. As children of God, we care for each other and we always try to do our best.'

St Francis' Catholic Primary School
Mathematics Policy 2019

Aims and objectives: Our Intent

The study of Mathematics develops children's abilities to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics. Children use and apply their knowledge, skills and understanding in a range of different situations. We aim to ignite children's love of Mathematics through activities and learning both indoors and outdoors.

Nursery children are given every opportunity to develop their love of Mathematics through immersing themselves in 'Numberland' and they have a range of resources specifically to enhance the teaching and learning of Mathematics.

We want all children to have confidence in their Mathematical abilities and develop into enthusiastic and successful problem solvers, ready for the next stages in their school careers and academic stages of development.

We link with other Primary and High Schools to stretch children and develop their thinking. Children attend High School Maths challenges and they are always successful in STEM challenges.

Aims and objectives

The aims of mathematics are:

- to promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion;
- to promote confidence and competence with numbers and the number system;
- to develop the ability to solve problems through decision-making and reasoning in a range of contexts;
- to develop a practical understanding of the ways in which information is gathered and presented;
- to explore features of shape and space, and develop measuring skills in a range of contexts;

- to understand the importance of mathematics in everyday life.

2 Teaching and learning style

We use a variety of teaching and learning styles in mathematics lessons. Our principal aim is to develop children's knowledge, skills and understanding in mathematics. We do this through a daily lesson that has a high proportion of whole-class and group-direct teaching. During these lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work through visual representation. Non-Fiction Mathematical books/dictionaries are available in all classrooms. Children use ICT in mathematics lessons where it will enhance their learning, as in modelling ideas and methods. Wherever possible, we encourage the children to use and apply their learning in everyday situations.

Children use Study Ladder, Prodigy and Times tables Rock Stars to challenge themselves and continue their flare for Maths at home.

We have Literacy rich classrooms which have evidence of;

- WAGOLLS
- Working Walls
- Table top tips
- Chilli Challenges
- Vocabulary walls and prompts
- Takeaway self and peer assessment tables
- Differentiation offering all children the opportunity to make progress in learning.

- Calculation workshops for parents and progression in calculations on working walls.
- Success criteria slips for every lesson.
- Children being engaged through a wide range of modes such as: oral presentation, visual, and kinaesthetic activities.
- Modelled expectations available for reference.

Working Walls

Every class has a Maths Working Wall;

- This evolves as each day progresses. It is the public display of the learning process. It clearly displays the long term learning objectives as well as short term intentions.

- The success criteria are developed with the children and displayed. They are used to demonstrate to pupils how they will be able to achieve the learning intention.
- Key vocabulary is also displayed. Mind mapping, modelled examples, re-drafting and pupils' examples are regular features of the working wall.

All classes throughout St.Francis' provide the children with an additional Maths time every day through a 'Number of the day or Countdown Challenge'. This 10/15 minute teacher led session is delivered at age-related expectations and aims to develop a conversation about Maths that actively encourages all children to examine number, pattern and develop problem solving skills in a 'real-life context'. This is a practical, quick paced session that aims to improve children's mental maths skills in line with age-related expectations. This session is not differentiated and does not require the children to keep detailed notes of their learning. This is quick paced, oral work.

In all classes there are children of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies – in some lessons through differentiated group work, and in other lessons by organising the children to work in pairs on open-ended problems or games. We use classroom assistants to support some children and to ensure that work is matched to the needs of individuals.

3. Mathematics curriculum planning

Mathematics is a core subject in the National Curriculum, and we use the Lancashire Math's Scheme and other resources to plan our curriculum tailored to the children's needs. We ensure Math's is taught within Foundation Subjects to enable children to make sense of the world and provide every cross-curricular opportunity as often as possible.

We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term).

Our medium-term mathematics plans, which are adopted from the Lancashire Framework and give details of the main teaching objectives for each term, define what we teach. They ensure an appropriate balance and distribution of work across each term. These plans are kept and reviewed by the subject leader.

It is the class teacher who completes the weekly plans for the teaching of mathematics. These weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught. The class teacher keeps these individual plans. The class teacher and subject leader often discuss them on an informal basis.

4. The Foundation Stage

We teach mathematics in our reception class. As the class is part of the Foundation Stage of the National Curriculum, we relate the mathematical aspects of the children's work to the objectives set out in the Early Learning Goals, which underpin the curriculum planning for children aged three to five. We give all the children ample opportunity to develop their understanding of number, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

5. Contribution of mathematics to teaching in other curriculum areas Cross Curricular learning.

English

Mathematics contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. For example, we encourage children to read and interpret problems in order to identify the mathematics involved. The children explain and present their work to others during plenary sessions. Younger children enjoy stories and rhyme that rely on counting and sequencing. Older children encounter mathematical vocabulary, graphs and charts when using non-fiction texts.

Information and communication technology and Computing (ICT)
Children use and apply mathematics in a variety of ways when solving problems using ICT. Younger children use ICT to communicate results with appropriate mathematical symbols. Older children use it to produce graphs and tables when explaining their results or when creating repeating patterns, such as tessellations. When working on control, children use standard and non-standard measures for distance and angle. They use simulations to identify patterns and relationships.

6. HRSE/Personal, social and health education (PSHE), British Values and citizenship

Mathematics contributes to the teaching of personal, social and health education, and citizenship. The work that children do outside their normal lessons encourages independent study and

helps them to become increasingly responsible for their own learning. The planned activities that children do within the classroom encourage them to work together and respect each other's views. We present older children with real-life situations in their work on the spending of money. Children actively fund raise and have their own Fairtrade budgets to order new food for Friday snack and they take part in fairs and events.

Spiritual, moral, social and cultural development

The teaching of mathematics supports the social development of our children through the way we expect them to work with each other in lessons. We group children so that they work together, and we give them the chance to discuss their ideas and results. The study of famous mathematicians around the world contributes to the cultural development of our children.

7. Teaching mathematics to children with special needs

We teach mathematics to all children, whatever their ability. It is part of the school curriculum policy to provide a broad and balanced education to all children. We provide learning opportunities that are matched to the needs of children with learning difficulties. Work in mathematics takes into account the targets set for individual children in their Individual Education Plans (IEPs).

8. Assessment and recording

We assess children's work in mathematics from three aspects (long-term, short-term and medium-term). We make short-term assessments which we use to help us adjust our daily plans. These short-term assessments are closely matched to the teaching objectives. At the beginning of each lesson all children throughout school are made aware of the Learning Objective and are given success criteria, in which to assess their own learning. This is then assessed at the end of the lesson by the children themselves, which in KS2 is then recorded in their books. When marking, the teacher will only mark against this question to assess whether indeed the children have meet the Learning Objective for that lesson. Assessment for Learning books are kept as a daily formative assessment tool and this support next step planning. Teachers then keep a daily record book of who has or has not met the target for that lesson so that they can alter their planning accordingly.

7. We make medium-term assessments at the end of each half term to measure progress against the key objectives, and to help us plan the next unit of work. We use the daily class record of the key objectives as the recording format for this. Targets can then be set for children to bridge any gaps that may be present. Pupil progress meetings are held at the end of each half term to evaluate with

the Head the progress of all the children to ensure progress for all children is maintained across school.

We make long-term assessments towards the end of the school year, and we use these to assess progress against school and national targets. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents. We pass this information on to the next teacher at the end of the year, so that s/he can plan for the new school year. We make the long-term assessments with the help of end-of-year tests and teacher assessments. We use the national tests for children in Year 2 and Year 6, plus the optional national tests for children at the end of Years 3, 4 and 5. We also make annual assessments of children's progress measured against the level descriptions of the National Curriculum and KLIPS (as year group expectation guidance only). We complete our personalised school's half termly tracker to monitor and review progress and aid pupil progress meetings.

The mathematics subject leader keeps samples of children's work in a portfolio. This demonstrates what the expected level of achievement is in mathematics in each year of the school. Teachers meet regularly to review the half termly monitoring checklist and we regularly evaluate all subject in staff meetings.

8. Resources

There is a range of resources to support the teaching of mathematics across the school. All classrooms have a number line, multiplication squares and a wide range of appropriate small apparatus. Mathematical dictionaries are available in all classrooms. Calculators and a range of audio visual aids are kept in individual classes. A range of software is available to support work with the computers. IPADs have interactive software and we have invested in classroom resources for every year group to support teaching and learning.

Classroom environments reflect and support the learning and teaching of maths throughout school. All classrooms have their daily and weekly maths learning on show so that it is visible to all who come into the room. Each classroom has resources appropriate the age and ability of the children on show so that they are readily available for the children during their lessons. Practical resources required by the children to complete the tasks they are given or to support them in visualisation of mathematical concepts are freely available in a designated maths area in each classroom. The children are free to select resources that they feel will support them; children are actively encouraged to be independent in the use and selection of resources.

The Math's environment will reflect the age and ability of the children and will aid and stimulate their love of mathematical learning.

9. Monitoring and review

Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the mathematics subject leader and SLT. The work of the mathematics subject leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The mathematics subject leader gives the headteacher an annual summary in which s/he evaluates strengths and weaknesses in the subject and indicates areas for further improvement. The headteacher allocates regular management time to the mathematics subject leader so that s/he can review samples of children's work and undertake lesson observations of mathematics teaching across the school. A named member of the school's governing body is briefed to oversee the teaching of numeracy. This governor meets annually with the subject leader to review progress.

Staff training is vital and we work as a cluster and in year groups to upskill and develop subject knowledge and current initiatives.

Signed: J.Gilmour

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