

St. John Fisher Catholic Primary School

Growing through God, we learn, laugh and love.



MATHEMATICS POLICY

In consequence of our school mission, it is a fundamental aim of St. John Fisher to be a school which is: -

Nurturing – so we feel closer to God.

Compassionate – so we will look after others.

Inclusive – so that everyone feels valued.

Inspiring – to reach heights that we thought we never could.

Creative – to use all our talents to the best of our ability.

Active – to live life to the fullest.

Determined – to always learn and discover new things.

Rationale

At St. John Fisher we aim to inspire all children to reach their full academic potential. In mathematics this means ensuring a curriculum that is fully inclusive of all children which:

- Develops children's knowledge and understanding of Mathematical concepts whilst enabling them to practice and hone skills and methods
- Enables them to think critically and communicate their understanding
- Gives them opportunities to apply learnt mathematical skills in different contexts across the curriculum
- Provides opportunities to develop problem solving skills useful for maths and across the curriculum

This policy is set within the context of the school's vision, aims and policy on teaching and learning. As a result of their learning in mathematics and problem solving across the curriculum children will:

- Be prepared for applying their skills effectively in everyday life situations, in their future learning and in the work place
- Have the building blocks in place and to provide a solid foundation to lead onto secondary, further and higher education

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 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
- Confident communication of maths where pupils ask an answer questions, openly share work and learn from mistakes
- An ability to use and apply mathematics across the curriculum and in real life
- An understanding of mathematics through a process of enquiry and investigation

The aims of the 2014 National Curriculum are for our pupils to:

1. 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.
2. **Reason** mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
3. 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 (National Curriculum, 2014)

The National Curriculum sets out year by year programmes of study for KS1 and 2. This ensures continuity and progression in the teaching of mathematics.

The EYFS statutory framework 2021 sets standards for the learning, development and care of children from birth to five years old and supports an integrated approach to early learning. This is supported by the "Development matters" non statutory guidance.

The EYFS Framework in relation to mathematics aims for our pupils to:

ELG: Number

Children at the expected level of development will:

- Have a deep understanding of number to 10, including the composition of each number;
- Subitise (recognise quantities without counting) up to 5;
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

ELG: Pattern

Children at the expected level of development will:

- Verbally count beyond 20, recognising the pattern of the counting system;
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Breadth of study

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

- Practical activities and mathematical games/songs
- Problem solving
- Individual, group and whole class discussions and activities
- Open and closed tasks
- Reasoning and problem solving to challenge thinking
- Use of outdoor maths to further inspire learners
- A range of methods of calculating e.g. mental, pencil and paper and using a calculator
- Working with computers as a mathematical tool

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

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 three key principles:

- A mathematics lesson at least four times per week
- A clear focus on exploration, modelling, creativity and interactive oral work with the whole class and targeted groups
- An emphasis on calculation at the beginning of every mathematics lesson

Each class organises a daily lesson of between 45 and 60 minutes for mathematics, usually first thing in the morning after registration. 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.

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

Medium term planning will outline the areas of mathematics that will be taught during the term to ensure coverage of the National Curriculum, EYFS planning is based on Development Matters in the Early Years Foundation Stage (number, shape, space and measure).

Short term planning

At St. John Fisher we use Maths No Problem in years 1-6, which have been written to support teachers in all aspects of their planning whilst delivering Singapore Maths Mastery methods effectively. As part of this process, teachers short term planning emphasises four critical questions that teachers ask themselves:

1. What do I like the students to learn? (As opposed to: What do I want to teach them?) What do I really want them to be able to do?

2. How do I know what they've learnt? What do I want to see them do?

3. What is my safety net to make sure they got it? What if they haven't learnt it?

Teachers must be prepared to help students who can't understand a new concept by, for example, making his/her explanation more visual and by careful progression of the language used.

4. What if some students have already got it? What do I do to make sure they get stretched?

Teachers can challenge them further by asking more able students who already understand a given problem to:

- figure out another way of solving the given problem
- write a story about it in their mathematics journal
- write a note to a friend who is absent and explain the problem that was discuss during class

Planning his/her lesson with the four critical questions in mind helps the teacher to make sure that he/she will be able to engage all three different groups of learners: less able ones, average ones and the most advanced ones. It is very important that all students are given the same problem to solve, regardless of their abilities. If a student struggles, the teacher will give him support, if a student is very able the teacher will give him an extension. The teacher doesn't want to prejudge which students can do the task and which can't. This forms the basis of equal opportunity learning.

EYFS Planning

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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. Children are encouraged to use mental strategies where they can before resorting to a written method. All children are encouraged to work tidily and neatly when recording their work. When using squares one square should be used for each digit.

EYFS record formally and informally within the setting. For example:

- On the playground
- On whiteboards
- Using jigsaws
- Physically ordering numbers
- Staff in Foundation use photos to ensure records of each child's achievements are maintained.

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 (1-6) is recorded every term on excel spreadsheets and on our 'teaching and learning tool' - 'Balance'.

Short term assessment

Children's class work is assessed frequently through

- Regular marking/ verbal feedback
- Analysing errors
- Questioning
- Discussion
- Plenaries
- Focus groups
- On 'Balance'

This is used to inform future planning and teaching. Lessons are adapted readily and short term planning is evaluated and annotated in light of these assessments.

Medium term assessment

Termly assessments are to be carried out across the school using the assessment materials for each year group. These materials are to be used alongside judgements from class work to form a

teacher assessment for each child. These judgements are then passed onto the senior leadership to be fed into the whole school tracking system and discussed at 'Pupil Progress' meetings.

Long term assessment

Y2 and Y6 to complete end of key stage assessment every May. Y3, 4 and 5 to complete optional assessment papers during summer term.

Marking

Feedback will be verbal and written and will be given where appropriate to children across the school.

Marking of children's work is essential to ensure they make further progress. All work is marked in and sometimes includes next steps. Work is to be marked once completed before a child starts the next piece of work in accordance with the school marking policy. Children are encouraged to self-assess their work and given time to read teachers' comments and make corrections. Children are encouraged to award themselves a 'Balance' score and then consider their score and how it can be improved – what steps would it take to improve the score?

Resources

- In the classrooms there should be, either on display or easily accessible to children, level 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.

Resources which are not used or required regularly are stored in the maths cupboard. There is a range of mathematical software on the iPads and computer as well as access to websites to support a range of activities across foundation, KS1 and KS2.

Reporting

Reports are completed before the end of the summer term and parents are given opportunity to formally discuss their child's progress at three parents' evenings in the autumn, spring and summer term. 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. At the end of KS1 and KS2, each pupil's attainment against national standards is included as part of their annual written report.

Equal Opportunities

At St John Fisher Catholic Primary School, we aim to provide equality of opportunity for all children whatever their age, ability, gender, race, religion or background. We aim to create an environment that values each pupil and enables them to achieve their full potential. We provide a broad and balanced curriculum appropriately differentiated to respond to pupils' diverse learning needs. Ensuring differentiation is a fundamental and core element of inclusion. As such we plan and resource our learning, in line with our whole school policies, to enable all pupils to make good and sustained progress in mathematics. In our differentiated planning we take due regard of factors such as classroom organisation, learning materials and the learning environment.

The opportunities and experiences we provide enable our pupils to participate fully and give their best across all aspects of school life. We place great value on the quality of relationships within our school community and celebrate the achievements of all pupils. throughout, or at any time during their school career.

Special Educational needs

At St John Fisher Catholic Primary School we aim to facilitate the full inclusion of pupils with special educational needs. We appreciate that children may have special educational needs. We

teach mathematics to all children, whatever their ability, in accordance with the school curriculum policy of providing a broad and balanced education to all children. Teachers provide learning opportunities matched to the needs of children in their class.

The daily mathematics lessons are inclusive to pupils with special educational needs. Where required, children's provision plans will incorporate suitable objectives from the mathematics Curriculum or Development Matters and teachers keep these objectives in mind when planning work. These targets may be worked upon within the lesson as well as sometimes on a 1:1 basis outside the mathematics lesson.

Within the daily mathematics lesson teachers must not only provide differentiated activities to support children with special educational needs but also activities that 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.

Intervention

Maths focused intervention will be provided to support children with gaps in their learning, concepts and mathematical understanding. Intervention will be provided to children who are not on track to make the appropriate progress (achievement). Intervention will be carried out by teachers and TA's. The class teacher must plan for TA's.

Monitoring and Evaluation

The mathematics subject leader monitors and evaluates the teaching of mathematics through book scrutiny, learning walks, observations, discussions with children and planning.

Following monitoring activities feedback is given to staff about how they can strengthen their practice and CPD (professional development) opportunities built in where it would be deemed valuable. These might take the shape of inputs during staff meetings or by a variety of other means.

Where specific initiatives have been put in place through action planning for school development, these are monitored by the subject leader in order to evaluate their impact.

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 INSET
- Involve staff with policy and decision making
- Provide the opportunity to learn from colleagues expertise
- Encourage parental involvement at home.

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 through attendance of local network meetings
- Maintaining contacts beyond school with numeracy consultants, advisory staff and other outside agencies
- Ensuring equality of opportunity for all pupils

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

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

Governing Body

We have an identified maths governor. They are invited to attend relevant school INSET. The maths governor visits school to talk with the subject leader. The maths governor reports back to the curriculum committee on a regular basis.