SAINT PATRICK’S CATHOLIC PRIMARY SCHOOL

Mathematics Policy

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**What is Mathematics?**

Mathematics involves providing children with opportunities to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to describe shapes, spaces, and measures. Mathematics is a creative and highly inter–connected discipline that has been developed over centuries, providing the solutions 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)

 **Mathematics Vision at St. Patrick’s Catholic Primary School**

The intent of our Mathematics curriculum is to ensure all children approach maths with enthusiasm and positivity. We believe that all children can do maths, including those with special educational needs and who are categorized as disadvantaged learners. By developing and embedding a Mastery approach we will provide children with a secure foundation for understanding number, reasoning, thinking logically and problem solving. Children will approach mathematical challenges with resilience so that they are fully prepared for the future. We want them to know that Mathematics is essential to everyday life and that our children are confident and independent mathematicians who are not afraid to take risks. It is essential that both the attitudes and skills we teach in Mathematics are embedded throughout all strands of the National Curriculum. We promote a ‘can do’ attitude to Mathematics without a fear of making mistakes. Children will be given time, support and resources to develop a depth of understanding where children can express ideas fluently and talk about the subject using appropriate mathematical language.

**Introduction**

 In September 2021, St. Patrick’s Catholic Primary School started its journey towards a whole school mastery approach to the teaching and learning of Mathematics. We understand that this will be a gradual process and may take time to fully embed. The rationale behind changing our school approach to teaching Mathematics arose from our involvement in the NCETM Maths Hub and Teaching for Mastery Programme and our belief in the philosophy that all children can achieve. The expectation is that most pupils will move through the programmes of study at broadly the same pace. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, and when necessary through interventions set by the teacher.

Our implementation is developed through secure understanding of Mathematics within the curriculum and as a subject area.

**Teaching and Learning, Content and Sequence**

Children are taught the relevant content and objectives for their Year Group from the National Curriculum 2014. In September 2021, we began a ‘Mastery Readiness’ project with the Maths Mobius Hub. Medium and short term plans are created using our school Calculation Policy with NCETM guidance and resources used as a supporting tool. For more information please visit https://www.ncetm.org.uk/teaching-for-mastery/

We plan an effective Mathematics curriculum which will meet the needs of all learners; making adjustments where necessary to ensure that children with Special Educational Needs and those who are categorised as Disadvantaged Learners are able to achieve their full potential. Prior knowledge is a starting point for all future planning and teaching. The whole class is taught mathematics together, with the expectation that every child will master the key concept, whilst some will work more deeply on challenging tasks. Lessons are taught in small steps in order to secure achievement for all. All children will achieve within the lesson at their own level and all children will have the opportunity to be challenged within lessons.

Lessons in Years 1-6 start with a ‘Wizard Warm Up’ in order to start the lesson with consolidation of previous topics and concepts, allowing for the lesson to start with the intended ‘can do’ attitude. Mathematics lessons are designed with a concrete, pictorial and abstract (CPA) approach, providing our pupils with the scaffolding required to access the learning at all levels. Each lesson will have a problem introduced and revisited during the lesson as a whole class. This will support all pupils in understanding how their arithmetical proficiency can be applied across different contexts. Lessons are engaging and follow a cycle of planning, to ensure that we can evidence progress over short and long periods of time.

We place a large emphasis on pupil engagement and design lessons which involve all pupils. To implement our intent, we ensure that our children are invested in their learning and are making a positive contribution to their lessons.

The daily Mathematics lessons last between 40 and 60 minutes. In addition, all classes in KS1 deliver interactive daily sessions following the ‘Mastering Number’ scheme, of approximately 15 minutes long. KS2 deliver daily times tables practice using ‘Times Table Booklets’ until the pupils are secure in all times tables. They then move onto arithmetic sessions which focus on fluency practice and reinforcing key objectives which have already been taught.

**Leadership, Assessment and Feedback**

Assessment informs the teaching and learning sequence. Through regular formative and summative assessment, teachers regularly adapt their plans to ensure that any gaps in knowledge are filled so that children are ready to move on with their learning.

Where necessary, children may be given additional support through a variety of strategies; booster sessions, interventions, extra adult support in class in order to meet our intent of ensuring that all children achieve and enjoy mathematics.

Feedback is given on children’s learning in line with our marking policy. Children are given timely feedback both verbally within lessons and through marking. Children are given the opportunity to respond to this feedback and are encouraged to self-reflect regularly.

Summative assessments are completed four times a year. There is a baseline assessment in September and then further summative assessment in the Autumn, Spring and a final assessment in the Summer term. The Mathematics Leaders work alongside the SLT; key data is analysed and regular feedback is provided to class teachers.

**Feedback and Marking**

Marking of Mathematics books is completed in line with the school Marking and Feedback Policy. It is essential that all marking picks up and addresses any misconceptions/mistakes and thorough questioning ensures children have clarified their thinking clearly.

Teachers and Teaching Assistants are expected to use appropriate feedback methods during the lesson. Feedback should be effective in ensuring pupil progress throughout a lesson or unit of work. It is recognised that live feedback in addressing errors and misconceptions is the most effective.

Formative assessment for learning occurs throughout the entire maths lesson, enabling teachers to adjust their teaching/input to address the needs of the children. Teachers assess children daily through:

* Using effective questioning
* Making classroom observations
* Implementing quick check routines
* Marking during the lesson
* Plenary questions or activities

**Home-Learning and Parental Involvement**

There is the expectation that all pupils (Y2-Y6) will learn their times tables. Teachers should send additional homework to practise and consolidate their understanding as identified for their year group. (Refer to the Homework Policy)

Professor Assessor online Mathematics tasks are set as regular weekly homework, to practise and consolidate the week’s learning. All pupils from Y1 - Y6 have their own login details.

At St. Patrick’s school, we recognise that parents/carers can make a significant difference to a child’s progress in Mathematics. We encourage parents to be actively involved by:

• Providing parent’s evenings, which give them information on their child’s progress and their targets for the future

• Providing an end of year report, which outlines progress and attainment

 • Inviting parents to information events on how we teach mathematics and how they can help

**Computing and use of ICT**

ICT is used in various ways to support teaching and motivate children’s learning. Each classroom has a laptop connected to an interactive whiteboard. All teachers are provided with an I-pad to support their planning and provision and are encouraged to use ICT to enhance teaching and learning in Mathematics where appropriate.

The Mathematics policy and SOW adheres to the whole school E-safeguarding policies and procedures

**Monitoring and Evaluation**

All teachers are responsible for monitoring standards but the subject co-ordinator, under the direction of the Head Teacher takes the lead in this. Monitoring activities are planned across the year. In summary these are:

• Monitoring of class teachers’ medium-term plans for maths

 • Monitoring of teaching and learning taking the form of lesson observations, learning walks, book monitoring and pupil interviews

• Monitoring of assessment data, including Teacher Assessment sheets, statutory assessments,

• SENCO and Mathematics Leaders to monitor progress of children on the SEND Register and agree support/interventions

• Monitoring delivery and impact of interventions

Training needs are identified as a result of whole school monitoring and evaluation, performance management and needs of children. These will be reflected in the Mathematics Action plan and School Development Plan.

**Mathematics Subject Leader**

The Role of the Mathematics Subject Leaders is to:

* Take the lead in policy development and the production of long-term and medium-term planning, designed to ensure progression and continuity in Mathematics throughout the school.
* Ensure that these are kept under regular review. Ensure teachers understand the requirements of the National Curriculum and EYFS Statutory Framework and support them to plan lessons.
* Lead by example by setting high standards in their own teaching. Support colleagues with teaching as well as assessment and record keeping activities.
* Analyse data from national and school assessments.
* Take responsibility for managing own professional development by participating in external training.
* Keep up-to-date with developments in Mathematics education and disseminate information to colleagues as appropriate.
* Lead continuing professional development and learning (CPDL) for the teachers and teaching assistants; provide coaching and feedback for teachers to improve pupil learning.
* Lead the whole school monitoring and evaluation of teaching and learning in mathematics by observing teaching and learning in maths regularly; analysing assessment data in order to plan whole school improvement in mathematics; conducting work scrutiny to inform evaluation of progress; conducting pupil interviews and reporting to the Head teacher and Leadership.
* Take responsibility for the purchase and organisation of mathematical resources.
* Keep parents informed about mathematical developments.
* Ensure that the school’s senior leaders and governors are kept informed about the quality of teaching and learning in Mathematics .
* Work in close partnership with the school’s SENDCo and Intervention Lead to ensure the learning needs of all pupils in mathematics are met effectively and Interventions are planned carefully for identified children.
* Ensure the ‘Mathematics section on the school website is kept up to date and reviewed regularly

**Summary of Impact of our Actions:**

* All children will enjoy Mathematics and will achieve at their ability.
* Most children will demonstrate mastery in Mathematics . A mathematical concept or skill has been mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.
* Children demonstrate quick recall of facts and procedures. This includes the recollection of the times tables.
* Children demonstrate flexibility and fluidity to move between different contexts and representations of Mathematics .
* Children recognise relationships and make connections in Mathematics, both within the Mathematics lessons and in other areas of the curriculum.
* Children show a high level of pride in the presentation and understanding of their work.