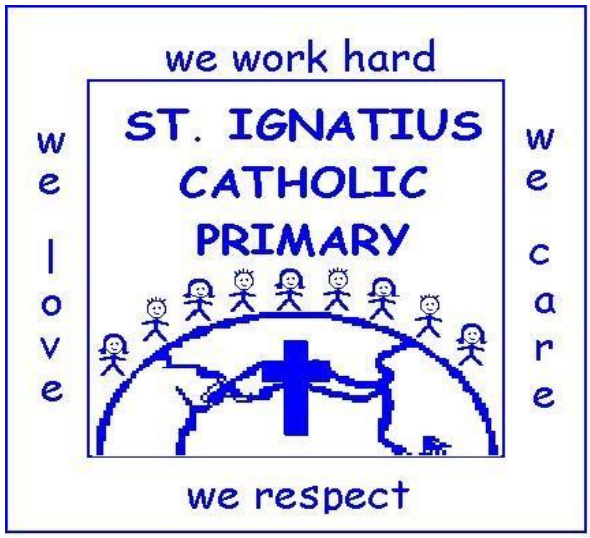
St. Ignatius' Catholic Primary School



Mathematics Policy 2021

ST. IGNATIUS' CATHOLIC PRIMARY SCHOOL MATHEMATICS POLICY

MISSION STATEMENT

Our Catholic school of St Ignatius' puts the faith and uniqueness of Jesus Christ at the centre of our vision for our children. We all strive to treat every person with respect and understanding. We know that no matter who we are or what our backgrounds, in school we will be listened to and valued. We are all children of God. We are totally committed to providing every opportunity for all of our children to develop intellectually, socially, physically and spiritually through a working partnership with home, parish and other local faith communities so that our children are prepared for further opportunities, responsibilities and experiences.
We work in an atmosphere of reconciliation where we all learn to forgive each other and to start each day afresh.
We acknowledge our great responsibility to help all our children on their individual faith journeys guided by our belief in the Word of God. The diversity of faiths in our school challenges us to teach our children –

- to live together
- pray together
- and play together.

This is our school.
This is our community.
Here we all are, Lord!

Aims

Mathematics helps children to make sense of the world around them through developing their 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.

At St. Ignatius' Catholic Primary School we aim for all pupils to:

- Have a positive attitude to mathematics;
- Have the confidence to make decisions and to reason mathematically;
- Have conceptual understanding of mathematics and be able to apply their knowledge to solve problems;
- Develop growth mind-set and show resilience and perseverance;
- Move through programmes of study at broadly the same pace;
- Develop into fluent mathematical thinkers.

Teaching and Learning Style

- All teachers plan from the Lancashire medium term plans, using LAPs to ensure progression throughout the year. Teachers use a variety of resources to meet the objective of each lesson, including White Rose Hub Premium Resources.
- In Year 1, 2 and 3, we are beginning to implement the Red Rose Hub mastery resources.
- The Maths Subject Leader has completed the Mastery Readiness Programme. Teachers have received training in Mastery from the Maths Subject Leader and Lancashire Maths Advisors. With the Mastery approach in mind, teachers plan for the class to work together on the same objective, whilst at the same time challenging and supporting pupils to gain depth of understanding and proficiency.
- Lessons will contain a combination of conceptual understanding, fluency work, problem solving and variation.
- Precise questioning during lessons ensures that pupils develop fluent technical proficiency and think deeply about the underpinning mathematical concepts.
- Pupils are encouraged to make rich connections across mathematical ideas to develop deep interconnected understanding.
- Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems rather than accelerated onto new content.
- Additional support may be given in the following ways: further use of representations, careful directed questioning, additional time or activities to consolidate understanding and use of flexible grouping. New concepts are introduced by using a concrete, pictorial, abstract approach.
- Every Maths lesson should show progress and/or help children to deepen their understanding and should build on prior knowledge, therefore all children should be challenged.
- Maths vocabulary should form part of every lesson and it should be used in the correct way in order to develop children's knowledge.
- Every classroom should have helpful, appropriate, display materials, including maths vocabulary. There should be a clearly defined maths working wall, with resources that can be easily accessed by the children.
- All calculations should follow the calculations policy.
- The learning intention for each lesson should be clear, should be taken from the objectives for the year group.
- It should be shared with the children at some point in the lesson and they should be aware of the success criteria.
- All adults working with the children should be used effectively in order to develop the children's knowledge and they should be aware of the focus children for the class where appropriate. Opportunities for self and peer assessment should be incorporated into every lesson.
- Children should consider what they did well and how to improve. Children are expected to perform to the best of their ability. If supported by an adult, this will be indicated in children's books.
- Children will begin each day with an arithmetic activity.

- Children are expected to practice multiplication tables at home and in school. Success will be displayed on the Times Tables Ladder in each classroom (Years 2-6)

- Early Years Foundation Stage (EYFS) Teachers support children in developing and expressing their understanding of problem solving, reasoning and numeracy in a broad range of contexts through exploration. Teachers offer opportunities for these skills to be practised, in order to give children confidence and competence in their use. This Area of Learning and Development includes seeking patterns, making connections, recognising relationships, working with numbers, shapes, space and measures, and counting, sorting and matching. Children use their knowledge and skills in these areas to solve problems, generate new questions and make connections across other Areas of Learning and Development. Mathematical understanding will be developed through whole class sessions as well as stories, songs, games and imaginative play.

Mathematics Curriculum Planning

Mathematics is a core subject in the National Curriculum, and we use the Mathematics Programmes of Study: key stages 1 and 2 National Curriculum in England (2013) and the Mathematics Planning National Curriculum documentation – Lancashire County Council (2014) as the basis for implementing the statutory requirements of the programme of study for mathematics.

In Year 1, 2 and 3 we are beginning to implement the Red Rose Hub mastery resources.

We carry out the curriculum planning in mathematics in line with the structures and recommendations outlined in the LCC medium term planning documentation.
The headteacher and mathematics subject leader are responsible for monitoring the mathematics planning within our school.

Assessment

Assessment has two main purposes:

- assessment of learning (also known as summative assessment);
- assessment for learning (also known as formative assessment).

Assessment of learning (AoL) – summative assessment
Assessment of learning is any assessment that summarises where learners are at a given point in time – it provides a snapshot of what has been learned. Within St. Ignatius' Catholic Primary School AoL is used appropriately, e.g. to provide a Teacher Assessment judgement.

Assessment for learning (AfL) – formative assessment
"Assessment for learning is the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to get to and how best to get there."

Assessment Reform Group, 2002

At St. Ignatius' Catholic Primary School we recognise that AfL lies at the heart of promoting learning and in raising standards of attainment. We further recognise that effective AfL depends crucially on actually using the information gained.

The school supports teacher assessment through the use of the Lancashire Learning and Progression Steps (LAPS). These documents set out a progression of learning for individual strands of the National Curriculum towards end of year age related expectations.

The assessment procedures within our school encompass:

- Making ongoing assessments and responding appropriately to pupils during 'day-to-day' teaching. These 'immediate' responses are mainly verbal and are not normally recorded;
- Using knowledge of pupils drawn from ongoing pupil tracking records and the progression document to inform 'prior learning' at the beginning of each unit of work to guide our planning and teaching;
- Adjusting planning and teaching within units in response to pupils' performance;
- Use of the Assessment questions within the Lancashire Interactive Planning tool (National Curriculum 2014) to check learning against the end of year objectives. If necessary future planning is adapted in response to assessment outcomes;
- Use of ongoing teacher assessment in order to identify gaps in attainment and at the end of each full term using this information to judge each child's attainment against year group expectations;
- Use of information gained from statutory and internal school tests.
- Analysis is done at both a quantitative and qualitative level. We use Lancashire Termly Assessments at the end of each term in Years1-6.
- Information gained is used to identify the group's and individual's strengths and areas for improvement.

The Early Years Foundation Stage

Work undertaken within the Early Years Foundation Stage is guided by the requirements and recommendations set out in the Revised Statutory Framework for the EYFS (2017), the Development Matters in the EYFS (2012) and the Lancashire Planning Support Tools. We give all the children opportunities to develop their understanding of mathematics. We aim to do this through varied activities that allow them to use, enjoy, explore, practise and talk confidently about mathematics.

Contribution in Mathematics to Teaching in Other Curriculum Areas

At St. Ignatius school we use the LPDS National Curriculum Support Materials to highlight creative learning opportunities and outcomes for mathematics across other subjects.

English

Mathematics contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. We further develop vocabulary through the teaching of Mathematics.

Computing/ICT

The effective use of ICT can enhance the teaching and learning of mathematics when used appropriately. When considering its use, we take into account the following points:

- ICT should enhance good mathematics teaching. It should be used in lessons only if it supports good practice in teaching mathematics;
- Any decision about using ICT in a particular lesson or sequence of lessons must be directly related to the teaching and learning objectives for those lessons;
- ICT should be used if the teacher and/or the children can achieve something more effectively with it than without it;
- Useful suggestions as to integrating ICT is given in the ICT section of the Lancashire Interactive Planning tool (National Curriculum 2014).

Science

Almost every scientific investigation or experiment is likely to require one or more of the mathematical skills of classifying, counting, measuring, calculating, estimating and recording in tables and graphs. In science pupils will for example order numbers, including decimals, calculate simple means and percentages, use negative numbers when taking temperatures, decide whether it is more appropriate to use a line graph or bar chart, and plot, interpret and predict from graphs.

Art, Design and Technology

Measurements are often needed in art and design and technology. Many patterns and constructions are based on spatial ideas and properties of shapes, including symmetry. Designs may need enlarging or reducing, introducing ideas of multiplication and ratio. When food is prepared a great deal of measurement occurs, including working out times and calculating cost; this may not be straightforward if only part of a packet of ingredients has been used.

History, Geography and Religious Education

In history and geography children will collect data by counting and measuring and make use of measurements of many kinds. The study of maps includes the use of co-ordinates and ideas of angle, direction, position, scale and ratio. The pattern of the days of the week, the calendar and recurring annual festivals all have a mathematical basis. For older children

historical ideas require understanding of the passage of time, which can be illustrated on a time line, similar to the number line that they already know.

Physical Education and Music

Athletic activities require measurement of height, distance and time, while ideas of counting, time, symmetry, movement, position and direction are used extensively in music, dance, gymnastics and ball games.

Personal, Social and Health Education (PSHE) 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.

Teaching Mathematics to Children with Special Needs

At St. Ignatius Catholic Primary School we aim to provide a broad and balanced education to all pupils. Quality First Teaching is considered an entitlement for all pupils. Effective pupil tracking enables identification of pupils who may benefit from early 'intervention' at an appropriate level.
We assess children termly and use the results to identify children who need support in specific areas of mathematics.

We also recognise, and aim to make provision for, pupils who have a particular ability in mathematics.

Resources

There are a range of resources to support the teaching of mathematics across the school. Staff are encouraged to use practical and visual models to support children's learning in mathematics. All classrooms have a wide range of appropriate practical apparatus. Audio visual aids are also available alongside a range of software to support mathematics learning.

Responses to Children's Work

We recognise the importance of responding to children's work, whether orally or in writing. We seek to encourage children by acknowledging positive achievements. Adults use the school's rocket system and house points to reward positive attitudes, resilience and hard work.
Children are frequently provided with verbal next steps to support and enhance their understanding and make links between previous and future learning. Children are given opportunities, and actively encouraged, to explain their work to others.
They are encouraged to value and respect the work of others.

Monitoring and Review

Monitoring of the standards of children's work and of quality of teaching in mathematics is the responsibility of the headteacher and link governor supported by the subject leader.

The work of the 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.