

Lanchester All Saints' Catholic Primary School



Mathematics Policy

Recruitment and Selection Policy Statement

All Saints' Catholic Primary School is committed to safeguarding and promoting the welfare of children and young people and expects all staff and volunteers to share this commitment.

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Our School Policy for Maths

(please read in line with our Calculation Policy)

- ❖ We have designed an ambitious curriculum for all pupils that develops their knowledge, creativity, curiosity and skills-base. Utilising our location within North-West Durham, we deliver a curriculum that draws upon our rich history, cultural heritage and local resources.
- ❖ Our school life holds Gospel Values at its centre – this is evident within our curriculum delivery; we prioritise themes of fairness, integrity, compassion and responsibility and have high standards of all pupils in all subjects.
- ❖ Our curriculum is taught sequentially and systematically across each year group and assessments are used to inform current knowledge and future planning. Depending upon the individual needs of different cohorts or groups of pupils, the curriculum is adapted to ensure all children can access it and progress within it. Regardless of year group or subject, individual learning as well as collaborative learning is supported as part of a positive, hardworking ethos.
- ❖ Prior learning is built upon with links made between old and new concepts. Meaningful learning is embedded throughout educational visits and creative activity and opportunity.
- ❖ When the children leave our school, we expect them to be confident learners who have a sound understanding of their place within our local community, our wider location and our global family. As a school, we are proud that our curriculum follows national policy but is also flexible and responsive to current issues.
- ❖ Our intention is for our pupils to be inspired to pursue knowledge and celebrate diversity in all areas.

Purpose of Study

“Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution 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

Aims

The study of maths aims to ensure that all pupils become fluent in the fundamentals of mathematics so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. Pupils should be able to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication.

We aim to provide the pupils with a mathematics curriculum, which will produce individuals who are literate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their mathematical skills to their full potential.

The aims of maths at All Saints' school are that pupils:

- have a sense of the size of a number and where it fits into the number system;
- know by heart number facts such as number bonds, multiplication tables, doubles and halves;
- use what they know by heart to figure out numbers mentally;
- calculate accurately and efficiently, both mentally and in writing and paper, drawing on a range of calculation strategies;
- make sense of number problems, including non-routine problems, and recognise the operations needed to solve them;
- explain their methods and reasoning using correct mathematical terms;
- judge whether their answers are reasonable and have strategies for checking them where necessary;
- suggest suitable units for measuring and make sensible estimates of measurements;
- explain and make predictions from the numbers in graphs, diagrams, charts and tables;
- develop spatial awareness and an understanding of the properties of 2d and 3d shapes.

Teaching and Learning Style

At All Saints' Catholic Primary School we use a variety of teaching and learning styles in our maths lessons. Our principal aim is to develop children's knowledge, skills and understanding. Teachers use a range of teaching strategies to engage the children in maths and ensure progress is made by all children within a class; no set formula is used. A typical lesson would include:

- Both teaching input and pupil activities,
- A balance between whole class, guided grouped and independent work, (groups, pairs and individual work);
- Effectively differentiated activities/objectives and appropriate challenge.

Sometimes the focus for the session is new learning, at other times pupils may be practising, to master the application of a concept they have learned earlier. The focus of the session may vary for different children depending on their learning needs. At times there may be opportunities to develop skills and understanding of mathematics through additional activities, some of which may take place at home. The school has invested in Times Table Rockstars which is an accessible learning platform that can be used to set differentiated homework for pupils. In all classes, children have a wide range of abilities, and we seek to provide suitable learning opportunities for all children by matching the challenge to the ability of the child. We achieve this through careful differentiation and the targeted support.

Pupils are provided with a variety of opportunities to develop and extend their Mathematical skills, including:

- Group work
- Paired work
- Whole class teaching
- Individual work including 1:1 tuition

Pupils engage in:

- the development of mental strategies
- written methods
- practical work
- investigational work
- problem solving
- mathematical discussion
- consolidation of basic skills and number facts
- maths games

We recognise the importance of establishing a secure foundation in mental calculation and recall of number facts before standard written methods are introduced. We use accurate mathematical vocabulary in our teaching and children are expected to use it in their verbal and written explanations.

Teachers plan problem solving and investigational activities every week to ensure that pupils develop the skills of mathematical thinking and enquiry. To provide adequate time for developing mathematics, maths is taught daily and discretely. Maths lessons may vary in length but will usually last for about forty five minutes in Key Stage One and sixty minutes in Key Stage Two.

Contribution of English to other Areas of the Curriculum

Mathematics contributes to many subjects and it is important the children are given opportunities to apply and use Mathematics in real contexts. It is important that time is found in other subjects for pupils to develop their Numeracy Skills, e.g. there should be regular, carefully planned opportunities for measuring in science and technology, for the consideration of properties of shape and geometric patterns in technology and art, and for the collection and presentation of data in history and geography. We endeavour at all times to set work that is challenging, motivating and encourages the pupils to think about how they learn and to talk about what they have been learning. Additional enrichment opportunities are provided for pupils to further develop mathematical thinking e.g. through cooking, music, and maths investigations and games.

Maths Curriculum Planning

Maths is a core subject in the National Curriculum. We carry out the curriculum planning in maths in three phases (long-term, medium-term and short-term). Our yearly teaching programme identifies the key objectives in maths that we teach to each year. Our medium term plans give details of the main teaching objectives for each term. These plans define what we teach, and ensure an appropriate balance and distribution of work across each term. The Head Teacher and subject leader monitor and review these plans. Class teachers produce a weekly (short-term) plan for the teaching of maths. This lists the specific learning objectives and expected outcomes for each lesson, and gives details of how the lessons are to be taught. It also includes details of what each group of children will be learning. The Head Teacher monitors short-term planning.

We plan the activities in maths so that they build on the children's prior learning. While we give children of all abilities the opportunity to develop their skills, knowledge and understanding, we also plan progression into our planning so that there is an increasing challenge for the children as they move up through the school.

The Foundation Stage

We teach maths in reception classes through a daily session and through opportunities within continuous provision. Children work through the Development Matters statements towards the Early Learning Goals at the end of the year. Indoors and outdoors, the children have a broad range of opportunities to develop these key mathematical skills. The exploration of ideas in situations that are meaningful to them which enable the children to develop their mathematical understanding. We give all children the opportunity to use mathematical language in a widening range of situations.

Mathematics and Inclusion

We teach maths to all children, whatever their ability and individual needs. When progress falls significantly outside the expected range, the children may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, differentiation – so that we can take some additional or different action to enable the child to learn more effectively. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels. This ensures that our teaching is matched to the child's needs. Intervention through Support Plans will lead to the creation of an Education Healthcare Plan for children with special educational needs. The EHCP may include, as appropriate, specific targets relating to Maths.

Assessment and Recording

Teachers assess children's work in maths in three phases. The short-term assessments that teachers make as part of every lesson help them to adjust their daily plans. They match these short-term assessments closely to the teaching objectives. Written or verbal feedback is given to help guide children's progress. Older children are encouraged to make judgements about how they can improve their own work, by self-assessing their understanding, recording this by adding a green, orange or red dot to their learning objective. The teacher then highlights the learning objective to indicate understanding and progress. Future learning is planned on previous attainment. For more information on this, please see our Marking Policy.

Teachers measure attainment and progress termly. This helps them plan for the next unit of work and to pinpoint barriers to learning for pupil progress meetings.

Teachers make long-term assessments towards the end of the school year, and they use these to assess progress against school and national targets. With the help of these long-term assessments, they are able to set targets for the next school year, and to summarise the progress of each child before discussing it with the child's parents or carers. The next teacher then uses the long-term assessments as the planning basis for the new school year. These assessments are based on termly tests and teacher assessments. Children undertake the national tests at the end of Year Two and Year Six.

Resources

There is a range of resources to support the teaching of maths across the school. All classrooms have access to the interactive programme PowerMaths and pupils have access to Times Table Rockstars. Teachers also have access to a range of teaching resources linked to fluency, mastery, problem solving, arithmetic and reasoning. There is a range of concrete resources across school for teachers and pupils to access. All teaching staff contributed towards our Calculation Policy.

The Role of the Co-ordinator

The coordination and planning of the mathematics curriculum is the responsibility of the subject leader, whose responsibility it is to;

- review the policy document on a regular basis;
- ensure all staff are made aware of the subject policy document;
- identify any resource needs across the school and maintain the resources currently within school;
- pass information to staff on available resources, courses and relevant publications;
- liaise and network with external personnel, as appropriate, on matters relating to maths;
- monitor standards within maths via a range of methods including: planning and book scrutinies, learning walks, pupil interviews and identifying possible training needs based upon findings;
- supports colleagues in their teaching, by keeping informed about current developments in maths;
- work with the Head Teacher to evaluate the strengths and weaknesses in maths and indicate areas for further improvement;
- uses specially allocated time to review evidence of the children's work, and to observe maths lessons across the school.

Monitoring and Review

This policy was implemented November 2018. It will be reviewed annually or earlier if necessary. Last review: September 2019.