



Ancaster

Church of England Primary School

Maths Policy

Vision Statement

In the spirit of St. Martin, the Centurion Saint, we are a welcoming and inclusive community where every individual is celebrated. As we journey together through exploration and learning, our curriculum strives to promote local and global citizens who realise they have the power to change. Our high expectations for all, underpinned by our core Christian values of Wisdom, Courage and Respect, allow us to challenge everybody to be the best they can be.

Be the Best You Can Be!

Wisdom Courage Respect

How does our Christian Vision impact upon Maths at Ancaster?

We have chosen 4 Guiding Lights which are inspired by our Church School Vision. Below is an explanation of how each of these guiding lights impacts upon the teaching and learning of Maths at Ancaster.

Inclusivity- All children are deserving, entitled and embrace the full scope of a maths curriculum that seeks to enrich and grow their understanding and knowledge. In every lesson, appropriate levels of differentiation are in place to cater for the needs of every individual in our school. Children are supported, guided, and challenged to build and use their knowledge, skills and vocabulary associated with each concept but this is done by ensuring everybody knows what they are able to do what they need to do next with learning tailored to ensure individual needs are met. Barriers to learning are lowered or removed altogether through provision mapped out for differing needs of children.

Exploration- Exploration forms a vital part of a child's journey through maths teaching and learning. In every lesson, children through planned learning develop their sense of number by exploring patterns and relationships within. Each lesson is built from previous learning through timely planned-in retrieval opportunities that foster the idea of children capturing what they know ready to build-on and develop knowledge further. Carefully mapped activities are set-up for children to delve deeper into an area of maths to learn more and evolve as a mathematician. Children will make essential links to the concepts and skills taught to the everyday world and make connections wherever possible. We strongly encourage children to learn through the use of practical equipment to explore the layers of learning that can be developed from building and constructing.

Empowerment- We strive for everyone to 'be the best that you can be'. This powerful statement, coupled with ensuring that everyone connected to our school have the 'power to change' ensure that we are equipping children and adults to continue developing and thriving. We use positive praise throughout our teaching and learning and ensure that the culture and ethos of each class and the wider school is empowering to be the best version of themselves. Using the different components of carefully planned learning, all children are given the platform to succeed, achieve and think about the mathematician that they are and the mathematician they want to become. Through scaffolded learning, guided practice, peer conversations, practical resources or supported understanding, all children are exposed to see what they are learning and what they could achieve through learning. Through stringent planning and assessing, all children are given the 'power to change' in order to be the best version of themselves. Through a carefully mapped-out curriculum pathway, children are encouraged to be aspirational with their maths to develop, hone or start to build a particular skill within a context of maths. Carefully targeted provision, vocabulary selection, learning question crafting and tailored task setting empowers children to be the best maths version of themselves.

Values Led- Untold numbers of values can be seen throughout the school in every lesson and ensuring that the children learn values that they can hold in their toolkit for life, ensures that they have the qualities needed to succeed. At Ancaster, our core values of wisdom, courage and respect are also central to the work being undertaken in maths lessons. Having the courage and bravery to achieve new goals in learning and to continue and persevere within learning through the multitude of mathematical layers is key and fundamental to furthering growth as a learner and as a mathematician. Nurturing mathematical wisdom through exploring links in maths, accessing and linking retrieval practice and the resilience to attaining in maths task-setting as well as wisdom as a person is vital to enable us to be effective mathematical thinkers and learners. For the learning journey of all parties to thrive and develop in Maths, mutual respect is paramount and must be seen for all. There is a drive within Ancaster that wants every child and adult to succeed in what they deliver, teach and learn in Maths. Other values such as resilience and determination are developed and demonstrated through high expectations and laser-sharp provision. Fostering all of these values within our learning will enable this to happen.

Statement of Intent:

At Ancaster Church of England Primary School, our aim is to fully equip all our pupils with the mathematical life skills that they will need to flourish in the real world and to promote a love and curiosity of maths. Evolving a language-rich environment is our aim to ensure that the children leave us with confidence to discuss, understand and apply maths within their everyday lives. The Maths teaching and learning revolves around the belief that all children need a deep understanding of the skills and knowledge they are learning. Our curriculum design is based around making explicit mathematical connections between different concepts. Building this ideology of Mastery can be achieved by the constant reviewing and revisiting of concepts to enable the connections to be made through carefully planned and scaffolded retrieval opportunities which enables children to strengthen previously taught content.

Legislation and Guidance:

This policy reflects the requirements of the [National Curriculum programmes of study](#), which all maintained schools in England must teach.

It also reflects requirements for inclusion and equality as set out in the [Special Educational Needs and Disability Code of Practice 2014](#) and [Equality Act 2010](#), and refers to curriculum-related expectations of governing boards set out in the Department for Education's [Governance Handbook](#).

In addition, this policy acknowledges the requirements for promoting the learning and development of children set out in the [Early Years Foundation Stage \(EYFS\) statutory framework](#).

This policy has due regard to statutory guidance including, but not limited to, the following:

- DfE (2013) 'National curriculum in England: Mathematics programmes of study'
- DfE (2017) 'Statutory framework for the early years foundation stage'

Roles and Responsibilities

The role of the maths leader is to:

- provide a strategic lead and direction for maths;
- prepare policy documents and curriculum plans;
- keep themselves and other staff up-to-date with developments in maths by relevant reading, INSET and policy development;
- support and offer advice to colleagues on issues related to maths;
- liaise with teachers across all phases;
- collate assessment data and ensure standards are met when recording and assessing pupil performance;
- support staff development and improve the quality of teaching and learning over time;
- monitor pupil progress in maths by working alongside colleagues, book scrutiny, pupil interviews, lesson observations and planning scrutiny;
- monitor and evaluate teachers' plans and quality of teaching and learning;
- liaise with appropriate bodies e.g. other schools, governors about matters relating to maths;
- ensure the progression from year group to year group;
- provide efficient resource management and conduct annual audit of maths resources;

The classroom teacher is responsible for:

- acting in accordance with this policy;
- planning lessons effectively by monitoring the progress of pupils in their class.
- exposing children to the full coverage of the maths curriculum;
- using the calculation policy to ensure a progression of skills across the four operations;
- planning a sequence of lessons that reflect the long-term plan for their year group;

- reporting the progress of pupils to parents;
- keeping the learning environment up-to-date within the teaching sequence;

The SENCO is responsible for:

- collaborating with the headteacher and teachers to ensure the maths curriculum is accessible to all;
- ensuring teaching materials do not discriminate against anyone in line with the Equality Act 2010;
- carrying out SEND assessments where necessary and ensuring pupils receive the additional help they need;
- liaising with external agencies where necessary to ensure pupils who require additional support receive it.

Implementation

Organisation and Planning:

At Ancaster, all children will receive a daily maths lesson. Each lesson focuses on a specific objective in Maths which all children are expected to be fluent in. Each lesson will have opportunities for all children to practice and master and extend a skill through reasoning and problem-solving tasks. Teachers are required to base their teaching and learning sequence from the Long-Term plans in place. These have been carefully mapped and constructed to reflect the idea of a spiral curriculum with various opportunities to retrieve from areas already taught whilst also allowing the children to build progressive skills, knowledge and vocabulary working towards the children becoming confident mathematical learners. Within the Long-Term plans, there is the expectation for teachers to deliver:

- Daily counting opportunities that reflect previous and current year group expectations within times tables.
- Retrieval tasks based upon areas of the curriculum already taught or areas of the curriculum that are approaching.
- Maths Curriculum core objectives that have been separated across the year to allow revisitation, reflection and retrieval.

The Long-Term plans are reviewed by class teachers to ensure the children are being exposed to the whole curriculum. Using the Long-Term plans, teachers are expected to produce a short-term plan which demonstrates a balance of guided, modelled and independent learning opportunities. These plans are used flexibly to reflect the need of learning within class. Within a lesson, teachers are expected to lead:

- Feedback of previous learning.
- A counting activity.
- Lesson focus with learning question, What I know, What I will learn and key vocabulary.
- Explicit teaching and modelled learning through I do/We do/You do approach.
- Independent learning opportunities based on continuous assessment.
- Review of what has been learnt using learning question reflection.

All children are exposed to I do, we do and you do activities that underpin the idea of exploring using concrete resources, pictorial representations and abstract methods where appropriate. This allows all

children to experience the physical aspects of Maths before finding a way to present their findings and understandings in a visual form before adopting using abstract numbers.

Within a daily maths session, teachers have the expectation to cater for differing needs within the class, deploy staff based on the need of learning and provide challenge for all children who master the taught

maths objective. Mathematical vocabulary is carefully planned in dependent on outcomes of the children and expectations within build-up to independent learning.

At Ancaster Church of England Primary School, we have adopted a calculation policy that shows skill progression across year groups within the four operations. This follows the 'build it, draw it, write it' progression of skill that links to concrete use, pictorial drawing and abstract noting. Teachers will use the calculation policy when planning units of learning within the four operations which are readily available in key stages. Within the policy, the build it and draw it representations utilise the manipulatives of base-10 and counters synonymous with place value link.

Mathematics in EYFS:

In EYFS, children explore mathematical concepts through active exploration and their everyday play-based learning. Children are taught key concepts and develop number sense using a hands-on practical approach. The practice is formed around continuous and enhanced provision where activities are set-up for maths to be explored directly and indirectly and then added to for depth of understanding. EYFS practitioners provide opportunities for children to manipulate a variety of objects which supports their understanding of quantity and number. Practitioners allow children time for exploration and the use of concrete objects helps to support children's mathematical understanding before moving towards pictorial representations. Language for all children is at the forefront of the practice within EYFS. All children access teacher-led inputs during the week where they are exposed to a vocabulary-rich environment during the core focus of the week. Using a notice and focus board, teachers highlight children who require further interventions within the week from the maths input, play and activities.

In EYFS a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding – such as using manipulatives, including small pebbles and tens frames for organising counting – children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built.

It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes. 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 can be developed through stories, songs, games, routine, questioning, imaginative play, child-initiated learning and structured teaching.

The ELGs should not be used as a curriculum or in any way to limit the wide variety of rich experiences that are crucial to child development. Instead, the ELGs should support teachers to make a holistic, best-fit judgement about a child's development, and their readiness for year 1.

Mathematics in KS1:

The principal focus of mathematics teaching in key stage 1 is to ensure pupils develop confidence and mental fluency. The essential idea behind the mastery approach is that all children have a deep understanding so that future learning continues to build on solid foundations. If the subject is represented using concrete materials, pictorial representations and abstract symbols, it will allow children to visualise maths in varied ways, see connections and to independently explore and investigate a topic. Practical activities and resources offer the children a deeper mathematical understanding of more complex concepts.

Providing children with visual representations also offers a scaffold when developing a more robust understanding of maths. Throughout Key Stage 1, it is important that children gain a secure knowledge of number and place value and become confident when using the four operations in both formal methods as well as problem solving where often the approach is not immediately evident. Alongside number work, pupils begin to identify fractions using shapes, objects and quantities and make connections to equal sharing

and grouping. Pupils are taught to count to ten in fractions, recognise equivalent fractions and develop their understanding of fractions on a number line. At this stage, pupils will also develop their ability to recognise, describe, draw, compare and sort different shapes. Pupils have the opportunity to use a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money and are expected to use related vocabulary for all topics.

Mathematics in KS2:

Lower Key Stage 2 – Years 3-4. The principal focus of mathematics teaching in lower Key Stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number. By the end of Year 4, pupils should have memorised their multiplication tables up to and including the 12 times multiplication table and show precision and fluency in their work.

Upper Key Stage 2 – Years 5-6 The principal focus of mathematics teaching in upper Key Stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio. At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them. By the end of Year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages.

Cross-curricular Links:

Wherever possible, the maths curriculum will provide opportunities to establish links with other areas of the curriculum.

Science: Data collection and analysis skills developed further when observing experiments and interpreting results. Use of measure when working with different units of measure. Recording of findings using charts, tables and graphs.

Humanities: Through Geography, data analysis, use of map skills, pattern seeking and units of measure are developed. Through History, understanding time and measures of time are developed through discussions of historical events and timelines.

ICT: Record findings using text, data and tables.

Art: Understanding shape, geometry and patterns.

Equipment and Resources:

The subject leader is responsible for the management, maintenance and audit of maths resources in classrooms and wider school whilst liaising with the school business manager in order to purchase further resources to enable the full curriculum to be taught. Maths resources will be evenly distributed across

classrooms depending on the year group curriculum needs. These resources will be made readily available and easily accessible for the children to use to support their learning. Learning walls will be utilized and updated regularly in accordance with the maths outcomes being met at the time.

Provision for SEND, Pupil Premium, High attainers:

Each child will have an equal entitlement to all aspects of the Maths curriculum and to experience the full range of Maths activities. Therefore, in delivering Maths, care will be taken to ensure that a variety of learning styles are accessed and teaching methods adopted.

Teachers set high expectations for all pupils and plan lessons so that pupils with SEND can access every National Curriculum subject, wherever possible and ensure that there are no barriers to every child achieving. This may include children with identified SEND having work which different to their peers dependent on their needs. Provision Maps for pupils with SEND and other additional needs are completed termly and set out how provision can be adapted to support children's needs enabling them to fully access their learning and to be the best they can be.

Regular formative assessments identify individual children or groups of children for differentiated activities both within quality first teaching and targeted provision. Higher attainers are targeted within class provision. Every Maths lesson offers all children the opportunity to expand on a taught skill through linked challenge and a depth of problem-solving tasks that seeks to evolve the knowledge learnt.

Extra support and interventions are provided for children as necessary through a number of routes eg Catch Up tuition through the National Tutoring Programme Tuition Partner and School Led Tutoring options or specific programmes of support as advised by the Specialist Teacher and in line with our SEND Policy. Interventions are time- limited and an assessment takes place pre and post of the intervention to monitor the impact.

Pupil Progress meetings, SEND Clinics and Pupil Premium Clinics take place regularly throughout the school year to discuss current and future provision and interventions. We discuss impact of interventions, potential barriers and further actions required for individual children or groups of children to fulfil their potential.

Equal Opportunities:

In line with the Equality Act 2010, we promote equal opportunities to all of our pupils throughout our practices. Every child is recognised as a unique individual and so where we need to make necessary amendments to ensure that all opportunities are equal we do so, using our knowledge of our children's needs. This includes removing barriers, putting in support mechanisms and giving children the opportunities to achieve. We use our Church School Values (Respect, Wisdom and Courage) to further promote positive attitudes to learning and leading a successful, meaningful life.

Impact

Assessment and Reporting

Short and medium-term assessment is the responsibility of the class teacher and is in line with the assessment policy. However, teachers will use informal assessment and observation on a daily basis to determine what children can do independently and therefore plan next steps for learning.

Formative assessment is ongoing and uses work in children's books as evidence to form judgement for the objectives in the national curriculum. Feedback follows the school's policy and identifies areas for children to improve upon. Teachers use this information to identify common misconceptions and adjust future lessons accordingly to provide further teaching and modelling, independent practice or challenge enabling children to respond and reflect on their learning in order to improve. Outcomes from formative assessments enable us to see how children are keeping pace with our Maths curriculum and to identify gaps which can be addressed through in-class targeted support or by our tutoring routes.

Summative assessments support teacher assessments in Maths. We use standardised tests three times a year to provide us with information of what children are able to do independently, demonstrating an understanding and retention of from learning from across a period of time. The outcomes of these assessments form another evidence source for teachers to use to inform their formative assessment.

Reception pupils are assessed using the Foundation Stage Profile. Pupil profiles are established for each child in Reception and assessments are made against the Foundation Stage Profile Statements.

Children's progress and attainment in maths will be assessed by their teacher against the learning outcomes and end of year expectations. Pupil progress will be reported to parents three times throughout the school year: twice through Parent Consultation meetings and in writing at the end of the school year in the form of an End of Year Report.

Monitor and Review

The Maths subject leader will conduct half termly monitoring of the teaching and learning within Maths through a variety of forms such as, lessons observations, drop ins, book looks, monitoring of the learning environment, pupil and teacher interviews and planning scrutinies. SEF forms shall be completed and shared with the SLT and appropriate feedback will be given to the teacher. Any whole school patterns may result in whole staff CPD training. This policy will be reviewed on an annual basis by the Maths Lead in collaboration with the headteacher.

The specified Maths Governor will liaise with the Maths subject leader and monitor the way the school teaches Maths, look at outcomes, complete learning walks and look at the subject leader's action plan. These will take place three times across an academic year.