Ivington C of E Primary and Pre-school

Reaching together with the Fruit of the Spirit (Galatians 5:22-23)

Mathematics Policy

Approval of the Governing Body

This document is a statement of the aims, principles and strategies for:

Mathematics Policy

at

Ivington C.E. (VA) Primary School.

It was developed/revised during the:

Spring 2025

It has been agreed and is supported by the teaching staff and the governing body

We aim to review this policy during the:

Spring 2027
Or sooner if necessary.

Linking with our Vision – Reaching together with Love, Joy and Peace (Galatians 5:22-23)

To provide a caring, Christian ethos for the school, which inspires and excites a shared enthusiasm for life and learning.

At Ivington CE Primary and Pre-school, through our strong Christian ethos and focus on nine important Christian values, we are committed to providing a deeply nourishing, spiritual, ambitious, and broad curriculum.

Our motto, 'Reaching together' underpins our belief in equality of opportunity for all, where we actively endeavour to promote understanding and appreciation of our diverse society and give each child a special place in the world where they feel valued, essential to our community and equipped with the necessary skills to make a positive contribution.

We perceive our role to be opening a 'Window on the World', through which our pupils are actively encouraged to develop respect for the beliefs and cultures which enrich their everyday lives and encourage others to do likewise.

We strive to eliminate inequality through our deep Christian ethos of respect and understanding of all groups in society, which ensures that everyone at Ivington will be treated fairly despite his or her creed, colour, disability, or gender.

More details are available in our Inclusion, Racial Equality and Equal Opportunities policies.

The health, safety, and welfare of all the people who work or learn at our school are therefore of fundamental importance. We aim to provide a safe, secure, and pleasant working environment for everyone. The governing body, along with the LA, takes responsibility for protecting the health, safety and welfare of all children and members of staff.

Maths Policy

Intent

Rationale statement of intent:

At Ivington C of E Primary & Preschool, we understand that mathematics teaches children how to make sense of the world around them: to calculate, reason and solve problems; to understand relationships and identify patterns. Our intention is to provide a maths curriculum which is enriching and challenging and that fosters a love for the subject as well as an understanding of its importance for their future. Pupils are given the opportunity to be efficient mathematicians in the four rules and be able to apply taught skills to real life mathematics equipping them for future challenges and job opportunities.

The national curriculum for mathematics intends to ensure that all pupils:

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. Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.

Our curriculum ensures children apply mastery skills. We follow the White Rose maths scheme. They should also apply their mathematical knowledge across the curriculum. The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich mastery and in depth problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Our Curriculum

The content of our Maths Curriculum is set out in our 'Ivington C of E Primary & Preschool Maths Progression' Document. This document outlines the curriculum objectives for each year group. It also identified when these skills will be revisited.

There are a variety of accompanying documents which support this document including,

- An addition & subtraction' document, which shows an overview of different models and images that can support the teaching of different concepts. It is broken down into concrete, pictorial and abstract.

- A 'Multiplication & Division' document, which shows an overview of different models and images that can support the teaching of different concepts. It is broken down into concrete, pictorial and abstract.

- A ‘collection of Stem sentences’, which suggests whole school sentences that can support the formation of written explanation. These have been taken from Enigma Maths Hub and based on NCETM materials.

We carry out curriculum planning in three main phases and based on our progression document: overviews; small steps and weekly planning.
The overviews are sequenced in such a way to maximise opportunity for consolidation of mathematical understanding, skills and concepts through making connections between blocks of learning.
Small steps allow the teacher to break the overview into well-sequenced small steps. It also allows time to reflect on previous steps and where the children’s learning will take them.
Weekly plans are developed and personal to the teacher. These might be written plans or a series of well-linked and progressive flipcharts or PowerPoints. At this stage specific learning objectives, resources, scaffolding, questions, challenge etc. are considered.
We plan the activities in mathematics so that they build on the prior learning of the children. We give children of all abilities the opportunity to develop their skills, knowledge and understanding in the three strands of the subject: fluency, reasoning and problem solving.
Maths is taught for a minimum of 5hrs per week. Where applicable cross-curricular links are made in order to develop the children’s understanding of its importance in their lives.

The Early Years Foundation Stage

At Ivington our Foundation Stage delivers a curriculum that embeds mathematical thinking and talk. As with all other year groups, key concepts can be revisited and developed over the year.
The aim is for a broad early maths curriculum that develops positive attitudes and interests in mathematics. Children are encouraged to have a go, not be afraid to make mistakes and to look for patterns, relationships and to spot connections. We also feel it is important that our curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures.
Mathematics in Foundation Stage is initially developed through stories, songs, games and imaginative play using concrete resources. This allows opportunity to use and embed new words.
At Ivington we expect the development of children’s spoken language to be achieved by using correct and accurate mathematical vocabulary in conversations throughout the day and through questioning.
Developing 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. This is achieved by following the counting principles outlined in the following table.

The counting principles	
One to one principle – this involves children assigning one number name to each object that is being counted. Children need to ensure that they count each object only once ensuring they have counted every object	Encourage children to line up objects and touch each one as they count, saying the number name as they go.

The stable order principle – Children understand that when counting, they have to be said in a certain order	Teachers encourage the children to count aloud. They can say numbers higher than needed without counting objects.
The cardinal principle – children understand that the number name assigned to the final object in the group is the total number of objects in that group.	(Above two need to be secure before this one can be understood) Children need to select a given number and count them out. They should be able to recall the number when asked "How many?" without counting them again.
The abstraction principle – this involves children understanding anything can be counted including things that cannot be touched e.g. claps or jumps.	Encourage abstraction by counting claps or jumps. Children can also be encouraged to count imaginary objects in their head.

Pupils are gradually introduced to more formal aspects of mathematics through Numicon and other manipulatives and activities including the BBC series Number Blocks. They are expected to subitise up to 5 and automatically recall number bonds to 5 and some to 10 including double facts. Children are encouraged to record by experimenting with their own symbols and marks as well as numerals. Pupils learn to write numerals and begin to record number problems as part/whole diagrams. This develops their thinking and understanding as children learning to see numbers represented in many different ways. They should be encouraged to spot patterns and be able to distribute equally. In addition to this, children should be able to compare numbers (up to 10), quantities and measurements of length, weight and capacity. Children in reception will also explore shape and understand position and pattern.

Implementation

- Every class from EYFS to Y6 follows the White Rose scheme of learning which is based on the National Curriculum. Lessons may be personalised to address the individual needs and requirements for a class but coverage is maintained.
- In order to further develop the children's fluency, reasoning and problem-solving.
- We also use a range of planning resources including those provided by the NCETM and NRICH to enrich the curriculum.
- Through our teaching we continuously monitor pupils' progress against expected attainment for their age, carrying out formative assessment where appropriate and using these to inform our teaching.
- Summative assessments are completed during assessment weeks which happen each term; their results form discussions in termly Pupil Progress Meetings and update our summative school tracker. The main purpose of all assessment is to always ensure that we are providing excellent teaching and learning for each individual child.
- Concrete Pictorial Abstract (CPA). We implement our approach through high quality teaching delivering appropriately challenging work for all individuals. To support us, we have a range of mathematical resources in classrooms including Numicon, Base10 and counters (concrete equipment). When children have grasped a concept using concrete equipment, images and diagrams are used (pictorial) prior to moving to abstract questions. Abstract maths relies on the children understanding a concept thoroughly and being able to use their knowledge and understanding to answer and solve maths without equipment or images.
- We continuously strive to better ourselves and frequently share ideas and things that have been particularly effective. We take part in training opportunities and regional networking events, such as the White Rose maths work groups.

- Cross Curricular Maths is taught across the curriculum ensuring that skills taught in these lessons are applied in other subjects.

PSHE and Cross Curricular Links

The work that children do outside their normal lessons encourages independent study: it helps them to become increasingly responsible for their own learning and respect each other's views. We aim to link as much mathematical learning as possible to real life situations; for example, we present children with real-life situations on the spending of money, opportunities to use maths through cooking and we also endeavour to make cross curricular links to other subjects. These links are made explicit through class texts chosen. Development of skills particularly shape, space and measure and data handling are taught in a progressive manner to support science

Mathematics and Inclusion

At our school, we teach mathematics to all children, whatever their ability and individual needs. Mathematics forms part of the school curriculum policy to provide a broad and balanced education to all children regardless of gender, ethnicity, culture, religion, language, disability, age and social circumstances. Through our mathematics teaching, we provide learning opportunities that enable all pupils to make good progress. When progress falls significantly outside the expected range specific interventions are put in place.
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. For those children who are unable to access their year group curriculum a bespoke curriculum is designed for these children. We have high expectations of all children and strongly believe that all children are able to achieve in mathematics. Some may take longer to grasp concepts and may need careful scaffolding or extra time/support. All children are cognitively challenged. A culture of depth rather than breadth is fostered.

Impact

- Teachers will assess children's work in using both summative and formative assessment.
- Through discussion and feedback, children talk enthusiastically about their maths lessons and speak about how they love learning about maths. They can articulate the context in which maths is being taught and relate this to real life purposes.
- Children show confidence and believe they can learn about a new maths area and apply the knowledge and skills they already have.

- Pupils know how and why maths is used in the outside world and in the workplace. They know about different ways that maths can be used to support their future potential. Mathematical concepts or skills are 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 a quick recall of facts and procedures. This includes the recollection of the times table.
- Pupils use acquired vocabulary in maths lessons. They have the skills to use methods independently and show resilience when tackling problems. The flexibility and fluidity to move between different contexts and representations of maths.
- Children show a high level of pride in the presentation and understanding of the work. The chance to develop the ability to recognise relationships and make connections in maths lessons. Teachers plan a range of opportunities to use

- At the end of each year we expect the children to have achieved Age Related Expectations (ARE) for their year group. Some children will have progressed further and achieved greater depth (GD).
- Children who have gaps in their knowledge receive appropriate support and intervention. Mastery All children secure long-term, deep and adaptable understanding of maths which they can apply in different ways.

Summative assessment takes place every term and results are recorded on to Scholar pack. Data is also used in pupil progress meetings to discuss children's progress: this ensures targeted support can be given to those who need it.

We use the optional SAT's tests for children in Year 2 and the National SATs Test for Year 6 in June.
National Multiplication Table check is also completed in Year 4.
Teacher judgement and Puma Tests are used for all other assessments.
Moderation of children's work supports teachers in making accurate judgements about a child's attainment and progress. Teachers meet regularly to review individual examples of work against the national exemplification material produced by the DfE.

Role of Curriculum Manager, Monitoring and Review

The monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the Senior Leadership Team (SLT) and the maths coordinator. They conduct 'deep dives' into their subject throughout the year to gather a range of evidence from interviews with teachers, pupils, work scrutiny, planning and analysis of data. The role of the maths coordinator also involves supporting colleagues in their teaching, being informed about current developments in the subject, and alongside the SLT providing a strategic lead and direction for mathematics in the school.
The coordinator also ensure that the school senior leader's and governors are kept informed about the quality of teaching and learning in mathematics. They provide coaching and feedback to teachers as well as keeping teachers up to date with training. This is done through ensuring their own professional development is kept up to date and current.
Maths books are monitored by the maths coordinator on a termly basis. Learning walks are undertaken regularly with senior leaders and/or a governor. Areas of strength and development are reported to and used to inform further school improvement actions within the school.
Mathematics books will show that our children:

- complete a variety of tasks and activities involving fluency, reasoning and problem solving
- can recognise and understand number and concepts in a variety of representations,
- are competent in using and applying arithmetical procedures
- Children are able to draw on stem sentences to aid clear and precise explanations using correct mathematical vocabulary