



EAST WOLD AND NORTH COCKERINGTON CE PRIMARY SCHOOLS

MATHEMATICS POLICY

Nominated coordinator: Victoria Cass

"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" DfES 2014

1. Aims

Our aims for maths at the Spire Federation are based on 'The national curriculum in England mathematics programme of study, KS1 and KS2 framework' which is to ensure that all pupils:

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.

reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

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.

(National Curriculum July 2014)

2. Teaching and learning: Maths Mastery Approach

The Mastery-learning model forms the basis of our approach to traditional teaching. This means spending greater time going into depth about a subject as opposed to racing through the things that all children should know. Previously, racing through content lead to some children having large gaps in subject knowledge because the concept they had just learnt was either too big or learnt too quickly. As a primary school, it is our duty to ensure that children have an absolutely solid, concrete understanding of subject knowledge and skills as well as being emotionally resilient for secondary school.

Now, we have the confidence to take learning at a steadier and deeper pace, ensuring that no child is left behind, as well as providing deeper and richer experiences for children who are above the national expectation for their age.

We focus on all children achieving what is expected of their age group and not going beyond this. Evidence shows that children need to be able to understand a concept, apply it in a range of situations and then be creative to really understand it. Simply going beyond their age group does not guarantee they understand something, it just means they have heard it.

At our school no child will be taught content from the year group above them, they will spend time becoming true masters of content, applying and being creative with new knowledge and skills in multiple ways.

In short, this means working towards:

- **Teach less, learn more:** less teacher talk and more evidencing learning and progress
- **No child left behind:** all children are enabled to keep up every day.
- **Space and time** to experience and apply, with all children entitled to additional support to ensure they do not fall behind or to go deeper
- **Understanding real life** applications wherever possible to make learning relevant and not abstract; nothing should be taught without a purpose.

We will be doing more of this:

- Teaching all children in class, together, most of the time
- Verbal feedback during lessons, shortened comments in books and more ticking of correct concepts
- Spending longer on one idea
- Giving children who need it, additional support over shorter, more intense periods, like a day or week.
- Daily or weekly mini assessments with a few formal tests over the year

To ensure whole-school consistency and progression, the school uses the DfE approved 'Power Maths' scheme - this is fully aligned with the White Rose Maths scheme. The school's ongoing engagement with the DfE funded Maths Hubs programme continues to ensure that staff at all levels understand the pedagogy of the approach. New concepts are shared within the context of an initial related problem, which children are able to discuss using paired talk. This initial problem-solving activity prompts discussion and reasoning, as well as promoting an awareness of maths in relatable real-life contexts that link to other areas of learning. In KS1, these problems are almost always presented with objects (concrete manipulatives) for children to use. Children may also use manipulatives in KS2. Teachers use careful questioning to draw out children's discussions and their reasoning. The class teacher then leads children through strategies for solving the problem, including those already discussed. Independent work provides the means for all children to develop their fluency further, before progressing to more complex problems. Mathematical topics are taught in blocks, to enable the achievement of 'mastery' over time. Each lesson phase provides the means to achieve greater depth, with higher-attaining children being offered rich and sophisticated problems, as well as exploratory, investigative tasks, within the lesson as appropriate. We also use the White Rose resources to support with remote learning, and sometimes within the classroom, as this provides high quality lesson videos and worksheets which support the mastery approach to teaching.

3. Provision

To provide adequate time for developing mathematics, maths is taught daily and where possible to single aged groups. Maths lessons may vary in length but will usually last for about 45 minutes in Key Stage 1 and 60 minutes in Key Stage 2.

The Spire Federation feel that it is vital that all children have continual access of and choice to resources and equipment to support them with their mathematics. A bank of essential mathematics resources including Numicon and Cuisenaire rods is kept. A central supply of resources is available in both KS1 and KS2. In addition, there is a bank of resources more suited to each key stage kept within each class. Children are encouraged to access these resources independently, selecting what they need. As children prepare for end of Key Stage Tests, drawings and jottings are used to replace equipment.

4. Assessment

Assessment for Learning: Children receive effective feedback through teacher assessment, both orally and through written feedback; AfL is integral

to the design of each lesson. The structure of the teaching sequence ensures that children know how to be successful in their independent work. Guided practice, which takes place within the 'Think Together' part of the lesson, provides further preparation for children to be able to apply the skills, knowledge and strategies taught during the 'Discover and Share' phase. Common misconceptions are addressed within the teaching sequence and key understanding within each 'small step' is reviewed and checked by the teacher and the children before progression to further depth. At the end of the lesson, the children review their work.

Formative Assessment: Short-term assessment is a feature of each lesson. Observations and careful questioning enable teachers to adjust lessons and brief other adults in the class if necessary. The lesson structure of Power Maths is designed to support this process and the reflect task at the end of each lesson also allows for misconceptions to be addressed. At the end of each blocked unit of work, the children may also complete the 'End of Unit Assessment'. The outcome of this is used by the teacher to ensure that any identified gaps in understanding can be addressed before the next unit is taught.

Summative Assessment: For the most part, teachers administer an end of term assessment which specifically links to the coverage for that term: these are provided by Cornerstones. In Years 2 and 6, teachers may choose to use the KS2 Sats papers as a form of assessment in preparation for the end of year assessments. The results of these papers are used to identify children's ongoing target areas. Assessment data in maths is reviewed throughout the year to inform interventions and to also ensure that provision remains well-informed to enable optimum progress and achievement. Termly pupil-progress meetings are held with every teacher in school. End of year data is used to measure the extent to which attainment gaps for individuals and identified groups of learners are being closed. This data is used to inform whole school and subject development priorities for the next school year.

5. Early Years Foundation Stage (EYFS)

We follow EYFS curriculum guidance for Mathematics which is supported through the use of Power Maths. However, we are committed to ensuring the confident development of number sense and put emphasis on mastery of key early concepts.

6. Roles

Role of the Headteacher

It is the role of the Headteacher to ensure that the school's policy on maths is implemented effectively and that effective teaching is producing good or better pupil progress across the federation.

Role of the Subject Leader

- Ensures teachers understand the requirements of the National Curriculum and helps them to plan lessons.
- Leads by example by setting high standards in their own teaching.
- Prepares, organises and leads CPD to meet the needs of all staff of the federation
- Works with the SENDCO to ensure timely and effective interventions.
- Monitors pupil progress through book scrutiny and working with pupils in lessons.
- Monitors and evaluates mathematics provision in the school by conducting regular work scrutiny, learning walks and assessment data analysis.
- Keeps parents informed about Mathematics issues through an area dedicated to mathematics on the school website.
- Discusses regularly with the Headteacher, SLT and the mathematics governor the progress of implementing National Curriculum for Mathematics in school.
- Scrutinise data across the federation and moderate teacher assessments.

Role of the Governors

It is the role of the governors to question the effectiveness of the maths within the federation through collection, analysis and evaluation of a range of school data for mathematics three times a year.

7. Review

This policy will be reviewed by the head teacher every three years or sooner if it is considered necessary.

Date Approved: October 2021

Date of Review: October 2024