



Upper Beeding Primary School

Mathematics Policy

July 2023

INTENT

Why do we teach Maths? Why do we teach it the way we do?

At Upper Beeding Primary School, we promote a love for maths. We support children in seeing Maths as a lifelong learning skill that is fun, engaging and challenging. We adopt the mastery approach to learning maths and our children are able to reason mathematically, solve problems and develop their number fluency. Our aim is that our children will become confident mathematicians and that they will enjoy reaching their full mathematical potential.

IMPLEMENTATION

What do we teach? What does this look like?

The teaching of mathematics at Upper Beeding Primary School aims to ensure that all pupils:

- Become fluent in the fundamentals of mathematics, including through varied and frequent practice of increasingly complex problems over time.
- Reason mathematically by following a line of enquiry, understanding relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- Can solve problems by applying their mathematics to a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

At Upper Beeding Primary School, we believe that in order to develop confident, competent and resilient young mathematicians, our pupils benefit from following a mathematical journey to further explore and discover mathematical concepts. To ensure consistency across school, our pupils' learning is deepened by following a clear sequence of learning opportunities. To achieve this, we follow the Mastery curriculum using the **Concrete, pictorial, abstract (CPA) approach**:

Objects, pictures, words, numbers and symbols are everywhere. The mastery approach incorporates all of these to help children explore and demonstrate mathematical ideas, enrich their learning experience and deepen their understanding. Together, these elements help cement knowledge so pupils truly understand what they've learnt.

Concrete – children have the opportunity to use concrete objects and manipulatives to help them understand and explain what they are doing.

Pictorial – children then build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems.

Abstract – With the foundations firmly laid, children can move to an abstract approach using numbers and key concepts with confidence.

IMPACT

What will this look like? What tools would we like our children to have when they leave our school?

Children at Upper Beeding Primary School understand and value the importance of Mathematics. We want children to be confident in making rich connections across mathematical ideas as a result of developing fluency, mathematical reasoning and competence in solving increasingly sophisticated, contextual problems during their time at UBPS. Our pupils will be able to apply their mathematical knowledge across the curriculum. As our pupils progress further in their education, we intend for them to be able to understand the world, have the ability to reason mathematically, have an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject. By the end of KS2 children will leave our primary school prepared for the next step in their mathematical education.

TEACHING AND LEARNING - developing Mastery in Mathematics

At the centre of the mastery approach to the teaching of mathematics is the belief that all children have the potential to succeed with the correct level of challenge and support. At Upper Beeding Primary School, we ensure that we help children embed concepts so they can apply their understanding of mathematical strategies and concepts. In order to achieve this, children's learning is deepened to build a conceptual understanding by tackling a range of challenge and varied problems. Pupils can demonstrate their understanding through the use of concrete materials, pictorial representations and abstract jottings.

To support the teaching and learning of all pupils in the subject of mathematics, at Upper Beeding Primary School, we work with the following planning documents and resources to provide a well-rounded and deep learning experience for all of our pupils, including:

- White Rose Maths Hub Schemes of Learning (Y R - 6 and mixed-age planning)
- NCETM to develop reasoning
- NRich Problem Solving
- Twinkl – Diving into Mastery
- Classroom Secrets
- TTRockstars – times tables

Class teachers stretch pupils' learning by utilising a wide range of recommended mathematical resources within lesson time to provide a broad, balanced and contextual curriculum.

Early Years

We teach mathematics in our reception class. As the class is part of the Foundation Stage of the National Curriculum, we relate the mathematical aspects of the children's work to the objectives set out in the Early Learning Goals, which underpin the curriculum planning for children aged three to five. We give all the children ample opportunity to develop their understanding of number, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

ASSESSMENT

Assessment informs the teaching and learning sequence, and children work on the objectives they are assessed as being at. Formative assessment within every lesson helps teachers to identify the children who need more support to achieve the intended outcome and who are ready for greater stretch and challenge through planned questioning or additional activities. We make short-term assessments which we use to

help inform our short-term planning. These are closely matched to the teaching objectives and will often be made from day to day observation. We make medium-term assessments to measure the progress against the medium term plans and progression of skills.

We make long-term assessments towards the end of the school year and use them to assess progress against school and National targets. We have termly data tracking meetings in year groups with Head, Assistant Head, SENDCo. Interventions are put into place for children who are not making expected progress as well as for those who are expected to attain GDS. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents and collating it in the child's end of year report.

We hold termly moderation meetings to ensure consistency across the school and staff attend external moderation meetings within our family group of schools. We make these assessments with the help of on-going Teacher Assessment and the end of key stage SAT's tests (year 2 and 6) and WhiteRose Standardised Assessment in the Autumn and Summer Terms for Years 1, 3, 4 and 5.

The Maths Leaders conduct work scrutiny at regular times throughout the year and also interview children.

PLANNING AND RESOURCES

We follow the Whiterose Mastery programmes of study, which ensures continuity and progression in the teaching of mathematics. Within a unit of work, the time spent on teaching a specific learning objective or set of learning objectives depends on the needs of the children. All teachers plan daily mathematics lessons following this structure using an agreed planning format. Planning includes a learning objective in the form of a 'Can I' statement. They will also assess prior learning and this further informs planning to ensure misconceptions are dealt with at the start and the teaching is pitched appropriately. Teachers plan which vocabulary they will use and which models, images and concrete resources they will use to aid learning. Modelling takes the form of 'I do, we do, you do'. Effective plenaries play a crucial role in addressing misconceptions and allow teachers to quickly assess children's progress and where appropriate move the learning forward. All lessons will include elements of number sense to consolidate and extend children's understanding and manipulation of number. We ensure that across each unit, children are given a range of experiences in mathematics lessons e.g. practical activities and mathematical games, group problem solving activities, individual, group and whole class discussion activities, open and closed tasks. We ensure that children can use a range of methods to calculate and have the ability to check whether their chosen methods are appropriate, reliable and efficient. Upper Beeding Primary School has a 'Calculation Policy' which is referred to throughout the school to ensure the continuing, and gradual development.

ORGANISATION

Mathematic teaching and learning is linked to a topic work where appropriate, however is mainly taught as discreet maths units to ensure that there is sufficient coverage of skills, knowledge and understanding throughout the school.

EQUAL OPPORTUNITIES and INCLUSION

All children have equal access to the Maths Curriculum and its associated practical activities in line with the Upper Beeding Primary School Equal Opportunities Policy. All staff are responsible for ensuring that all children, irrespective of gender, learning ability, physical disability, ethnicity and social circumstances, have access to the whole curriculum and make the greatest possible progress. Where appropriate, work will be adapted to meet pupils' needs and, if appropriate, extra support given. More able pupils will be given suitably

challenging activities and opportunities to extend their mathematics learning further. Gender and cultural differences will be reflected positively in the teaching materials used.

WORKING WITH PARENTS

We work hard to ensure that parents are fully aware of how Mathematics is taught in our school. We do this through the following approaches:

In July, teachers meet with parents of their new class to share the Maths strategies and goals for that particular year group. Parents and carers are provided with a leaflet detailing calculation strategies used by children in that phase of the school.

In preparation for the Y4 Multiplication check, a Maths Leader holds a meeting with parents to explain the check and how children can be supported in preparation for it. Parents are provided with links to websites and other resources to help them support their child.

Every other year, Maths Leaders hold a meeting to share with parents the calculation strategies taught in the school so that they are better able to support their child with maths homework and home learning.

Parents are given an update on their child's progress and achievement in Mathematics at each of the two parents' evenings we hold annually and in written form in their school report.

ROLES and RESPONSIBILITIES

Head Teacher, SMT and Governing Body

- Support the use of appropriate teaching strategies by allocating resources effectively;
- Ensure that the school buildings and premises are best used to support successful teaching and learning;
- Monitor teaching strategies in the light of health and safety regulations;
- Monitor how effective teaching and learning strategies are in terms of raising pupil attainment;
- Ensure that staff development and performance management policies promote good quality teaching;
- Head Teacher/SMT conducts formal observations.

Subject Leader

- To have an impact on raising standards of attainment for Maths across the whole school and to ensure that the Maths priorities are known and followed by staff.
- Ensure the effective implementation of the Statutory National Curriculum for Maths.
- To keep up to date with developments in Maths and to ensure that this information is shared with all staff.
- To carry out training so that staff are confident to deliver new initiatives.
- To ensure that staff have CPD opportunities within this area.
- To work towards high quality outcomes for all children.
- To maintain the availability of high quality resources.
- To ensure, together with the Head Teacher, a rigorous and effective programme of lesson observation monitoring.
- To ensure a regular and effective programme of analysis of children's work sample monitoring is in place.
- To interview a sample of children to ensure and take notice of pupil voice.
- To ensure a regular and effective programme of analysis of short-term planning is in place.
- To ensure that children have targets and that these targets are reviewed regularly.
- To effectively manage any funding designated to Mathematics.

Class Teachers

- Ensure the effective implementation of the Statutory National Curriculum for Mathematics.
- Make effective use of assessment, follow WhiteRose Standardised Assessments
- To ensure work is adapted to enable all children to reach their full potential.
- To identify children that needs additional support in this subject.

Teaching Assistants

- To support the class teacher in the effective implementation of Mathematics.

Parents / Carers

We believe that parents have the responsibility to support their children and the school in implementing school policies. We would like parents to:

- Engage regularly in practising their learning and recall of multiplication and division facts.
- To support their child in completing a weekly Math based homework.

Reviewed by Subject Leaders July 2023

Reviewed by FGB July 2023

Next review due July 2026