BURROWMOOR BPS PRIMARY SCHOOL

The Active Learning Trust

Opening up the world for our children and families

Maths Policy

Date: December 2020

Review: December 2022

Opening up the world for our children and families

Intent

At Burrowmoor we believe everyone in a mathematician. We want to open up the world for our children and for them to be in awe of the maths around them. We strive to create a passion and love of maths and offer children the chance to experience the magic, delight and creativity that maths offers.

- We want our children to have access to a high quality maths curriculum that is both engaging and challenging.
- Maths has a rich and vibrant history that should be discovered and enjoyed.
- We want our children to be inquisitive and to show commitment in the how and why. We believe this enthusiasm will support them to be resilient problem solvers.
- We want to develop children's independence and for them to be confident to take risks in their learning
- We want children to make connections across mathematical ideas to develop profound understanding in fluency, reasoning and problem solving.
- We want to develop deep and sustained understanding and use a variety of representations and resources to support this.
- We work to ensure children enquire a mathematically rich vocabulary. Maths talk is part of all of our lessons with opportunities for children to be able to discuss and work collaboratively. This is modelled by the teachers and children are encourage to use correct vocabulary in full sentences when answering.
- Children are asked to explain and justify their thinking and to analyse and critique their own and others answers and methodology.

Maths is made accessible to all through the mastery approach, maximising the potential of every child's ability and academic achievement. Maths is essential to everyday life, financial literacy and most forms of employment. It is critical to science, technology and engineering. We are building the leaders of the future.

Implementation

Burrowmoor School is committed to raising standards. As a school, we follow a mastery approach with a clear belief that all children need a deep understanding of mathematics. This can only grow from solid foundations and opportunities to develop a breadth of understanding.

During lessons, we consistently focus on the three aims of the national curriculum (fluency, reasoning and problem solving) with the view that we can only grow good mathematicians if

they are adaptable and able to make connections.

- In Reception and Year 1, we use a range of resources, including from the NCETM and The White Rose Maths Hub to support the teaching and learning of Mathematics
- Across years 3, 4 and 5 we follow the 'Power Maths' scheme recommended by the Government and the NCETM
- In Year 6, we use a tailored range of resources including: Power Maths, NCETM, PiXL and the White Rose Hub – dependent on the needs of the cohort
- All Year groups from Year 1 to Year 6 use the PIXL times table app

We are aware that not all children will always understand concepts and learning first time. With this in mind, numeracy issues are addressed by teachers in a range of ways in their planning, teaching and marking.

- If errors demonstrate a lack of understanding, the teacher will address this by working with the child in an intervention led by the teacher or TA ideally before the next lesson (If the intervention cannot occur at that time, written feedback may be given for the child to respond to- the response will then be re-marked by the teacher.)

- If a large number of children make the same or similar errors, these will be addressed in the next lesson before moving on to new learning,

Children will be challenged at all levels - challenge within their year group will be based on a broad and deepening curriculum. Resources and support material for such activities are provided for each year group by the Subject Leader (For example: White rose, deepening understanding, NCETM).

Maths at Burrowmoor has a problem solving foundation. However, in order to be able to problem solve, children need to be fluent and able to justify their thinking and understanding (reasoning). A range of activities will be seen in the classroom and on most occasions, a lesson will include all three aims.

Problem solving is **not just** word problems. Word problems are one form of problem solving. Problem solving will take on a variety of form and genres both routine and non-routine.

Not all lessons will introduce new learning as children need time to practise and consolidate skills, all lessons should however, still offer a challenge. If a child has pages of correct calculations, they have demonstrated their ability and a new challenge should be set within the lesson.

SEND children will focus more readily on fluency and arithmetic as a solid understanding of number work before they can develop this to reason and problem solve.

On entering a Burrowmoor classroom, you may see similar resources (include teaching whiteboard slides) in different year groups. We are striving to create a consistent teaching approach.

E.g

- The rules for rounding are the same whether in year 3 or year 6. We aim to teach the generic rule so these can be applied to a range of numbers.
- The properties of shapes do not change. The basic information is the same at KS1 as in KS2. The pace of this discussion will be different so will the development. The shapes will still be the same.

Where strategies are incorrect or inefficiently used, teachers should model the correct strategy and then set pupils a similar problem or correction.

We understand that feedback is linked to progress and has to be timely to make an impact. Live marking and feedback is used to ensure that it is as immediate and specific as possible.

Where possible, next steps should be given during the lesson to move learning on at the point of impact. However, when marking in isolation, it may be appropriate to consolidate or move learning on and a next step maybe given ready to be complete before the next lesson.

For mistakes, teachers indicate where an error occurs. This will not necessarily be all mistakes as there is value in children identifying their own errors. Also if it is the same repeated mistake, repeated identification may demoralise the child.

Pupils may be encouraged to correct them

- If errors demonstrate a lack of understanding, the teacher will address this by working with the child in an intervention led by the teacher or TA.
- Written feedback / support / modelling may be given
- If a large number of children make the same or similar errors, these will be addressed in the next lesson

A range of manipulative and resources will be used throughout the school where appropriate. Teachers endeavour to show a range of models and images to support learning and understanding. The key being to build from the concrete and pictorial to the abstract (CPA).

Mathematical language and vocabulary is key in developing children's understanding. Teachers will model age appropriate vocabulary (list of suggest vocabulary available for each year group) and mention vocabulary of higher year groups.

Impact

We use monitoring throughout the year to gauge the impact of the curriculum design. Alongside the SLT, middle leadership and core subject leaderships, curriculum teams monitor individual subjects; reviewing learning, evaluating pupil

voice, providing individual feedback to move practise forward, celebrating positives and highlighting areas for development. Our whole school team strengthen our ethos and vision as we work together to reflect upon our curriculum and share outcomes driving forward next steps.

Maths across the curriculum

At Burrowmoor school we believe that maths is not the sole responsibility of the Mathematics lesson. Most other subjects can in fact contribute to the development and enhancement of pupils' Mathematical skills, including their ability to describe and explain their strategies and reasoning.

- Almost all subjects depend on pupils having competence in basic numeracy skills
- Numeracy skills enable students to understand and interpret numerical and analytical information

Partnership

Parent Consultations are arranged for parents in the Autumn and Spring terms to ensure an effective partnership in order to support children to meet age related expectations.

Impact

Maths is moderated internally to ensure we make robust judgements, particularly on transfer between key stages. We may moderate with other schools to ensure that our curriculum delivery, coverage and assessments are accurate.

Assessment

At the end of each unit of work, children will be assessed as:

- Working at
- Working below
- Working above

In relation to Age Related expectation.