



**Buxton Primary School**

## **Maths Policy**

**September 2022**

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| <b>Formally adopted by the Governing Board of:-</b> | <b>Buxton Primary School</b>       |
| <b>On:-</b>   | <b>6<sup>th</sup> October 2022</b> |
| <b>Chair of Governors:-</b>                         | <b>Kathryn Curtis</b>              |
| <b>Review Date:-</b>                                | <b>September 2024</b>              |



# Buxton Primary School Maths Policy 2022

*Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. 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.* (National Curriculum 2014)

## **Intent**

The intent of our mathematics curriculum is to provide children with a foundation for understanding number, reasoning, thinking logically and problem solving with resilience so that they are fully prepared for the future. It is essential that these keystones of Mathematics are embedded throughout all strands of the National Curriculum. By adopting a Mastery approach, it is also intended that all children, regardless of their starting point, will maximise their academic achievement and leave Buxton Primary School with an appreciation and enthusiasm for Maths, resulting in a lifelong positive relationship with number.

- We will ensure that we deliver a high quality maths curriculum that is both challenging and enjoyable.
- We want children to make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.
- We intend for our pupils to be able to apply their mathematical knowledge to science and other subjects.
- We want them to know that maths is essential to everyday life and that our children are confident mathematicians who are not afraid to take risks.
- We will aim to fully develop learners with Initiative and an ability to work both independently and in cooperation with others.

## **Implementation**

Our implementation is developed through secure understanding of the curriculum and subject area.

## **Teaching and Learning, Content and Sequence**

Our long term planning follows the Mathematics National Curriculum 2014. Teachers plan short term lessons in accordance with the Buxton small steps framework (adapted from White Rose Small steps) alongside our school calculation policy. They use their own ideas and resources along with a variety of planning tools including: NRICH resources, White Rose Maths Hub, Third Space Learning, Twinkl, classroom secrets and the NCETM.

By using a variety of planning resources, instead of a prescriptive scheme, we believe that we provide a bespoke teaching and learning experience that is designed to interest, inform and

inspire our children. Innovative teaching means that lessons vary in format. The aim of each lesson is to ensure rigorous coverage, engaging and meaningful learning opportunities that are differentiated to ensure every child accesses the learning they need to keep making good and outstanding progress. Mathematics lessons aim to be enjoyable through the use of practical activities which enable all children to participate. Maths is also linked to real life contexts so that children can see maths is all around them.

Teachers use prior knowledge as a starting point for all future planning and teaching. At the end of summer term, teachers pass on highlighted coverage documents to show exactly what has been covered and in what depth. All areas must be covered, but those where the children have struggled must be highlighted and passed onto the next teacher so that they can teach more in depth to cover any misconceptions. A discussion will be had between the previous and next teacher of each class to ensure smooth and effective progression.

The approach to the teaching of mathematics within the school should include:

- A maths lesson every day of 60 minutes
- Planned using any template the teacher chooses but must be differentiated effectively to meet the needs of ALL the children (at least 4 ways to include SEND)
- A clear focus on direct, instructional teaching and interactive oral work with the whole class and targeted groups which clearly identifies the role of the supporting adults with key questions. Class teachers should work with ALL groups over the course of the week including SEND children.
- Opportunities to revisit to other areas of the maths curriculum in lesson starters, plenaries and problem solving activities, that is not linked to the main lesson, so that maths is not taught in standalone blocks.
- A large emphasis on pupil engagement and design lessons which involve all pupils using questioning and modelling at the centre of every lesson.
- A concrete, pictorial and abstract (CPA) approach, providing our pupils with the scaffolding required to access the learning at all levels.
- Calculation practice provided regularly through basic skills starter activities to ensure children's fluency in calculation methods is embedded.
- An aim for depth over repetition.
- Opportunities for problem solving and reasoning through discussions, questioning and group activities.

To support the development of reasoning, teachers are provided with the NCETM (National Centre for Excellence in the Teaching of Mathematics) progression with reasoning documents, which provide exemplar activities and questions to ensure children are given opportunities to communicate and extend their mathematical understanding. In addition to this, White Rose varied fluency and problem solving resources can be obtained from Classroom Secrets and third space learning.

EYFS planning is based on Development Matters and the Early Learning Goals (Number, Numerical Patterns). White Rose Reception guidance and resources are used to support the careful planning and the developmental progression of skills.

Opportunities to develop and apply maths skills across the wider curriculum and are planned for in subjects such as history, science, DT and geography. In addition to this, children can also develop their maths skills further through our enrichment activities, forest schools and educational trips and residentials.

## **Assessment**

Short term assessment is a feature of every lesson. Observations and careful questioning enable teachers to adjust lessons accordingly. Through focus groups, distance marking, questioning, discussions and plenaries evidence is used to inform future planning, teaching and interventions. Lessons are adapted readily and short term planning is evaluated and annotated in light of these assessments. Children are also taught to self and peer assess so that they recognise both their own or others errors and learn from them.

To support teacher judgements, summative assessments are carried out at the end of each term. Years 1 to 6 carry out NFER maths assessments which include both calculation and reasoning papers. In conjunction with this, 3 children (HAP/MAP/LAP) across all year groups are assessed thoroughly using the schools assessment system. Evidence is highlighted in books (including cross curricular evidence) against the assessment grid and dated accordingly. Other children in the class are then levelled using this knowledge.

At the end of each term, children's progress levels in maths are provided by each class teacher and children that have not made progress are highlighted with specific reasons and intended future interventions to support this children in place. These judgements are then passed onto the Head Teacher to be fed into the whole school tracking system. Target children for Maths across the school are identified by the Head Teacher and shared with all the Teachers at staff meetings and these are identified on teachers plans so that all staff working in the classrooms are aware of children who require additional support who are not necessarily SEND children.

The statutory EYFS profile assessments are carried out in the summer term and include a final maths judgement for each child. This is completed by the class teachers using their ongoing knowledge and evidence of each child's development and outcomes.

## **Interventions**

Activities are planned to encourage the full and active participation of all pupils and teachers differentiate tasks during the main part of the lesson in order to meet the needs of all abilities. Children usually sit in ability groups to enable focused teaching to one group during pupil activities. The daily mathematics lessons are inclusive to pupils with both special educational needs and high achievers and are differentiated to suit their abilities. Where required, children's IEPs (Individual Education plans) incorporate suitable objectives from the New National Curriculum for Mathematics or Development Matters and teachers keep these objectives in mind when planning work. These targets may be worked upon within the lesson as well as on a 1:1 basis outside the Mathematics lesson.

Long term gaps in learning are prevented through speedy teacher intervention and those children who grasp the concepts more quickly are given opportunities to deepen their

knowledge and improve their reasoning skills rather than accelerating on to new curriculum content.

Various maths interventions are available across the school to support children with gaps in their mathematical knowledge;

- Mathseeds – This is an early (computerised) intervention aimed at KS1 and SEND KS2 children which targets specific gaps after completing an initial placement test.
- Plus one, power of 2 and Numicon - these focused maths interventions are delivered on a 1:1 or small group basis by trained teaching assistants or class teachers.
- Third space learning – these are aimed at children in upper KS2 and are 1:1 computer based. They involve interaction with maths experts who lead and teach children to target specific gaps.
- Twinkl boost same day interventions- to be used when common Maths Misconceptions need addressing imminently after a lesson so that the learner can consolidate or move onto the next stage.
- Numicon - Breaking Barriers is a small group intervention aimed at children aged seven onwards who need to revisit content or have individual programmes based on earlier curriculum content from KS1 ideas.
- Precision Teaching – 1:1 focused intervention for targeted key misconceptions.

Higher ability children are given opportunities to develop their skills further in higher level maths interventions and complete challenges using NRich resources or NCETM.

### **Covid19 recovery**

Due to the Coronavirus (COVID 19) pandemic, learning during 'lockdown' and partial school closures, data has identified the impact this has had on children's progress and learning, especially in the early years. Teachers will carry out assessments of the pupils in their classes at the very beginning of the Autumn Term to identify any 'significant gaps' of knowledge and understanding. In most cases it is anticipated that children will need to continue to revisit some mathematics objectives from their previous year group to ensure that they have achieved mastery of these key areas before moving forward successfully onto the next stage of their learning in the subject. These objectives will be identified within their weekly planning. The six areas of priority include: Number and Place Value Number facts, Addition and Subtraction, Multiplication and division and Fractions. Whilst we will be prioritising these areas and spending the necessary time required to secure children's learning and mastery of core skills, we will continue to follow the whole curriculum for Mathematics, which remains a statutory requirement.

### **Displays**

Mathematics 'working walls' are in each classroom to provide key information and vocabulary with modelled examples to support learning. Each classroom displays examples of the expected age related calculations for the children to refer to.

### **Recording**

Children are taught a variety of methods for recording their work and they are encouraged to apply the most appropriate and convenient method of recording appropriate to the problem or calculation. They are encouraged to use mental strategies as well as written methods but are encouraged to explain their mental methods and reasoning. All children are encouraged to work tidily and neatly when recording their work. When using squares one square should be used for each digit. Children will sign and refer to the maths presentation policy found at the front of their books.

EYFS record informally within the setting. For example: - on the playground, on whiteboards, physically ordering numbers. Staff in EYFS record children's learning and development onto the Tapestry online learning journal. This information is shared with parents and carers and includes each child's termly focus week.

### **Targets**

Assessments are used to identify individual targets for children which can be found at the back of their maths books. These are updated regularly (at least once every half term) by teachers and TAs. Target templates are provided for KS1 and KS2 but can be adapted accordingly to suit the need of the teacher and child.

### **Reporting to parents**

Reports are completed before the end of the summer term and parents are given opportunity to formally discuss their child's progress at two parents' evenings in the autumn and spring terms. Parents can make an informal appointment to discuss their child's progress at any time over the school year. Parents are encouraged and offered support and guidance to support their children's learning of mathematics through a range of resources.

### **Monitoring**

The mathematics subject leader alongside the Head teacher and school Governors are responsible for the monitoring of Mathematics across the school.

### **Resources**

All teachers have available within the classroom regularly used maths resources which are easily accessible to all children and allows them to become familiar with the resources. Other maths resources which are not used or required regularly are stored centrally in the hall cupboard.

### **Homework**

It is our school policy to provide parents and carers with opportunities to work with their children at home. These activities are sent home on a weekly basis to consolidate their learning in class for that week.

### **Impact**

It is with our intention of carrying out the above that children can;

- Demonstrate quick recall of facts and procedures. This includes the recollection of the times tables.
- Show flexibility and fluidity to move between different contexts and representations of mathematics.
- Recognise relationships and make connections in mathematics.
- Show confidence in believing that they will achieve using our growth mind set approach.
- Demonstrate a high level of pride in the presentation and understanding of the work.

These factors ensure that we are able to achieve high standards, with achievement at the end of KS2 in-line with that of the national average, as well as an increasing proportion of children demonstrating greater depth, at the end of each phase.

Related documents;

- Buxton Primary School Calculation guide 2022.
- Maths National Curriculum 2014.
- Buxton Primary small steps planning framework 2022 (adapted from the white rose small steps)

Policy revised and updated by J Buchanan, Maths Subject Leader.  
September 2022.