



Chapel Allerton Primary Mathematics Policy

THE NATURE OF MATHEMATICS
“Every child can”

Rationale “Intent”

At Chapel Allerton Primary School, we want all our children to see themselves as mathematicians and develop a love for maths with a can-do attitude. We aim to make children’s learning in mathematics relevant, practical and engaging. We want our children to confidently calculate, communicate, reason and solve problems. We aim for our children to be fluent in number so that they can apply their knowledge to different contexts. We aim for children to achieve their fullest potential in maths no matter what their starting point is.

Using the Programmes of Study from the National Curriculum for Mathematics we aim to develop in children:

- A positive attitude to mathematics as an enjoyable subject in which all children feel confident and successful
- Children’s abilities to use and apply mathematics to solve problems in both the classroom and in ‘real-life’ contexts
- A confidence to communicate ideas in written form and orally using correct mathematical language and vocabulary
- Independent and collaborative ways of working, encouraging children to share ideas and solve problems together
- Mental skills and the ability to recall basic facts fluently, and to be able to use this knowledge to carry out calculations mentally
- The use of diagrams, jottings and informal methods to record steps and support mental calculation
- The use of efficient, compact written methods of calculation for each operation that children can apply with confidence
- Children’s logical thinking, reasoning and ability to problem solve as transferable life skills
- A culture of growth-mindset where children are encouraged to challenge themselves, take risks, make mistakes and persevere

Teaching and Learning “Implementation”

At Chapel Allerton we use the White Rose Scheme as the basis of our core provision which embraces the National Curriculum aims of being fluent in the fundamentals of mathematics, to be able to reason and to solve problems. The expectation is that the majority of our 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 the pupils’ understanding and their readiness to progress to the next stage. Based on teachers’ solid AfL, we create lessons to meet our learners’ needs by supplementing the White Rose Schemes with additional materials where necessary eg. NRich, NCETM to provide smaller steps to support learners where needed and next steps to extend and further challenge our learners.

Our weekly lessons include the following aspects:

- CPA (concrete, pictorial, abstract) approaches

- Mastery embedded throughout
- The three main aims of the Maths National Curriculum being fulfilled
- Frequent opportunities for problem solving and reasoning for all pupils no matter what their starting point is

During a typical maths lesson our pupils experience:

- A supportive learning environment where all children are comfortable with making mistakes
- An opportunity to review previous learning
- Teachers and teaching assistants providing live feedback and marking
- Learning partners working collaboratively at appropriate times
- Opportunities to work independently
- Teachers having a flexible and adaptative approach that meets children's needs

We use a variety of approaches to practise fluency including:

- Flashback 4 (to review and consolidate previous learning)
- Minute Maths
- KS1 Fluency Bee
- KS1 Big Maths
- KS2 weekly mental arithmetic tests
- KS2 weekly additional arithmetic lessons
- Daily 10
- Early Starters Club to pre-teach or consolidate learning

EYFS

Teachers of the EYFS recognise the importance of putting in the foundations of long-term learning. Teaching is delivered through whole class teaching and group work, which is then followed up by enhanced activities placed in areas of provision in and outside the classroom and may be accessed independently or supported by an adult. Learning is practical and is based on the CPA approach including practical activities, Numicon, Number Blocks, sentence stems for learning partner and oral work, challenge through targeted questioning and open-ended tasks.

Fluency and mastery are a key part of the learning, providing children with opportunities to revisit and review previous learning, new learning taught in variety of ways that are engaging and motivating along with the opportunity to practise and apply new and previous learning. EYFS build over the years and ensures the children are ready to access the year 1 curriculum by the end of F2.

Mastery

Chapel Allerton, we use a mastery approach. Mastery is a pedagogical approach that enhances maths skills and problem-solving skill and focuses on depth rather than acceleration, ensuring that key concepts are fully grasped before moving on. We take learning at a steadier and deeper pace, with the intent 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. Our mastery approach means pupils acquire a long-term, secure and adaptable understanding of the subject. 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. This varied fluency ensures pupils develop number sense and flexibility with number.

One of the most effective ways of stretching learners is to provide open-ended maths problems that allow for multiple responses and perspectives. Instead of making numbers bigger or making content harder, we use unfamiliar or unusual tasks to challenge learners' thinking and change the structure of routine questions. 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.

How we record maths

Children are encouraged to choose and use the most appropriate and efficient method for the calculation involved, be that mental or written. Whilst the core learning is usually completed in White Rose workbooks, maths work is also recorded in squared maths books and floorbooks because children use a variety of methods to support their learning eg. learning partners, small group work, whiteboards, writing on tables, concrete resources, outdoor learning, physical representation, use of computing. All children are encouraged to work systematically and neatly when recording their work. When using squares one square should be used for each digit. Squared books are also used for starter activities, learning broken down into smaller steps and next step challenges.

Children in EYFS record informally within the setting. For example: on the playground, on whiteboards, physically ordering numbers, large pieces of paper for concept boards etc.

Assessment

Summative assessment data is collected termly with pupils completing a PUMA test. The standardised score, along with teacher judgement, is used to ascertain those working at greater depth, expected level or working towards expected level. Teacher's also use scores from the weekly arithmetic tests to aid their judgements. This data is discussed in termly pupil progress meetings and used to inform future planning, interventions and targeted support.

EYFS assessment

Baseline assessments are carried out on entry to school to identify children's starting points. AFL unpins EYFS assessments and provides same day interventions as required. Regular tasks that assess the children are carried out throughout the year to create formative assessments and this alongside the teacher judgment ensures that the lessons and as required interventions are adapted and tailored to meet the needs of the children. The data is discussed in the four pupil progress meetings held throughout the year and used to inform future planning, interventions, and targeted support.

Impact

Daily impact

AfL and live marking inform teachers' knowledge and understanding of the depth of learning that has taken place. This allows responsive and adaptive teaching to take place within the lesson and subsequent lessons if necessary. The impact of this is that pupils have timely intervention and are not left with lingering misconceptions. This in turn builds mathematical confidence.

New mathematical concept impact

We use the prior year group's White Rose end of unit tests to initially inform teaching and learning prior to starting a new unit of work. In addition, teachers use of diagnostic questions and live marking to further unpick misconceptions and then address as soon as possible where necessary.

Termly impact

We use termly PUMA maths tests which are aligned with White Rose to assess long term learning. Pupil progress meetings are used to identify and discuss in depth the needs of pupils across a year group to ensure pupils are appropriately challenged or supported to achieve the best possible outcomes. This leads to direct and specific actions for pupils.

Fluency impact

Pupils are encouraged to use growth mindset and challenge themselves to beat their previous score either in Big Maths (in KS1) or in mental arithmetic tests (in KS2). Scores are recorded and teachers work with pupils to improve their scores. In KS2, the children self-mark their tests and common misconceptions are addressed. Then, a weekly arithmetic lesson is planned to further address these misconceptions / consolidate learning.

What do pupils at the end of Year 6 look like at Chapel Allerton Primary?

- They enjoy maths

- They are positive about maths and have a 'can do' attitude
- They see themselves as mathematicians
- They confidently calculate
- They are fluent mathematicians
- They communicate, reason and solve problems
- They apply their knowledge to different contexts

Contribution of Maths to teaching in other curriculum areas

Mathematics is a tool for everyday life. It is a network of concepts and relationships and is used to analyse and communicate information and ideas in practical tasks and problems. By making links to other subjects at the initial planning stage we aim to provide real context in which to apply skills taught during the maths lessons.

Monitoring

This is undertaken by the Subject Leader and other members of SLT. Monitoring happens regularly through book monitoring, lesson observations, environment monitoring and pupil voice.

Inclusion

Children with special educational needs:

- Within the daily mathematics lesson teachers provide activities to support all children regardless of their need and start points.
- Children with SEN are taught within the daily mathematics lesson and are able to take part at their level through the careful adaption of lessons, providing scaffolding as required, the use of resources, learning broken down into smaller steps, a Teaching Assistant and appropriate activities.
- Reasonable adjustments are used as required to support children.
- Where applicable, children's Pupil Passports, ISPs and EHCPs will incorporate suitable objectives from the Maths curriculum.
- Intervention Groups will take place at times throughout the year, in order to give further support to children working below national expectations.

Roles and Responsibilities

1. Subject Leader:

- Supports teachers in their planning and teaching;
- Has an open-door policy for staff members;
- Lead by example in the way they teach in their own classroom;
- Hosts regular staff meetings to support the teaching of maths across school;
- Encourages open discussion in staff meetings;
- Prepare, organise and lead INSET, with the support of the Head teacher;
- Work co-operatively with the SENDCo;
- Monitor different aspects of maths teaching and learning feeding back to SLT and staff on findings and future actions.
- Attend training provided by LA consultants and Maths Hubs;
- Be available to discuss with the head teacher, class teachers, parents and Maths governor the progress of maths in the school.

2. Class Teachers:

- To deliver a daily maths lesson to their children which is adaptive, engaging and motivating, is informed by the National Curriculum for Mathematics 2014 and is accessible to all children.