

## Mathematics Policy

### Introduction

At Claregate Primary School we value every pupil and the contribution they have to make. As a result we aim to ensure that every child achieves success and that all are enabled to develop their skills in accordance with their level of ability. Mathematics is both a key skill within school, and a life skill to be utilised throughout every person's day to day experiences.

### Rationale

Mathematics is essential to everyday life. A high-quality mathematics education provides a foundation to understand the way mathematics is used in the world, the ability to reason mathematically and become fluent in the fundamentals of mathematics.

It is vital that a positive attitude towards mathematics is encouraged, promoting a sense of enjoyment and curiosity about the subject.

At Claregate Primary we use the National Curriculum for Mathematics (2014) as a basis of our mathematics programme. The National Curriculum for Mathematics (2014) describes in detail what pupils must learn in each year group. Combined with our calculation policy, this ensures continuity, progression and high expectations for attainment in mathematics.

### Aims

We aim to provide the pupils with an interesting, enjoyable mathematics curriculum and high quality teaching to produce individuals who are numerate, independent, inquisitive, enquiring and confident mathematicians.

Our pupils should have the opportunity to develop:

- A positive attitude to mathematics as an interesting and attractive part of the curriculum.
- The ability to think logically, with confidence, flexibility and independence of thought.
- A deeper understanding of mathematics through a process of enquiry and investigation.
- An understanding of the connectivity of patterns and relationships in mathematics.
- The ability to apply knowledge, skills and ideas in a range of contexts and be aware of the mathematics in the wider world.
- Personal qualities, such as perseverance, independent thinking, cooperation and self-confidence through a sense of achievement and success.

### Principles of Teaching and Learning

In Reception through to Year 6, pupils are taught mathematics within mixed ability classes. Through differentiation and the support of HL/TAs, all pupils will receive high quality first teaching and appropriate support in order for every pupil to reach their full potential. Pupils may receive additional support if necessary outside of the mathematics lessons. Pupils have opportunities to engage in development of mental strategies, written methods, practical work, investigational work, problem solving, mathematical discussion, consolidation of basic skills and number facts and maths games. We deploy HL/TA's where necessary to provide a mixture of support and opportunities to deepen pupils' thinking to aid progression.

### Planning

- Planning begins from a thorough understanding of pupils' needs gleaned through effective and rigorous assessment and tracking, combined with high expectations and ambition for all children to achieve.
- There are long-term maths progression maps for each year group. They provide the 'big picture' – the forward vision of the range, content and curriculum coverage for the school.
- Medium-term plans are split into autumn, spring and summer terms. Medium-term plans link directly to the long-term progression map, providing a coherent sequence for teaching and learning.
- Long and medium-term plans are designed to be used flexibly. It is the responsibility of the class teacher to adapt the teaching sequence in response to ongoing formative and summative assessment. This will ensure that the needs of particular groups and individual pupils are met.
- Teachers are required to complete teaching slides for every maths lesson. These teaching slides must include a differentiated mental starter (based on ALL, MOST, SOME), whole class teaching slides and independent work slides split into ALL, MOST and SOME sections.
- The ALL section must be an activity which all the pupils can access after the main teaching part of the lesson has taken place. The MOST and SOME sections will be related to the ALL section and will build on and deepen pupils' understanding. The purpose is to deepen learning, building pupils' understanding and allow pupils to apply their learning, developing logic as they progress. This changes the emphasis of lessons away from "doing Maths" to becoming a mathematician.
- During mathematics lessons, pupils will have the opportunity to work independently, in pairs and collaboratively in small groups.
- Once a week, a mental maths session must be planned for (based around cohort requirements), which involves quick recall, maths discussion, team games, opportunities to work in pair/groups, interactive activities etc. to enable pupils to improve on and be more confident and fluent with their mental maths recall and can also be used to close gaps in pupils' understanding.
- Staff should link questioning in lessons to Bloom's taxonomy where challenge and deeper thinking is required. This is also an excellent way of checking misconceptions
- Staff should refer to habits of mind within the lesson so the children think about their learning style and develop persistence and resilience. The purpose of this is to develop a "growth mindset" where children believe that they can do something knowing that intelligence is not fixed.

### Teaching

- In EYFS, pupils are given the opportunity to develop their understanding of number, measurement, pattern and shape and space through a combination of short, formal teaching sessions as well as a range of planned structured play situations, where there is plenty of scope for exploration.
- Pupils in the EYFS will become competent 'counters' so that their fluency with the number system provides a foundation for mathematical understanding.
- A typical maths lesson in years 1 to 6 will have the following components:
  - **Mental starter** which is differentiated for ALL, MOST and SOME
  - **Main teaching session** which should include both teaching input and pupil activities linked to the ALL, MOST, SOME approach.
  - **Target/Fix it time** to allow the pupils to complete their green for growth from last lesson.
  - **Plenary/Mini-Plenaries** which will involve the whole class or groups to deal with misconceptions, identify progress, to summarise key facts and ideas, to make links to other work and to discuss next steps.
- A mental maths 'proactive' session must be taught for one whole session per week.
- A progression towards efficient written calculations should be developed and applied consistently in each year group. Therefore the school calculation policy will be followed by all. It is set out as a

## Mathematics Policy

progression of mathematical skills, with examples of concrete, pictorial and abstract methods, and not in year groups to encourage a flexible approach to teaching and learning. It is expected that teachers will use their professional judgement to establish where pupils are in their mathematical development to decide if consolidation of existing skills is needed or the pupils are ready to move onto the next concept.

### **Contribution of mathematics to teaching in other curriculum areas**

The skills that children develop in Mathematics are linked to, and applied in every subject of our curriculum. The children's skills in Mathematics enables them to transfer knowledge to all areas of their work across the school curriculum.

### **Assessment**

- AfL should occur throughout the entire maths lesson, enabling teachers and teaching assistants to adapt their teaching/input to meet the pupils' needs.
- Pupils' work must be marked in line with the marking policy and must give the pupils the chance to learn from their misconceptions and aid their progression.
- Future lessons should depend on class success evaluated through marking and observations made during the lesson.
- Assessment of pupils' work and progress is ongoing by the class teacher and informs future planning.
- Summative assessments (Cornerstones) are completed once per term in order to provide further understanding of the current attainment pupils are working at and to inform a more rounded judgement of their abilities.
- The summative assessments used are also diagnostic (gap analysis tool) to inform class teachers where the gaps lie in their pupils' learning and understanding. This must inform future teaching sessions to close the gaps.
- Tracking is used to identify pupils/groups of pupils who are not making good progress over time and therefore can be targeted for support in one form or another. What that support will be and how intensive the support is, will depend on the pupil's individual needs.
- Afternoon interventions from morning misconceptions also take place to aid pupils who have found a particular lesson difficult to grasp. Timely interventions are needed to avoid gaps appearing in the pupils' understanding.
- Each cohort will be analysed termly and teachers will plan to narrow any identified gaps with extra, deeper or more targeted learning experiences, so concepts embed in long term memory.

### **Display and Resources**

A range of resources to support the delivery of Maths can be found in the Maths store cupboard and also in classrooms. Mathematical dictionaries are available in all classrooms. Pupils have access to the internet through the use of laptops. A range of computer software is available to support children's individual needs.

Pupils should be encouraged to use whatever resources are available to them in the classroom and which they feel would be beneficial to help them when completing their work.

Each classroom must have a display dedicated to Maths; which includes the visual calculation policy. Bloom's taxonomy for Maths and Bloom's question stems must also be clearly on display in all classrooms.

## Mathematics Policy

### **Monitoring and review**

Monitoring of pupils' progress begins with pupil progress meetings but continues with the subject leader evaluating further evidence to ensure children are meeting or exceeding their age related expectations. This monitoring happens through examination of work in books, pupil interviews; drop ins, analysis of data and through other means depending on what information is needed.

Following monitoring activities, feedback is given to staff about how they can strengthen their practice and CPD opportunities built in where it would be deemed valuable. These might take the shape of input during staff meetings/lessons/planning time or by a variety of other means.

Where specific, initiatives have been put in place through action planning for school development, these are monitored by the subject leader in order to evaluate their impact.

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