

## Mathematics

At Calow Church of England Primary School we teach mathematics using a mastery approach.

Our lessons are built on the following principles of a mastery lesson:

- Coherence – making connections so that steps are easier to take
- Variation – procedural and conceptual
- Representation and structure – carefully planned prior to the lesson
- Mathematical thinking – chains of reasoning
- Fluency – number and table facts

A key feature of teaching for mastery in our school is the precise design of lessons which include small steps to develop clear understanding. All children from Nursery to Year Six are taught through the use of concrete pictorial abstract, modelling. The concrete, pictorial, abstract approach ensures all children develop a secure understanding of mathematical principles and ideas. Throughout school all children will have the opportunity to use manipulatives such as Numicon, Base ten, place value counters, place value boards etc. to support learning. Questions asked by the maths teacher will allow children to think deeper. Manipulatives can be used to facilitate this.

Mathematics lessons are carefully crafted to ensure pupils understand and can apply the mathematical concepts in different contexts. The structure of the lesson will include questioning and activities which aim to draw children's attention to patterns and mathematical relationships, therefore providing 'intelligent practice' and the opportunity to deepen conceptual understanding.

Opportunities for greater depth and further consolidation are provided by the class teacher and these can be taken from different sources such as White Rose or NCETM materials.

Staff have high expectations for all children and they believe that all children have the ability to succeed. Presentation of recorded mathematical work is expected to be neat and set out in an orderly way to support children in solving mathematical problems,

All children within a year group are taught the same content at the same time but there may be opportunities for challenge for the rapid graspers and time for 'keep up' for the children who require more support. Wherever possible this will take place on the same day. We believe in the principle of 'Keep up not catch up!'

Children will often work with a maths partner. All children are expected to speak in full sentences using mathematical vocabulary accurately when explaining their

learning. The partner is normally pre chosen by the teacher in advance of the lesson. The partnership will allow and encourage opportunities to develop reasoning skills but also learning skills such as speaking, listening, turn taking and co-operation. This also provides an opportunity for children to demonstrate their understanding by explaining their learning.

Class teachers intervene when a child is experiencing difficulty keeping up. This may be within a lesson or at another time in the day. There may also be occasions when children are pre taught a concept prior to whole class teaching. Rapid graspers are challenged by having opportunities to deepen their learning through carefully chosen reasoning and problem solving activities.

Children are assessed against National Curriculum year group objectives as to whether they are :

Emerging- at early stage of development (support needed)

Developing- growing ability and independence (prompting may be needed)/ securing

Secure- exhibits skill independently

Mastery- exhibits skill spontaneously and with confidence

The progress is updated half termly and shared during pupil progress meetings. When appropriate, White Rose assessment materials are used to assess progress and offer opportunities for challenge and greater depth problems. This data is then recorded onto a spreadsheet tracking system for the maths lead to monitor termly.

Where appropriate cross curricula links will be made to Mathematics in other areas of learning . Applying mathematics to other subject areas will deepen understanding and provide additional contexts for using and applying mathematical concepts.

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