# Condover CE Primary School
# Mathematics Policy 2015

## General Statement

Since Easter 2014, mathematics at this school has been based entirely on the 2014 National Curriculum.

We aim to develop lively, enquiring minds encouraging pupils to become self-motivated, confident and capable in order to solve problems that will become an integral part of their future. At Condover CE Primary we aim to inspire all children to reach their full academic potential. In mathematics this means ensuring a curriculum that is meaningful, contextual and fully inclusive.

## Aims and Objectives

Our school offers a broad foundation of mathematical experiences designed to provide all pupils with the understanding, skills and knowledge needed to deal with everyday situations and experiences. A sound understanding of Mathematics enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

## Teaching and Learning

At Condover School we use a variety of teaching and learning styles in mathematics lessons as recommended by the National Curriculum (2014) and Condover's calculation policy.

Our principal aim is to develop children's knowledge, skills and understanding in mathematics. We do this through a daily lesson which combine whole class and group teaching. During these lessons we encourage children to ask as well as answer mathematical questions and to reflect upon their strategies for solving these questions and problems, as outlined by the National Curriculum.

The National Curriculum for mathematics aims to ensure that all pupils:

• become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems
• **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

• can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Displays will reflect the current learning within the classroom through the use of working walls and key vocabulary displayed. Children use IT in mathematics lessons when appropriate. Wherever possible, we encourage the children to use and apply their learning in everyday situations and look for opportunities throughout the whole curriculum to extend and promote mathematics.

In all classes there are children of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child.

Teachers and TAs will facilitate all learning through quality first teaching and supporting children in whole class situations, smaller groups and 1:1 teaching where necessary.

## Mathematics Curriculum Planning

Mathematics is a core subject in the National Curriculum. At Condover we implement the statutory requirements of the programme of study for mathematics using the National Curriculum and our own planning framework. We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term) to ensure coverage of the key objectives for the year and that pupils are making progress over time.

Our medium-term mathematic plans give details of the main teaching objectives for each term and define what we teach. All planning ensures an appropriate balance and distribution of learning across each term. The programmes of study for mathematics are set out year by year for Key Stages 1 and 2. Within each Key Stage, we have the flexibility to introduce content earlier or later than set out in the programme of study, and throughout the whole curriculum look for opportunities to develop mastery and promote mathematics.

### Foundation Stage

The programme of study for the Foundation stage is set out in the EYFS Framework. Mathematical Development involves providing children with opportunities to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to describe shape, spaces and measures.

### Key Stage 1

The principal focus of mathematics teaching in Key Stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources (e.g. concrete objects and measuring tools). At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary.

Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money. By the end of Year 2,

pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency. Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at Key Stage 1.

**Lower Key Stage 2**
The principal focus of mathematics teaching in lower Key Stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.
By the end of Year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

**Upper Key Stage 2**
The principal focus of mathematics teaching in upper Key Stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio. At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them. By the end of Year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils should read, spell and pronounce mathematical vocabulary correctly.

Planning and teaching are monitored by subject leaders and the head teacher throughout the school by classroom observation, book scrutiny and pupil and teacher interviews.

## Assessment and Recording

Condover have developed a system after levels that will be effective tracking attainment and progress over time and that they are on track to meet expectations at the end of the Key Stage. We assess children's work in mathematics from three aspects (short-term, medium term and long-term).

Condover make short-term assessments which we use to help us adjust our daily plans. These short-term assessments are closely matched to the teaching objectives.

Medium-term assessments are made to measure progress against the key objectives, and to help us plan the next unit of work. We use age related 'I Can' statements (key progress indicators) taken from the national exemplification key objectives, in line with the new curriculum, as the recording format for this.

Using assessment for learning through monitoring pupil progress takes place daily, weekly and termly, during focus group teaching, through close the gap marking and observation, gap analysis of formative assessment and pupil progress meetings. All planning is informed by ongoing assessment.

We make long-term assessments towards the end of the school year, and we use these to assess progress against school and national targets. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents. We pass this information on to the next teacher at the end of the year, so that s/he can plan for the new school year. We make the long-term assessments with the help of end-of-year tests and teacher assessments. Teachers meet regularly to review individual examples of work against the national exemplification material. The maths coordinator will sample work to ensure consistency of assessment across the school and with other schools and the primary adviser. Teachers identify children who are not making the progress expected and interventions for both KS1 and KS2 children are put in place to ensure progress of all pupils and to close the gap for groups of pupils.

**Parents and Homework**

We recognise the importance of the input parents have to their children's education. All children are expected to carry out some homework for maths, in accordance with our homework policy. This may be to consolidate skills or knowledge or to develop and extend strategies and techniques. However, homework in maths will take many different forms:

- Learning tables facts
- Playing a number game
- A practical activity in a home context, e.g. weighing/measuring
- Preparing work to present to the class
- Thinking about how to solve a problem
- More formal written work

**Equal Opportunities**

As a staff we endeavour to maintain an awareness of, and to provide for equal opportunities for all our pupils in mathematics. We aim to take into account cultural background, gender and Special Needs, both in our teaching attitudes and in the published materials we use with our pupils.