



# Conifers Primary School

## Maths - Intent, Implementation and Impact

### Intent:

At Conifers Primary School we believe that Mathematics is a vital part of the curriculum. The intention of the Mathematics Curriculum at Conifers Primary School is that our children become competent and independent mathematicians that are able to build a deep conceptual understanding of concepts which will enable them to apply their learning in different situations. To deepen their understanding we encourage children to explain their logic and reasoning where appropriate. Mathematics is not seen as an isolated subject but one that is related to the whole curriculum therefore opportunities should be sought to make links in a cross-curricular way so that children see the relevance of having numerical skills. To ensure children achieve their full potential, we provide support alongside our teaching, based on the 'Thrive' approach. This develops children's emotional resilience as well as developing their confidence and skills to problem solve.

### Implementation:

In order for children to progress, we believe they need to be confident and fluent in the objectives taught by the end of each academic year. We follow the White Rose Schemes of learning as they have adapted their schemes of work to revisit objectives taught in a previous year, due to the Covid 19 remote learning. Alongside this, we consolidate prior arithmetic knowledge weekly and use TTRockstar to develop the children's times tables fluency.

### Aims of 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 develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- **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.

### Planning:

**Foundation stage:** Planning is based upon the teaching on objectives in the New Mathematics Curriculum for Foundation stage.

**Key stage 1 and 2:** Teachers plan for the teaching of mathematics using The White Rose Scheme. Teachers are provided with long term overviews in order to achieve coverage across all the learning blocks. Teachers can adapt these to reflect the needs of the learners, as required.

Mathematics should be taught for a minimum of one hour daily. In addition, three weekly slots should be allocated for the teaching of mental arithmetic.

Teachers use a common planning format to record a weekly sequence of lessons. Each individual lesson should have an overarching lesson objective that is linked to the National Curriculum 2014, from the specific year group's objectives. The learning objective should then be broken down for the differentiated groups within the class. Each lesson should include an input, a main activity as well as a plenary. The input, which may take place at any point in the lesson, may involve groups rather than the whole class. The main activity should provide suitable challenges for the learners and give children the opportunity to use and apply their skills. The plenary may take place at any point during the lesson. Where possible, lessons should make links to the wider curriculum as well as real-life.

### **Cross-curricular links:**

Mathematics makes links to many other subjects within the curriculum and opportunities are sought to provide mathematical experiences in a range of ways. Staff are asked to identify and plan for opportunities to use and apply Mathematical skills in relevant ways drawing the children's attention to this, so they see Mathematics is not an isolated subject.

In addition to making links with the wider curriculum, efforts should be made to make links across different areas of Mathematics.

There should also be evidence of problem solving and using and applying within the planning of different areas of Mathematics.

All staff are asked to support the development of numeracy skills by maximising opportunities for mathematics-related activities to take place outside in **relevant** lessons. Learning outside the classroom can help to make subjects more vivid and interesting for pupils and enhance their understanding.

It can also contribute significantly to pupils' personal, social and emotional development.

### **Assessment:**

Assessment of pupil's progress is on-going throughout the lesson by the class teacher and informs future planning. Progress is informed through a combination of both formative and summative assessment. Every term, children are given a 'NFER' assessment paper to complete that focuses on their arithmetic, reasoning and problem solving skills. This data is used to inform planning, tracking data and support interventions that may be needed. Formative assessment uses more informal strategies to determine what children understand and what they still need to learn to master a goal or outcome. See separate assessment Policy for more information.

Teachers mark work in line with the school marking policy. Children are provided with detailed feedback that encourages them to read and review their work. Successes that link to the learning objective, are highlighted green to identify the evidence that demonstrates their understanding. Alongside this, children are provided with 'improvement points' (highlighted in yellow) that give them the opportunity to address a misconception or complete a challenge to extend their learning. See separate Marking Policy for more information.

Teachers use 'DCPro' to track pupils' progress over the year. Alongside this, children are provided with target sheets to track their progress. Key objectives, taken from the National Curriculum, are highlighted green once they have been successfully achieved independently, several times; or dotty green if the objective has been covered but the child is not yet confident.

Teachers will enter data onto DCPro under the following headings

- **WTS:-** At early stage of development (support needed)
- **EXS:** Exhibits skill independently
- **GDS** Exhibits skill spontaneously and with confidence

The information which is inputted into DCPro can then be used to generate reports enabling teachers to gain a secure understanding of the needs of individual learners, vulnerable groups and key subject areas. See Assessment Policy for specific details on Assessment.

### **Entry and Exit Cards:**

Before beginning a new topic, the children complete an entry card to assess their starting points. Subsequent to this, teaching and learning will be planned based upon this assessment to ensure all children are challenged and progress. At the end of each learning block, the children complete an exit card to assess their progress. This is completed independently enabling teachers to plan for any further intervention and to assess progress made.

### **Weekly Reasoning Challenges:**

Reasoning enables children to draw on their mathematical knowledge in order to solve problems. Encompassed within our teaching is children are encouraged to challenge and explain their reasoning and to make use of all their other Mathematical skills. This is integrated within daily Mathematical activities labelled as 'Reasoning Challenge'.

### **Arithmetic Journals:**

Arithmetic forms the foundation of students' mathematical knowledge, and involves performing operations on numbers to solve simple equations. To ensure children have a solid understanding of basic mathematical concepts, the children are challenged weekly to consolidate their prior knowledge. These are self-marked and celebrated within the class.

### **Mathematical Celebrations:**

Celebrating successes in learning can create a motivation for learning and a recognition of not only the 'answer' but also the journey a child takes. Every week, from each class, a certificate is presented in the Whole School Assembly to recognise children who have made a distinct effort in their learning. This learning piece is then displayed and celebrated on a whole school display in order to encourage and build confidence in others.

### **Resources:**

Each classroom is equipped with a range of age/ability suitable resources. Additional resources and topic-specific items are stored in a central location in the school. Children are provided with 'tool-kits' on their tables, during every Maths lesson, to encourage them to use resources to aid their understanding. Resources are constantly updated, as new and relevant items become available.

### **Homework:**

Homework is set weekly by the class teacher. The purpose of the homework set is to give children the opportunity to consolidate learning.

### **Monitoring and Evaluation of policy**

This policy was drawn up by the Mathematics Lead, working in consultation with the Headteacher and class teachers.

Its implementation is seen as the responsibility of all the staff. Its use and effectiveness will be supported and monitored by the Mathematics Lead on behalf of the Headteacher and Governors.