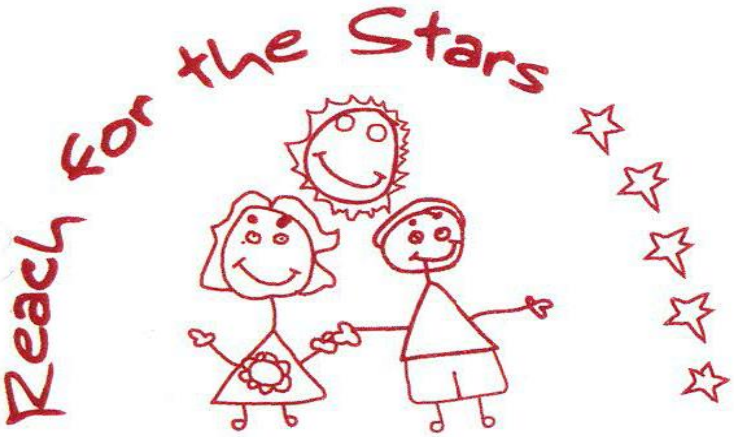
Crosslee Community Primary School



Maths Policy

May 2022

1, Aims and Objectives

1.1 Maths is a key life skill. It teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. It 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 people to the development and application of Maths.

1.2 The aims of maths are:

- To promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion.
- To promote confidence and competence with numbers and the number system.
- To develop a creative and systematic approach to problem solving through the application of key skills; exploring mathematical vocabulary; grouping, sorting, and organising; using and applying skills and calculation and reasoning in a range of contexts.
- To explore features of shape and space and develop measuring skills in a range of contexts.
- To develop a practical understanding of the ways in which information is gathered and presented.
- To promote confidence and competence so that children are 'proud to shine' about their achievements.

2, Teaching and Learning Styles

2.1 At Crosslee we use a variety of teaching and learning styles in maths. Our principal aim is to develop children's knowledge, skills and understanding. During our daily lessons we encourage children to ask mathematical questions. They have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. Children and teachers use ICT in maths lessons where it will enhance their learning, and to assist with modelling ideas and methods. Wherever possible, we encourage the children to use and apply their learning in everyday situations. We encourage maths to be practical and hands on and this can be evidenced and recorded using Seesaw.

2.2 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. Throughout lessons, a range of strategies are used to ensure appropriate levelled learning. Children are asked to undertake independent work but other strategies are also utilized. In some lessons group work is undertaken, and in other lessons, children are organised to work in pairs on open-ended problems or games. We use classroom assistants to support pupils as appropriate and to ensure that work is matched to the needs of individuals. Groupings of pupils in each lesson must be fluid, constantly changing and evolving based on teacher judgement and assessments after each lesson.

2.3 In the Early Years, the children learn through daily adult focus carpet time sessions, adult focused activities and child initiated activities. The children also have access to on-going interactive activities where resources are always available. Elements of maths are always included in learning areas including constant provision areas, both indoor and outside. In Year One, and then onwards, the class teacher will gradually move the children on from the structure seen in EYFS to delivering a Maths lesson using the following structure:

· Fluent in Five – arithmetic practice to develop and maintain fluency in both written and mental calculations
· Main teaching – teacher input involving modelling and demonstrating, followed by group, paired and independent activities.
· Plenary and/or Mini Plenary – opportunity to sort out any misconceptions, solve problems together, apply skills in a different context, identify progress made and next steps. Within this, pupils have the opportunity to peer and self-assess their skills

3. Maths Curriculum Planning

3.1 Maths is a core subject in the National Curriculum and we use the Maths Programme of Study as the basis for implementing the statutory requirements. We plan challenging activities so they can build on children's prior learning and gaps. The children are given the opportunity to apply their mathematical skills in other subject areas and 'real life' problems.

3.2 The National Curriculum Framework for Key Stage 1 and 2 gives a detailed outline of what we teach in the long term. All teachers refer to The Lancashire Maths Grid Yearly Overview grid to ensure a full curriculum coverage for their long term plans.

3.3. We use the Key Learning sheets and Medium Term Plans from The Lancashire Maths Grid. This ensures the consistency of coverage of the yearly objectives and ensures progression between year groups as pupils move up the school. These plans are adapted from the National Curriculum and teachers tick off or highlight objectives when taught to ensure a full curriculum is covered. These give details of the main teaching objectives for each term and define what we teach. They ensure an appropriate balance and distribution of work across each term and ensure objectives are revisited to practise, embed and consolidate learning. These plans are kept by the class teachers all year and adapted to benefit the learners

3.4 It is the class teacher who completes the weekly plans for the teaching of maths. These weekly plans list the specific learning objectives for each daily lesson and give details of how the lessons are to be taught and differentiated. The class teacher keeps these individual plans and they are seen by the subject leader on request. Each lesson will consist of Fluent in 5 daily arithmetic practise, main teaching, independent or group work and plenaries or exit questions to assess, consolidate or address misconceptions. Teachers will refer to the Calculation Policy to ensure correct and age appropriate written strategies are taught. We use Fluent in 5 daily in all classes from EYFS up to Year 6 as our Mental and Oral Starter. This is a way to revisit concepts and consolidate skills.

4. Contribution of maths to teaching in other curriculum areas

4.1 Science

Almost every scientific investigation or experiment is likely to require one or more of the mathematical skills of classifying, counting, measuring, calculating, estimating and recording in tables and graphs. In science pupils will, for example, order numbers, include decimals, calculate means and percentages, use negative numbers when taking temperatures, substitute into formulae, re-arrange equations, decide which graph is the most appropriate to represent data, plot, interpret and predict from graphs.

4.2 Information and Communication Technology (ICT)

Children will apply and use maths in a variety of ways when they solve problems using ICT. For example, they will collect and classify data, enter it into data handling software, produce graphs and tables, interpret and explain their results. When they use computer models, coding and simulations they will draw on their abilities to manipulate numbers and identify patterns and relationships.

4.3 English

Mathematic lessons can help to develop and support pupils' English skills: for example, by teaching mathematical vocabulary and technical terms, by asking children to read and interpret problems to identify the mathematical content and by encouraging them to explain, argue and present their conclusions to others. Equally, English lessons can support maths lesson. For example, non-fiction texts can be chosen in which mathematical vocabulary, graphs, charts and tables have to be interpreted and the reading and spelling of mathematical vocabulary taught.

4.4 Topic

In history and geography children will collect data by counting and measuring and make use of measurements of many kinds. The study of maps includes the use of co-ordinates and ideas of angle, direction, position, scale and ratio. Historical ideas require understanding of the passage of time, which can be illustrated on a time line, similar to the number line that they already know.

4.5 Art, Design and Technology

Measurements are often needed in art and design and technology. Many patterns and constructions are based on spatial ideas and properties of shapes, including symmetry.

Designs may need enlarging or reducing, introducing ideas of multiplication and ratio. When food is prepared a great deal of measurement occurs, including working out times, adapting recipes, and calculating cost; this may not be straightforward if only part of a packet of ingredients has been used.

4.6 PE

Athletic activities require measurement of height, distance, time and speed, while ideas of time, symmetry, movement, position and direction are used extensively in music, dance, gymnastics and ball games.

5. Equal Opportunities

5.1 At Crosslee, we enjoy teaching maths to all children, whatever their ability and individual needs. It is part of the school curriculum policy to provide a broad and balanced education to all children. We strive to meet the needs of children with learning difficulties. More able pupils will be taught with their own class and stretched through differentiated group work, teachers will direct questions towards the more able to maintain their involvement and progress. Teachers at Crosslee are aware of the issues related to gender and Maths

learning. If all pupils are to have equal access to mathematical learning, teachers need to consider these in all their complexity.

5.2 Children with special educational needs will receive differentiated group work and focused work with the teacher and teaching assistant each week. However, a pupil whose difficulties are severe or complex may need to be supported with an individualised programme in the main part of the lesson.

5.3 A number of teaching assistants and intervention teachers deliver structured 'booster' and 'catch up' sessions to those children who may require them outside the daily maths lesson. The children who benefit from these sessions are identified by the class teacher through formative and summative assessments and through Pupil Progress meetings.

6. Assessment for Learning

6.1 Assessment is regarded as an integral part of teaching and learning and is a continuous process. It is the responsibility of the class teacher to assess all pupils in their class. These assessments form part of planning at each level, the organisation of groups in lessons and also inform target setting.

6.2 Short term planning is informal and feeds into day-to-day teaching and planning to help target the support to individual children. Informal notes and evaluations are kept on planning documents, particularly on children whose performance is out of the ordinary. Within marking (see marking and feedback policy) teachers use symbols to show where the children have been successful and gives them a chance to consolidate or extended their learning. The symbols are CH, C and T. CH indicates the pupil has met the objective of the lesson and further challenges are given for pupils to practise, stretch or apply their knowledge in a different context. Pupils with a C need to go back through their work and have another attempt at corrections and incorrect answers. Pupil's work marked with a T indicates the pupil struggled with the objective and needs additional adult input which will be given by the teacher or TA. Pupils will respond to the marking using purple pen. Pupils are also encouraged to self and peer assess in lessons.

6.3 We use national tests for children in Year 2 and Year 6, plus the NFER tests for children in Years 3,4 and 5. We pass this information onto parents through reports, newsletters and at parents evening. Reception Baseline will start in the first 6 weeks of autumn 2021 and will look at early number, early calculation (early addition/subtraction), mathematical language and early understanding of pattern. Y4 will complete the national online times tables check in the summer term.

6.4 Targets and assessment data are put onto our O Track assessment system termly at a minimum. This data is reviewed by the class teacher, SENCO, Deputy and Headteacher at pupil progress meetings which inform next steps to learning in detail and with identify children requiring support, boosters or interventions.

7. Resources

7.1 Resources are used in maths to meet the needs of various types of learners. These are hands on resources such as cubes, number lines, games, number squares to name but a few. These provide a model for maths and help to visualise the maths they are learning

about. These resources are kept in class toolkits which are added to each year and a main Maths resources cupboard. Practical and hands on sessions are encouraged and Seesaw is used to document evidence from these types of sessions.

8. Monitoring and review

8.1 Monitoring of the standards of children's work and of the quality teaching in maths is the responsibility of the maths team. The work of the maths team also involves supporting colleagues in the teaching of maths, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The maths team gives the Headteacher regular and frequent information where they evaluate strengths and weaknesses in the subject and indicates areas of progress for the School Development Plan and for further improvement. The Headteacher allocates regular management time to the maths team so that s/he can conduct a range of monitoring activities such as reviewing samples of children's work and lesson observations of maths teaching across the school. Other monitoring includes learning walks, pupil voice activities and staff surveys.

9. Role of the Governing Body

9.1 The governing body are reported to on a regular basis about maths standards throughout school. They meet half termly to review the school's progress.