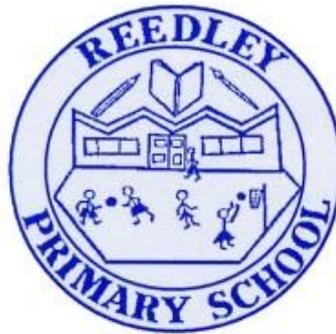


Our school nurtures curiosity and creativity through an inspiring, broad and engaging curriculum, where learning is at the heart of all that we do. Children at Reedley learn to become resilient and self-assured in a safe environment where challenge is key. Team Reedley are encouraged to thrive and achieve as individuals, preparing them for their role as caring and active citizens in modern Britain.

Reedley Primary School

Curricular Policy for Mathematics



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How pupils learn Mathematics

Mathematics helps children to make sense of the world around them through developing their ability to calculate, to reason and to solve problems. 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.

At Reedley Primary School we aim to:

- develop a positive attitude to Mathematics as an interesting and attractive subject in which all children gain some success and pleasure;
- develop resilient learners in Mathematics through structured tasks which increase in challenge;
- develop children's concrete understanding of Mathematics using apparatus in order to prepare children for more abstract concepts;
- develop understanding through a teaching approach that puts conceptual variation – a carefully managed approach to moving from one interpretation to another - at its core.
- encourage the effective use of Mathematics as a tool in a wide range of activities within school and, subsequently, adult life;
- develop an ability in the children to express themselves fluently and explain their learning, to talk about the subject with assurance, using correct mathematical language and vocabulary;
- develop ability to think clearly and logically with independence of thought and flexibility of mind;
- develop mathematical skills and knowledge and quick recall of basic facts.

Planning the Mathematics Curriculum

Mathematics is a core subject in the National Curriculum, and we use the *Mathematics Programmes of Study: Key Stages 1 and 2 National Curriculum in England (2014)* and the *Mathematics Planning National Curriculum documentation – Lancashire County Council (2014)* - as the basis for implementing the statutory requirements of the programme of study for Mathematics. We frequently upskill staff through continuous professional development including insets from the Lancashire Mathematics Team and guest speakers.

We carry out the curriculum planning in Mathematics in line with the structures and recommendations outlined in the LCC medium term planning documentation. Staff are aware of the need for flexibility within this approach for children to access breadth and depth of a concept. Our weekly plans list the specific key learning for each lesson and give details of how the lessons are to be taught.

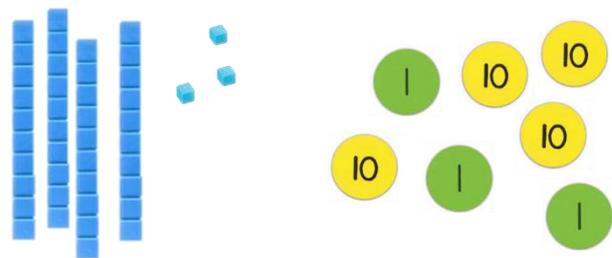
Classroom Organisation, Time Allocation and Teaching Styles

The school uses a variety of teaching strategies to cater for the different learning styles of pupils through an hour daily lesson that has a balance of whole-class, group-direct and one to one teaching. During these lessons we encourage children to ask, as well as answer, 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

use ICT in Mathematics lessons where it will enhance their learning, as in modelling ideas and methods.

Although the programmes of study of the National Curriculum (2014) are organised into distinct domains, we believe, as the National Curriculum states '*that pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasing sophisticated problems*' (DFE, 2013:3) We aim to teach a curriculum which encompasses all areas of Mathematics such as logic, reasoning and using and applying, making links where appropriate to embed conceptual understanding.

We believe that conceptual variation is key for children to master concepts and become stronger mathematicians. Variation is not simply "variety" in lessons but is a carefully managed approach which exposes children to different representations in order to deepen understanding. As the Lancashire approach advocates, "*variety involves illustrating the concept in various ways that are randomly organised. This might include showing two-digit numbers using too many different representations without allowing the children to identify what is the same and what is different about each way of showing the numbers.*" For example, the number 43 can be shown using two separate practical resources.



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. We achieve this through a range of strategies – in some lessons through differentiated group work and in other lessons by organising the children to work in pairs on open-ended problems or games.

We use teaching assistants to provide appropriate support to individuals or to groups of pupils. Teaching assistants within Reedley Primary School are viewed as an important 'asset' to the school and, as such, are appropriately involved in the planning and delivery of the Mathematics curriculum. Their knowledge, skills and understanding is constantly updated through involvement in school-based and LA led Inset.

Resources

There is a range of resources to support the teaching of Mathematics across the school. Staff understand the importance of using practical and visual models to support children's learning in Mathematics. All Phases have a wide range of appropriate practical apparatus. A range of audio visual aids are also available and a range of software is available to support work. We encourage children to access Mathematics at home and subscribe to recognised websites that foster children's love of the subject; Times Tables Rock Star® and My Maths®.

Equal Opportunities including Special Needs

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 consider cultural background, gender and SEN, both in our teaching attitudes and in the published materials we use with our pupils.

Teachers will aim to include all pupils fully in their daily Mathematics lessons. Teachers will differentiate to meet the needs of such pupils and use Teaching Assistants to support such pupils where appropriate. However, a pupil whose difficulties are severe, or complex may need to be supported with an individualised programme.

More able pupils will be taught with their own class and stretched through differentiated work, extra challenges and higher order questioning. Very occasionally arrangements will be made for an exceptionally gifted pupil, e.g. they may follow an individualised programme with support from TAs/Teachers.

Developing Spiritual, Moral, Social and Cultural Education within Mathematics

Mathematics contributes to the teaching of personal, social and health education, and citizenship. The work that children do outside their normal lessons encourages independent study and helps them to become increasingly responsible for their own learning. The planned activities that children do within the classroom encourage them to work together and respect each other's views.

We recognise the importance of responding to children's work, whether orally or in writing. We seek to encourage children by acknowledging positive achievements. This could include praise for use of a viable method even if the end results were incorrect. Children are frequently provided with next steps to support and enhance their understanding and make links between previous and future learning. Children are given opportunities, and actively encouraged, to explain their work to others and to display their work when it seems appropriate. They are encouraged to value and respect the work of others.

Assessment and Record Keeping

At Reedley Primary School we recognise that Assessment for Learning (AfL) lies at the heart of raising standards of attainment. We further recognise that effective AfL depends crucially on using the information gained to identify next steps in learning and supporting the needs of the pupil.

Assessment is on-going, and pupil progress informs planning on a daily basis. Formal data is collated on Target Tracker at the end of the Autumn Term, Spring Term and Summer Term to determine whether children are 'Beginning', 'Working Within' or 'Secure' and within which year group. If children are not working at their age related expectations, support and challenge are provided as necessary. The use of intervention can support the accelerated learning of key outcomes from a lower year group or the application of greater understanding by explaining reasoning of Maths subject knowledge.

The assessment procedures within our school encompass:

- responding appropriately to pupils during 'day-to-day' teaching. These 'immediate' responses are mainly verbal and are not normally recorded;
- effective marking and feedback;
- using knowledge of pupils (prior learning) drawn from on-going pupil tracking records, the progression documents and key questioning to inform planning and teaching;
- adjusting planning and teaching in response to pupils' performance;
- use of the AfL questions within the assessment section of the *Lancashire Interactive Planning tool* (National Curriculum 2014) to check learning against the end of year objectives. Future planning is adapted in response to assessment outcomes;

- use of on-going teacher assessment and formative assessment in to identify children who have specific needs and use interventions to address barriers to learning and help children progress.
- use of information gained from statutory and optional tests. Analysis is done at both a quantitative and qualitative level. Information gained is used to set focused curricular targets (what to teach) and also to determine which strategies or methods are particularly effective in respect of specific areas of Mathematics (the how and why).

Monitoring arrangements

Monitoring of the standards of children's work and of quality of teaching in Mathematics is the responsibility of the Headteacher and link governor supported by the Subject Leader.

The work of the subject leader also involves supporting colleagues in the teaching of Mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.

- Ensuring continuity and progression from year to year.
- Providing all teaching staff with guidelines, long-term planning and materials to show how aims are to be achieved and how the variety of all aspects of Mathematics is to be taught.
- Completing an analysis at the end of each term to inform the SDP and report to Governors.
- Producing an action plan to meet the outcomes of the analysis as they appear on the SDP.
- Leading the teaching of Mathematics by example and supporting colleagues in the opportunity to share good practice.
- Leading professional development of all staff in Mathematics in accordance with staff development needs and supporting and guiding staff by encouraging the sharing of ideas.
- Advising and supporting colleagues in the implementation and assessment of Mathematics throughout the school.
- Assisting with the requisition and maintenance of resources required for the teaching of Mathematics.
- Keeping the written policy up to date and keeping under review the key objectives for Mathematics in line with the requirements of the National Curriculum.
- Monitoring standards in Mathematics across the school through classroom observation, work scrutiny, teachers' planning, discussion with teachers, pupil interviews and data analysis.
- Being aware of national developments in Mathematics through reading relevant materials and attending courses where appropriate.

Reviewed: 01.09.19

Ratified by Governors: 12.09.19

Next review: 12.09.20