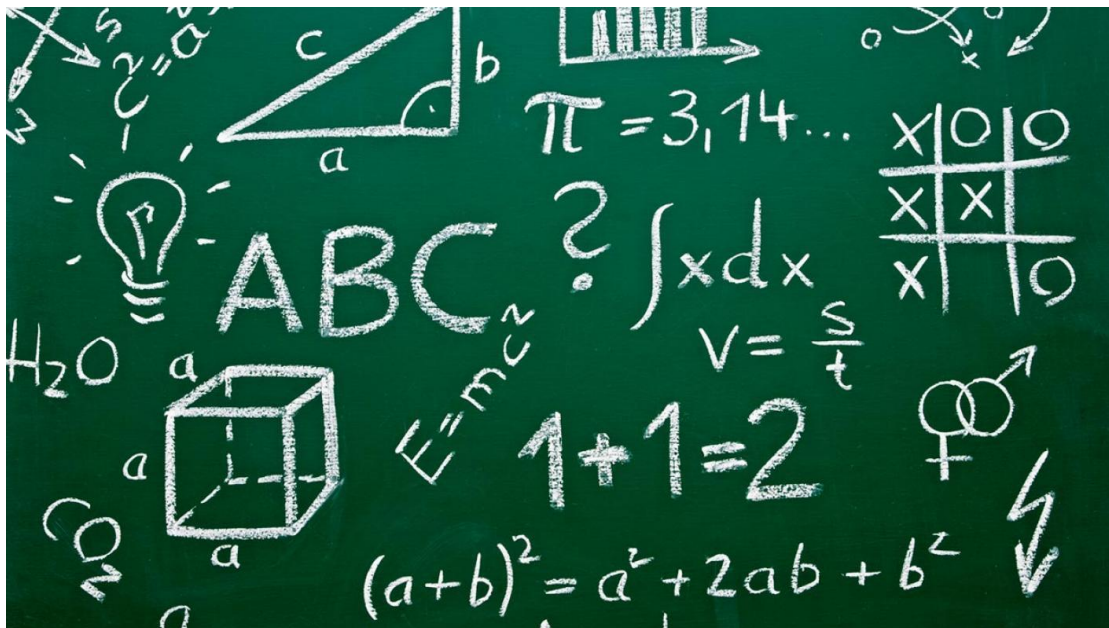


WEETON PRIMARY SCHOOL



Mathematics Policy



WEETON PRIMARY SCHOOL MATHEMATICS POLICY

Introduction

Mathematics is integral to all aspects of an individual's daily life and with this in mind, we endeavour to ensure that children develop a healthy and enthusiastic attitude towards mathematics that will stay with them throughout their lives.

This policy outlines what we are aiming to achieve in respect of pupils' mathematical education. It also describes our agreed approach to the planning, delivery and assessment of the mathematics' curriculum.

The National Curriculum (2014) for mathematics describes what must be taught in each key stage. The mathematics taught and the methods used reflect both the statutory requirements and the non-statutory guidance and recommendations outlined in the following documents:

- (A) The Revised Statutory Framework for the EYFS (2012)
- (B) The Development Matters in the EYFS (2012)
- (C) Mathematics Programmes of Study: key stages 1 and 2 National Curriculum in England (2013)
- (D) Mathematics Planning National Curriculum documentation – Lancashire County Council (2013)

This policy provides information and guidance for staff, governors and other interested persons.

Aims

Mathematics helps children to make sense of the world around them through developing their 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 cultures to the development and application of mathematics.

At Weeton Primary School we aim to:

- develop a positive attitude to mathematics as an interesting and attractive subject in which all children gain success and pleasure;
- develop mathematical understanding through systematic direct teaching of appropriate learning objectives;
- 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, to talk about the subject with assurance, using correct mathematical language and vocabulary;
- develop an appreciation of relationships within mathematics;
- develop ability to think clearly and logically with independence of thought and flexibility of mind;
- develop an appreciation of creative aspects of mathematics and awareness of its aesthetic appeal;
- develop mathematical skills and knowledge and quick recall of basic facts

Teaching and Learning Style

The school uses a variety of teaching styles to cater for the different learning needs of pupils in mathematics lessons. Our principle aim is to develop children's knowledge, skills and understanding in mathematics. We do this through short, daily Mental Maths sessions and through a daily longer Maths lesson (60 min) that has a high proportion of whole-class and group-direct teaching. During these lessons we encourage children to ask as well as answer mathematical questions, and model and expose our children to a wide range of mathematical vocabulary which we encourage and expect our children to use with a growing confidence. 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) With this at the forefront of our teaching we ensure that using and applying mathematics is integrated into planning and teaching.

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 such as through differentiated group work, different levels of support provided to groups and individuals and by organising the children to work in pairs on open-ended problems or games.

Mathematics Curriculum Planning

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 (2013) 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 carry out the curriculum planning in mathematics in line with the structures and recommendations outlined in the LCC medium term planning documentation. Our weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught; outlining any key vocabulary and concepts that are to be explicitly addressed.

The Mathematics subject leader/ STEM Team and SLT are responsible for monitoring Mathematics within our school.

Assessment

Assessment has two main purposes:

- assessment of learning (also known as summative assessment);
- assessment for learning (also known as formative assessment).

Assessment of learning (AoL) – summative assessment

Assessment of learning is any assessment that summarises where learners are at a given point in time – it provides a snapshot of what has been learned. Within Weeton Primary School, AoL is used appropriately, e.g. to provide a Teacher Assessment judgement and grade at the end of KS1.

Assessment for learning (AfL) – formative assessment

At Weeton Primary School we recognise that AfL lies at the heart of promoting learning and in raising standards of attainment. We further recognise that effective AfL depends crucially on actually using the information gained.

The school supports teacher assessment through the use of the Lancashire Learning and Progression Steps (LAPS). These documents set out a progression of learning for individual strands of the National Curriculum towards end of year age related expectations.

The assessment procedures within our school encompass:

- Making ongoing assessments and responding appropriately to pupils during 'day-to-day' teaching. These 'immediate' responses are mainly verbal and are not normally recorded;
- Using knowledge of pupils drawn from ongoing pupil tracking records and the progression document to inform 'prior learning' at the beginning of each unit of work to guide our planning and teaching;
- Adjusting planning and teaching within units in response to pupils' performance;
- Use of the Assessment questions within the Lancashire Interactive Planning tool (National Curriculum 2014) to check learning against the end of year objectives. If necessary future planning is adapted in response to assessment outcomes;
- Use of ongoing teacher assessment in order to identify gaps in attainment and at the end of each full term using this information to judge each child's attainment against year group expectations;
- Use of information gained from statutory and internal school tests. Information gained is used to identify the group's and individual's strengths and areas for improvement and also to determine which strategies or methods are particularly effective in respect of specific areas of mathematics.

The Early Years Foundation Stage

Work undertaken within the Early Years Foundation Stage is guided by the requirements and recommendations set out in the Revised Statutory Framework for the EYFS (2021), the Development Matters in the EYFS (2012) and the Lancashire Planning Support Tools. Resources and ideas are also drawn from White Rose Maths. We give all the children ample opportunity to develop their understanding of mathematics. We aim to do this through varied activities; both structured and through the use of Continuous Provision opportunities, that allow them to use, enjoy, explore, practise and talk confidently about mathematics.

Contribution in Mathematics to Teaching in Other Curriculum Areas

At Weeton Primary School we use the LPDS National Curriculum Support Materials to highlight creative learning opportunities and outcomes for mathematics across other subjects.

English

Mathematics contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. We also strongly promote the use and articulation of mathematical vocabulary within the typical school day.

Computing/ICT

The effective use of ICT can enhance the teaching and learning of mathematics when used appropriately. When considering its use, we take into account the following points:

- ICT should enhance good mathematics teaching. It should be used in lessons only if it supports good practice in teaching mathematics;
- Any decision about using ICT in a particular lesson or sequence of lessons must be directly related to the teaching and learning objectives for those lessons;
- ICT should be used if the teacher and/or the children can achieve something more effectively with it than without it;

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, including decimals, calculate simple means and percentages, use negative numbers when taking temperatures, decide whether it is more appropriate to use a line graph or bar chart, and plot, interpret and predict from graphs.

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 and calculating cost; this may not be straightforward if only part of a packet of ingredients has been used.

History, Geography and Religious Education

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. The pattern of the days of the week, the calendar and recurring annual festivals all have a mathematical basis. For older children 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.

Physical Education and Music

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

Personal, Social and Health Education (PSHE) and Citizenship

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.

Forest School

Our Forest School sessions provide children with a fantastic opportunity to explore, apply and reinforce mathematical concepts and skills whilst in the outdoors. Whilst using the resources within our natural environment, children will undertake activities that involve using the skills of estimating, measuring and weighing whilst cooking, knot-tying and team-building; exploring and creating symmetrical natural art; exploring shape and angles whilst constructing 3D sculptures and counting, sorting and classifying natural objects.

Teaching Mathematics to Children with Special Needs

At Weeton Primary School we aim to provide a broad and balanced education to all pupils. Quality First Teaching is considered an entitlement for all pupils. Effective pupil tracking enables identification of pupils who may benefit from early 'intervention' at an appropriate level, i.e. Wave 2 or Wave 3.

We also recognise, and aim to make provision for, pupils who have a particular ability in mathematics.

Resources

There is a range of resources to support the teaching of mathematics across the school. Staff are encouraged to use practical and visual models to support children's learning in mathematics and in particular, when introducing a new concept, in order to uphold the Concrete-Visual-Abstract approach. We believe the CVA approach provides children with the varied steps necessary to embed new learning.

Responses to Children's Work

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/ challenges to support and enhance their understanding and make links between previous and new 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.

Monitoring and Review

Monitoring of the standards of children's work and of quality of teaching in mathematics is the responsibility of the headteacher/SLT and 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.

This policy should be read in conjunction with:

School Intent Statement

Mathematics Feedback and Marking Policy

Curriculum Policy

Teaching and Learning Policy

Assessment Policy

Inclusion Policy

This policy will be reviewed at least every two years.

Signed: N.Hunt

Date: November 10th 2022