West Witney Primary School and Nursery

Curriculum Information

Maths

EYFS, Key Stage 1, Key Stage 2

Introduction

At West Witney Primary School and Nursery, we recognise that maths is essential in everyday life. With this in mind, we ensure that children develop a positive and enthusiastic attitude towards mathematics that will prepare them for the next stage of education and stay with them throughout their lives.

At West Witney, we take a mastery approach to maths, supported by our use of materials from the National Centre for Excellence in the Teaching of Mathematics (NCETM). This means all our children progress through the learning together. We use concrete and pictorial resources to break down the learning into smaller steps to support and scaffold the learning and when children are secure with concepts, they have the opportunity to explore these in greater depth.

Intent

At West Witney Primary School and Nursery, the mathematics curriculum has been designed so that our learners gain a coherent knowledge and understanding of the different strands of mathematics; number, measurement, geometry, shape and space, statistics, ratio and proportion and algebra. Our curriculum design encourages an enthusiasm and curiosity to know more about all aspects of number. Using the National Curriculum as a basis, the mathematics programme of study has been mapped with focus, appropriateness, coherence and sequentially. There is a clear progression of substantive knowledge, Tier 3 vocabulary and links between strands of maths, to ensure all pupils achieve well. New knowledge and skills build on what has been taught before, setting the foundation for future learning. Enriching experiences are planned to ignite the children's passion for mathematics and help them gain disciplinary and semantic knowledge. The knowledge is planned and sequenced to ensure that all pupils become fluent in the fundamentals of mathematics, reason mathematically and can solve problems by applying their mathematics to variety of contexts. At West Witney, we use a mastery approach to ensure that all pupils can access and be successful across the full maths curriculum. This inclusive approach and its emphasis on promoting multiple methods of solving problems builds self-confidence and resilience in pupils.

Implementation

Mathematics teaching focuses on enabling children to think as mathematicians. We place an emphasis on developing fluency in the fundamentals of mathematics and give children the opportunity to reason mathematically and solve problems. This is achieved through our adaptive approach to the NCETM curriculum prioritisation documents where lessons are planned and delivered using the maths mastery principles; representation and structure, fluency, variation, mathematical thinking and coherence. We recognise and value the importance of high-quality teaching in combination with the concrete, pictorial, abstract approach to ensure the children's depth of learning is as secure as possible. We also help children to develop their mathematical thinking through sequencing the learning into small steps, the use of stem sentences and targeted questions designed to support and challenge. We recognise that in all classes, children have a wide range of capabilities in mathematics, and we seek to provide suitable learning opportunities for all children, by layering the depth of learning and challenge, using the mastery approach. Emphasis is placed on the development of disciplinary and substantive knowledge. A variety of teaching approaches are used, including: teaching presentations, discussions, questioning, recording, manipulatives, pattern-spotting, real-world contexts and role-play. These learning experiences are delivered so children are able to develop a greater understanding of mathematical concepts and can apply these to a range of contexts.

Impact

The impact of the mathematics curriculum at West Witney Primary School is the demonstration that the curriculum has been planned and delivered well. This can be seen through:

- Clear evidence that our children have shown progress and attainment in line with the National Curriculum.
- Our children demonstrate enthusiasm for the subject and can talk with confidence about maths.
- Our children demonstrate an understanding of a range of mathematical vocabulary that can be applied, confidently.
- As mathematicians, our children can use their skills to solve complex problems, reason logically and analyse patterns. They can confidently apply their understanding of number, shape, and measures in real-world contexts, demonstrating a deep knowledge of mathematical concepts. They 'know more' so they can make links between their knowledge from different strands of mathematics.

Recording

Maths at West Witney is recorded in the children's maths books. For the majority of lessons, learning is recorded in these books. However, in some instances, forms of learning may happen where recording in books is not possible or appropriate. Teacher, peer and self-assessment will be used to assess whether the day's learning objective has been achieved. A Learning Objective will be present in the children's books for every lesson where written recording is expected. Teachers will use their professional judgement to make this decision. Children will be given the opportunity to build their understanding and experiences through a variety of tasks that will allow them to show their mathematical knowledge.

Assessment

Teaching for mastery demands that teachers are confident about what each child knows and where their misconceptions lie: therefore, practical and effective assessment is vitally important. During the daily maths lesson, children will have the opportunity to answer key mathematical understanding questions in a verbal and written format, which will give the teachers an excellent understanding of how well children have understood the taught knowledge and skills. After each mathematical unit taught, teachers will make a summative assessment of whether the child is working towards the age-related expectation, at age related expectation or working at greater depth. Further summative assessment is carried out at three assessment points during the year when the children are assessed on their understanding of arithmetic and their reasoning and problem solving. To develop their personal awareness of their knowledge and learning, children will have the opportunity to self and peer assess against their learning objectives. Many other formative assessment strategies are used, including conversations with the children and the 'products' seen as a result of their learning. Formative and summative assessment are used together by teachers to gain a good understanding of the knowledge the children have embedded.

The maths journey at West Witney Primary School.

	Mathematical Knowledge		
Year	**Terms 1-2**	**Terms 3-4**	**Terms 5-6**
R	1. Match, sort and compare. 2. It's me 1,2,3. 3.Circles and triangles. 4. 1,2,3,4,5. 5. Shapes with four sides	1. Alive in 5 2. Mass and capacity 3. Growing 6,7,8. 4. Length, height and time. 5.Building 9 and 10 6. Explore 3-D shapes	1. To 20 and beyond. 2. How many now? 3. Manipulate, compose and decompose 4. Sharing and grouping 5. Visualise, build and map. 6. Make connections
1	1.Recap previous Reception experiences and counting within 100 2.Comparison of quantities and part–whole relationships 3. Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.	1. Recognise, compose, decompose and manipulate 2D and 3D shapes. 2. Numbers 0 – 10. 3. Additive structures. 4. Addition and subtraction facts within 10.	1. Numbers 0 – 20 2. Unitising and coin recognition. 3. Position and direction. 4. Time
2	1.Numbers 10 – 100. 2.Calculations within 20 3.Fluently add and subtract within 10. 4. Addition and subtraction of 2-digit numbers (part 1) 5.Introduction to multiplication	1.Introduction to multiplication (cont'd) 2.Introduction to division structures 3.Shape 4.Addition and subtraction of 2-digit numbers (part 2)	1. Money 2. Fractions 3. Time 4. Position and direction 5. Multiplication and division 6. Sense of measure
3	1.Adding and subtracting across 10 2.Numbers to 1000	1.Manipulating the additive relationship and securing mental calculation 2.Column addition 3. 2,4,8 times tables 4. Column subtraction	1. Unit fractions 2. Non-unit fractions 3. Right angles 4. Parallel and perpendicular lines in polygons 5. Time
4	1. Review of column addition and subtraction. 2. Numbers to 10,000 3. Perimeter 4. 3,6,9 times tables (Term 2 -3)	1. Understanding and manipulating multiplicative relationships. 2.Coordinates	1. Review of fractions 2. Fractions greater than one. 3. Symmetry in 2D shapes 4. Time 5. Division with remainders.

5	1.Decimal fractions 2.Addition and subtraction of money 3.Negative numbers 4. Short multiplication and division.	1. Area and scaling 2. Calculating with decimal fractions 3. Factors, multiples and primes	1. Fractions 2. Converting units 3. Angles
6	1. Calculating using knowledge of structures (1) 2. Numbers up to 10,000,000 3. Draw, compose and decompose shapes.	1. Arithmetic properties of number. 2. Area, perimeter, position and direction. 3. Fractions and percentages	1. Statistics 2. Ratio and proportion 3. Calculating using knowledge of structures (2) 4. Solving problems with two unknowns. 5. Order of operations. 6. Mean average

Strand of maths.	Number and place value	Number facts	Addition and subtraction
Multiplication and division	Fractions	Geometry	Other


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