What Maths looks like at Ledbury Primary School

We plan our creative curriculum so the children build a sense of belonging and being in the world in order to become skilled citizens.

At Ledbury Primary School we aim to ensure all our children leave at the end of year 6 with the skills and confidence to solve a range of mathematical problems that require fluency with numbers and reasoning. To give maths a purpose we make links between maths and the real world so children can see the relevance of developing these life skills.

Over the past few years we have worked hard to develop and improve the teaching and learning in mathematics, adopting a Mastery approach which underpins all learning. Planning, lesson delivery, classroom environment and assessment all reflect this style of teaching and learning.

The three aims of the NC should be addressed every day throughout our curriculum (Fluency – Reasoning – Problem Solving).

Curriculum Intent	**What a Maths lesson looks like in our school:** **- Whole class teaching -** We teach maths to the class as a whole and do not label children in specific groups – unless curriculum objectives from previous years need to be taught. Formative assessment provides an accurate starting point for all children and their current attainment for a specific mathematical concept. **- Longer and deeper –** In order to ensure that objectives are embedded securely, we plan for each lesson to cover one conceptual idea with opportunities to make connections across mathematical concepts where appropriate. To outsiders it may appear that the pace of the lesson is slower, but our aim is to ensure progress is enhanced and understanding is secure. Our assessment procedures recognise that the aims of the curriculum cannot be assessed through coverage (ticking objectives off a list) but through depth within a topic. **- Key learning points** are identified during the planning process and the learning journey is evident on flipcharts / working walls in the classroom. Planning books are used and when viewed alongside flipcharts for the lesson, show progression. Teachers use planning time to ensure creative lessons, probing questioning opportunities and greater depth challenges are prepared. Precise mathematical vocabulary is modelled by the teacher so that the children can use these for their verbal reasoning and written explanations of conceptual understanding. **- Fluency –** We recognise the importance of developing fluency in maths, so it is not just about remembering facts. Ultimately, we want our pupils to be confident in their explanations and reasoning in maths.

This is our philosophy:

- High quality modelling and scaffolding of skills leading to a deep understanding of concepts and fluency of methods
- Cross-curricular links wherever possible
- Children learning through exploring mathematical concepts and linking to real life situations where they are able to reason.
- Working at Greater Depth
- Haylock and Cockburn approach (Concrete/Images/Symbols/Experiences)
- The decision has been made that worksheets may be used in order to allow time to acquire skills

This is the knowledge, understanding and skills gained at each stage:

By the end of EYFS pupils will:

- Count reliably with numbers from one to 10, place them in order and say which number is one more or one less than a given number.
- Use quantities and objects to add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.
- Use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

By the end of Key Stage 1 pupils will:

- Develop confidence and mental fluency with whole numbers, counting and place value
- Use numerals, words and the four operations
- Recognise, describe, draw, compare and sort different shapes and use the related vocabulary
- Use a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money
- Know the number bonds to 20 and be precise in using and understanding place value
- Read and spell mathematical vocabulary

By the end of Lower Key Stage 2 pupils will:

- Be increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value
- Perform efficient written and mental calculations accurately with increasingly large whole numbers

	• Develop their ability to solve a range of problems, including with simple fractions and decimal place value • Analyse shapes and their properties, and confidently describe the relationships between them • Use measuring instruments with accuracy and make connections between measure and number • Memorised their multiplication tables up to and including the 12 multiplication table • Read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling **By the end of Key Stage 2 Pupils will:** • Understand the number system and place value to include larger integers • Make connections between multiplication and division with fractions, decimals, percentages and ratio • Develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation • Use the language of algebra as a means for solving a variety of problems • Classify shapes with increasingly complex geometric properties and use the vocabulary they need to describe them • Be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages • Read, spell and pronounce mathematical vocabulary correctly **Cultural Capital** Children are encouraged to use their mathematical intelligence, brainstorming, strategizing and solving problems. We promote creativity in the problem solving process through encouraging the identification and solution of significant problems.
Curriculum Implementation	**This is how it works:** • Reactive planning on a day-to-day basis • Children all have the opportunity to be further challenged within a lesson. All learning tasks are linked to the others - not just different tasks • Daily 10 minutes Basic Skills (Fast 5) focusing on Four Rules, Place Value, Doubling and Halving, Balancing the Equals, Number Bonds (or Fractions UKS2) so that the children are remembering more • Use of White Rose Hub and other resources to support working at greater depth • Use of TTRS / Funkey Maths to support learning both in class and at home • Many opportunities for Maths Talk • Children to use 'Prove It!' methods to show understanding of a concept before moving on to next step

	• Opportunities to learn from our mistakes **This is what adults do:** • Planning to include discrete focus on 3 aims of curriculum- Fluency, Reasoning and Problem Solving; reflection to then steer next steps learning and planning • Positive use of mistakes/misconceptions • Create a learning environment rich in resources that support learning • Regular book scrutiny, learning walks, pupil perceptions, staff audit • Whole school CPD • Raised profile of Mathematics through monthly round up of TTRS • Opportunities for parental involvement/support in all year groups **This is how we support and ensure access for all children, including SEND, EAL and PP:** • Small group/1-1 adult support then put into place For all other children: • We use teacher and self-assessment to quickly identify any child who requires additional support in specific areas **This is how we challenge:** • Small group work to further challenge • Reasoning and justification • Generalising and testing rules • Greater Depth challenges
Curriculum Impact	**This is what you might typically see:** • Happy and engaged learners • Paired/group work • Different representations of calculations • A range of different activities including practical and use of technology • Engagement and perseverance • Self-motivated children • Resilient learners • Children talking positively about maths, making links to real life learning **This is how we know how well our pupils are doing:** • Verbal feedback • Tracking • Pupil progress meetings • Teacher assessment • Analysis of assessments • Targeted use of LSPs to support individual children • Monitoring of children's progress

	This is the impact of the teaching: • Confident children who can talk about maths • Children who are enjoying their learning in maths • Depth of understanding/application in different contexts • Children ready for the next step in education Pupils develop detailed knowledge and skills and, as a result, achieve well. This is reflected in the work the pupils produce. Pupils are ready for the next stage of education. Pupils with SEND achieve the best possible outcomes from their starting point.