



Mathematics

How is the mathematics curriculum adapted for Lammack children?

At Lammack Primary School, our objective is to ensure that all children are able to think mathematically, solve problems and reason, using appropriate skills, concepts and knowledge. This is delivered through rich and enjoyable mathematics lessons, which utilise a cross-curricular approach. At Lammack, we aim to ensure that lessons are engaging and challenging, drawing upon a wide range of teaching styles and strategies, in order to cater for individual learners. Activities are differentiated to meet the needs of the class as required and children are encouraged to develop a 'can do' attitude in line with Lammack's school value of 'determination'. Mathematics is displayed throughout the school and every classroom has a mathematics display that highlights key language to support teaching and learning.

How this subject is taught

Daily mathematics lessons take place throughout school, from Foundation Stage to Year 6, and are based on the expectations of the EYFS and the National Curriculum for Mathematics. Teachers build in opportunities for challenge and support, use of manipulatives, scaffolds, appropriate adult intervention and questioning, challenge activities and differentiation help to ensure all children make progress.

Through these lessons, our goal is to ensure that all children:

- develop and nurture self-confidence in their ability to deal with mathematics and a positive attitude towards the subject;
- are able to work systematically and co-operatively, and display resilience;
- are able to think logically and independently;
- experience a sense of achievement regardless of age or ability;
- understand the appropriate underlying skills, concepts and knowledge of number, measurement, shape, space and statistics;
- are able to apply previously acquired concepts, skills, knowledge and understanding;
- are introduced to new and previously unfamiliar situations and problems, both in school and out;
- are able to communicate ideas, experiences and questions clearly and fluently with peers and adults, using appropriate mathematical language;
- are aware of the uses of mathematics beyond the classroom;
- are encouraged to use mental calculations and efficient, written strategies for calculations and to solve problems.

In a mixed class, children will work within groups most suited to their individual needs, and planning and delivery of lessons will reflect these needs.



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Foundation Stage

Mathematics is taught on a daily basis through short whole-class input, continuous provision, group work and individual activities. A typical mathematics morning in Reception will include a wide range of strategies, with children taking part in practical, engaging activities that bring real-life situations into the classroom. Learning will take place through direct teacher input, group work and independent activities, as pupils broaden and deepen their understanding of mathematical concepts through the use of continuous provision activities. The environment is language-rich and staff will intervene in children's play to extend and strengthen their knowledge of key mathematical skills. The key objectives for Reception are to develop understanding and depth of knowledge. Children will leave Reception with a grounding on which to build further mathematical skills.

In Reception, lessons will be taught with two main foci: number and number patterns. At the beginning of the academic year, a new number will be introduced each week, with the children learning about that number in depth, including ways of building and forming the number and where the number is positioned on a number line. Children will learn how to subitise and use this knowledge to support their ability to answer questions. Daily maths meetings are taught in line with the mastering number approach to support the use of language and key mathematical concepts. Children will move onto practical calculation strategies, number problems and applying their skills with number in many ways and using a range of practical equipment.

Teachers and teaching assistants will deliver interventions, as required, within the classroom to ensure that all children are able to achieve and reach their full potential.

Key Stage One

Year 1 classes start the year (Autumn Term 1) with longer maths sessions to embed prior knowledge and develop new learning, they complete longer maths sessions on alternating days, however a maths meeting is completed daily to allow the opportunity to practise key facts and for rapid recall. From the second half of the Autumn Term, Year 1 will begin a 45-60 minutes daily maths lesson. A typical 45 to 60 minute lesson in Years 1 and 2 will include oral work and mental calculation. Within these lessons, whole-class sessions will enable the children to rehearse and develop mental and oral skills to become more mathematically fluent. Rapid recall of key number facts is a priority and, with this in mind, we ensure that the children are continually developing a bank of number facts on which to draw. Pupils are encouraged to use a wide range of mathematical language, and to recognise its importance in communicating ideas.

The main teaching activities will include teachers' input, as well as activities in which pupils will benefit from a carefully planned balance of whole class, grouped, paired and independent work, which will challenge them at an appropriate level for their abilities. Children are given opportunities to work with a variety of children in their classes using a variety of collaborative learning strategies, particularly Kagan groups.



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Appropriate adult intervention, will address misconceptions, identify progress and summarise key facts and ideas that the children will be expected to recall later. Links will also be made to other areas of learning and to concepts covered previously, with discussions taking place regarding the next steps. Teaching in each class will be based on the objectives set out for their year grouping in the Mathematics National Curriculum. It will also take into consideration any 'gaps' in learning, and the attainment and progress of all children, including those with higher and lower than expected attainment and those who are disadvantaged.

Teachers and teaching assistants provide interventions to meet the needs of the children in their class, through the use of, in class interventions and interventions at other times throughout the day.

Key Stage Two

A typical 60 minute lesson in Key Stage Two will include oral work and mental calculation. This is often in the form of 'Fluent in Five', which concentrates on the children's use of appropriate mental and written methods for calculations and their ability to reason, using high level mathematical vocabulary. Pupils are encouraged to use a wide range of mathematical language, and to recognise its importance in communication and deep thinking. Rapid recall of key number facts is a priority and, with this in mind, we ensure that the children continue to develop the bank of number facts they have accrued previously.

Furthermore, lessons will include whole-class sessions, which will enable rehearsal and development of mental and oral skills to ensure greater mathematical fluency. A mastery approach will ensure that the level of children's knowledge and skills are identified through the solving of problems. Teachers' observations and assessment will advise them of the starting point for teaching; differentiation; and 'gaps' and misconceptions that will need to be addressed. The main teaching activities will include the teachers' input, as well as activities in which pupils will benefit from a carefully planned balance of whole class, grouped, paired and independent work, which will challenge them at an appropriate level for their abilities. Appropriate adult intervention, will address misconceptions, identify progress, and summarise key facts and ideas that the children will be expected to recall later. Reasoning and problem solving will be developed utilising fluency skills taught and the children's understanding of mathematical concepts. Links will also be made to other areas of learning and to concepts covered previously, with discussions taking place regarding the next steps. Teaching in each class will be based on the objectives set out for their year group. It will also take into consideration any 'gaps' in learning, and the attainment and progress of all children, including those with higher- and lower than-expected attainment and those who are disadvantaged.



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How this subject is assessed

Formative assessment will ensure that teachers continually assess the children's needs and levels of development, progress and attainment. This will also inform teachers in terms of necessary alterations to planning and teaching. Children's understanding and development will be formatively assessed through observations made during lessons and the subsequent marking of their work. Weekly times tables and mental arithmetic tests will take place to ensure that teachers have up-to-date cognisance of each child's progress in these areas of mathematics. Each term, teachers will use summative assessments to assess children's attainment and progress. The results of these assessments will also inform teachers' planning. Progress will be reported to parents at parents' evenings; through mid-year progress reports; in the end of year reports; and also through on-going dialogue between home and school.