

Mathematics



Intent

Mathematics is very important in everyday life and, with this in mind, the purpose of mathematics at Willington Primary School is to develop an ability to solve problems, to reason, to think and work systematically, logically and accurately. When teaching mathematics, we intend to provide a maths curriculum which caters for the needs of all individuals and promotes the necessary skills and knowledge for life-long learning. Whilst the programmes of study are organised into different topics, the children are encouraged to make links between these so they understand how the subject is interrelated. We intend for all children to be challenged and encouraged to do their best and succeed in Maths using fluency, reasoning and increasingly challenging problems and puzzles. We intend the children use a 'Concrete, Pictorial and Abstract' approach. This enables all children to experience hands-on learning when discovering new mathematical topics, therefore allowing them to have clear models and images to aid their understanding. Arithmetic and basic mathematical skills are practised daily to ensure key mathematical concepts are embedded and children can recall this information to see the links between topics in Maths.

Implementation

Teaching and learning:

Teaching and learning Quality First Teaching strategies are used to support all learners. Following the White Rose Maths small steps progression, the teachers plan and teach the maths curriculum using a concrete-pictorial-abstract approach to learning. This ensures that the children have a deeper understanding of each small step and mathematical concept. Maths lessons follow a similar format throughout key stages. In EYFS, children carry out indoor and outdoor maths activities after an NCETM mastering number session. In Key Stages 1 and 2, lessons begin with a review of previous skills in a 'Flashback Four' session. Following this, in all classes, lessons take the format of whole class teaching, individual and paired work, feedback and final questioning. Maths interventions based on various assessment for learning opportunities within the lessons take place as soon after the lesson has taken place, along with pre-teaching where necessary. In Key Stage 1, children also take part in NCETM mastering number sessions which supplement their normal maths lessons.

Resources:

Teachers use a variety of resources in their lessons, including manipulatives, White Rose Maths resources, nRich problems, I See Maths reasoning and problem solving questions, alongside past End of Key Stage test questions where appropriate. Times Table Rock Stars, and Numbots, are used throughout the school to further develop children's number facts, and children's effort is celebrated weekly on this. Throughout Key Stage 2, Fluency in Five arithmetic practice is carried out each morning during morning registration activities.

Environment:

Maths working walls are an integral part of each classroom where they are developed throughout the unit with the children. Medium term plans are used to support teachers with planning, with short term planning and slides used for further detail.

Impact

The impact of our mathematics curriculum is that our children, across all abilities, become fluent and confident mathematicians. Children will be confident in discussing and explaining mathematical concepts, using the correct mathematical language and reasoning. Due to following a mastery approach, children work through the curriculum at a similar pace. Our teachers are encouraged to use their professional judgement at all times, meaning that children are given sufficient time to learn and practise each area of maths before they begin learning about a different area of maths. This means that children are able to develop a deeper understanding of each area of maths. Formative assessments are ongoing each lesson and are carried out by all adults in the classroom, with children completing end of unit summative assessments up to two weeks after their maths unit has been completed. Standardised summative assessments take place every term in Years 3, 4 and 5 using the NFER Maths tests. In Year 2 and Year 6, summative assessments are carried out at least termly using previous End of Key Stage papers. Ongoing assessments are carried out in Reception, with teacher assessments carried out in Year 1 in the Autumn term, and using NFER papers throughout the rest of the year.