



Holy Trinity Church of England (Aided) Primary School

Curriculum Rationale

Maths

The Best for Every Child - a Unique Child of God

See how much the Father has loved us! His love is so great that we are called God's children — and so, in fact, we are (1 John 3:1)

Intent

It is our intent at Cookridge Holy Trinity to ensure that all our pupils leave Holy Trinity being aware that Mathematics is an integral part of everyday life. A high quality mathematics education provides a foundation for understanding the world, gives children the ability to reason mathematically and creates a sense of curiosity. We want our pupils to be competent mathematicians with an embedded understanding of number.

At Holy Trinity we aim to ensure our children develop an interest in Maths and a love of exploring number, pattern, shape and wider mathematical concepts. We want them to make links between the Maths they learn in class and the world around them, by providing opportunities to reason and problem solve. Through careful planning, objectives are sequenced, taught, assessed and revisited, to enable pupils to build successfully on prior learning and enter each year group ready for the next stage in learning.

It is our intent that children see Maths as an important subject that they will apply in many contexts, both within the school curriculum and the wider world and adult life. We want pupils to develop a solid understanding of number, through an increasingly wider knowledge of number facts, mathematical vocabulary, methods and approaches. Our aim is for children to children tackle the three key elements of Maths with confidence and resilience: fluency, reasoning and problem solving. We provide our children with the opportunity to practise skills through fluency work; discuss, debate and explain through reasoning work; and explore and apply through problem solving.

Conceptual variation and procedural variation are used throughout teaching to present the mathematics in ways that promote deep, sustainable learning. Carefully devised exercises employing variation are used, providing intelligent practice that develops and embeds fluency and conceptual knowledge. Precise questioning and open questioning techniques are used by teachers and teaching assistants to continually assess and extend learning. A thorough understanding of children's needs is assembled through thorough effective assessment, and combined with high expectations and ambition for all children to achieve. Learning is broken down into small, connected steps, building from what pupils already know.

At Cookridge Holy Trinity, we set high expectations for all our children to achieve their full potential without limiting their experiences in Maths. We expect our children to take pride in their work and understand the importance of showing their calculations and methods, and explaining their thinking to others.

Implementation

Our Maths curriculum is based on the mastery approach, which has been developed by working closely with the West Yorkshire Maths hub. It is essential to have continuity and progression throughout the Mathematics curriculum so that it provides structure, purpose and meaning. With this in mind, the school currently follows the White Rose Maths scheme of learning, supported by regular staff CPD (teachers and teaching assistants). The scheme provides each year with an overview of the strands to be taught, specific learning objectives and recap of prior learning. This allows children to become fluent, reason and solve problems mathematically using a range of manipulatives.

A balance between whole class, group and individual approaches in the teaching of Mathematics is used throughout the school, with an over-arching mastery approach so no child is left behind. The White Rose Maths calculation policies for the 4 operations inform the methodology, alongside a concrete-pictorial-abstract approach to allow children to become independent learners and thinkers. An agreed lesson design policy sets out a 'typical' lesson format, but we encourage creative approaches such as cross-curricular links, outdoor Maths and practical investigations to engage all pupils. A school-wide sentence stem agreement means pupils from Reception to Year 6 are aware of the different types of knowledge in Maths and can demonstrate this when talking about their learning:

1. **Declarative knowledge** can be prefaced with the sentence stem 'I know that' and consists of facts and concepts.
2. **Procedural knowledge** can be prefaced with the sentence stem 'I know how' and consists of a sequence of steps.
3. **Conditional knowledge** can be prefaced with 'I know when' and focuses on strategies to reason and problem solve.

The White Rose Maths scheme sets out the long term plan for the school, and is supplemented by the small step approach suggested by NCETM. Teachers plan and sequence their lessons using resources from both of these, along with other carefully sourced resources and stimuli. Maths lessons are engaging and cater for different learning needs within the class. Children have daily practise of fluency, reasoning and problem solving, with same-day or next-day intervention a feature of our teaching approach. Children are exposed to carefully chosen questions and representations to aid the achievement of learning objectives, and correct mathematical terminology is modelled, used and challenged, with clear progression through school.

Maths displays are a mix of topical facts and knowledge, day to day support (e.g. number lines) and examples of pupils' work as a model or as a celebration. Key vocabulary is displayed around the classroom, such as time telling aids around analogue classroom clocks. Each classroom has Maths manipulatives available to children, and children are encouraged to access these independently to support their learning, and taught how to select appropriate resources that might help. We believe in

discussion and reasoning as a vital part of developing mathematical understanding writing and value children' contributions in lessons to support their own learning and the learning of their peers.

In EYFS and Key Stage 1, emphasis is given to number facts to ensure a secure understanding and quick recall as they move through school. In Year 3 and 4 emphasis is placed on times tables (to 12x12) so by Year 5 and 6 children have a secure understanding and recall of number facts to support them through end of Key Stage assessments.

In EYFS and Year 1, children are taught correct number formation, this is then embedded throughout the rest of school. Interventions are put in place for those who need to continue to develop their gross or fine motor skills. Squared exercise books allow pupils to set out one digit per square and use ruler lines to aid neat presentation of calculations and workings – pencil is used for Maths.

Teachers mark the children's work in line with the marking policy. Marking is completed in red pen and children respond in green pen. Next steps are given to correct or consolidate.

Impact

By the time children leave Holy Trinity they will have made good progress from their own personal starting points. They will confidently be able to recall number facts, work fluently with number, reason about their mathematical thinking and decision making, and solve problems in a range of contexts. Children will be able to recognise the wider use of Maths in the curriculum (e.g. Science, cooking) and in the wider world. They will have experienced and celebrated Maths through our annual Number Day, in collaboration with another curriculum area. Most importantly, our children will have developed the mathematical skills to be ready for the next step in their education and understand and value its importance.

Teachers are continually assessing the impact of the curriculum through observation and discussions with pupils and colleagues. The impact is monitored through the school assessment system. Children's classwork is assessed frequently through:

- regular marking
- analysing children's errors
- questioning
- discussion
- use of plenaries
- self and peer assessment
- end of unit assessments
- AfL questions within the daily classwork (Testbase, diagnostic questions, White Rose resources)

Termly assessments are gauged using teach assessment and White Rose termly assessment, with SATs papers used in Year 2 and Year 6. Termly assessments and progress are recorded on Depth of Learning and discussed at termly pupil progress meetings. Interventions are reviewed and agreed at progress meetings.