

What Mathematics looks like in Holmer C of E Academy

Four basic elements run through our whole curriculum. Through the mathematics curriculum, we foster wisdom, hope, cooperation and respect to enable every child to flourish in the fullness of life.

Curriculum Intent

What a Maths lesson looks like in our school:

- Differentiated ability groupings, however provision for flexibility to enable children to work with different people over the course of time, depending on their skills/confidence in the different focuses.
- Steps to Success – children can see where they need to get to and how they will get there
- Daily Basic Skills
- Tara Loughran reasoning opportunities
- Maths Talk
- Mini plenaries to share misconceptions, pose questions, challenge ideas
- Independent use of Maths Toolkits in all classrooms

This is our philosophy:

- High quality modelling and scaffolding of the skill leading to...
- Fluency of the method with...
- Reasoning at the heart of everything to facilitate...
- Working at Greater Depth
- Haylock and Cockburn approach
(Concrete/Images/Symbols/Experiences)
- Cross-curricular links wherever possible.

This is the knowledge and understanding gained at each stage:

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
Curriculum Implementation	This is how it works: • Reactive planning using TA on a day-to-day basis • Teachers use TA/previous STS to determine appropriate initial entry point for each child. Hereon in, the children use steps to success to recognise what they have achieved and what they need to learn next. 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 focusing on Four Rules, Place Value, Doubling and Halving, Balancing the Equals, Number Bonds (or Fractions UKS2) and remembering more. • Use of Tara Loughran Reasoning challenges throughout all units. • Use of NECTM, White Rose Hub and Classroom Secrets to support working at greater depth. • Use of TTRS /Education City (depending on the year group) to support learning both in class and at home. • Consolidation and remembering more homework following whole school template (Y2-6). • Many opportunities for Maths Talk • Children to use 'Prove It!' methods to show understanding of a concept before moving on to next step

- Pre-teaching and/or immediate interventions to prepare children for learning the next day.
- Opportunities to learn from our mistakes

This is what Adults do:

- Planning documents includes 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, planning audits, pupil perceptions, staff audit
- Whole school PD
- Raised profile of Mathematics in Maths Days, Clubs, UK Maths Challenge and whole school Maths Trail
- Opportunities for parental involvement/support in all year groups

This is how we support:

For children requiring a 'block' of intervention in addition to main class teaching:

- Children are assessed on entry point (using Sandwell).
- Clear targets are highlighted and prioritised
- 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.
- Then they receive pre-teaching or immediate intervention to ensure they have sufficient skills in place to access the next teaching.

This is how we challenge:

- Differentiation planned from very start of lesson
- Small group work to further challenge
- Reasoning and justification
- Generalising and testing rules
- Opportunity for some to participate in Maths Challenges beyond the school

Curriculum Impact

This is what you might typically see:

- Happy and engaged learners
- Open ended investigations- low threshold/high ceiling tasks
- Different representations of calculations
- Paired/group work
- A range of different activities including practical and use of technology
- Engagement and perseverance
- Self-motivated children
- Resilient learners
- Children talking positively about maths, sharing and reflecting on their learning and how it relates to real life situations

This is how we know how well our pupils are doing:

- Tracking
- Pupil progress meetings
- Teacher assessment/ targets
- Marking and feedback
 - Forensic analysis of test / assessment results
- Photo evidence/QR codes
- Targeted use of TAs
- Monitoring of children's progress on STS displays

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

