

Holymead Primary School

Mathematics Policy February 2021

Rationale

The Mathematics National Curriculum 2014 aims for all children to become fluent in the fundamentals of maths, reason mathematically and to solve problems.

At Holymead Primary we seek to meet these aims by:

- Developing a positive attitude to mathematics in all learners
- Developing a strong understanding of number and calculation
- Develop children's reasoning, logical thinking and problem solving skills
- To ensure that all children will be given the opportunities to develop their mathematics skills regardless of gender, race, ability, culture or ethnicity
- To provide rich mathematical experiences, where children can apply their knowledge of mathematics to everyday life
- To explore and enjoy the patterns in mathematics and to solve a wide range of puzzles and problems

Organisation of the Curriculum

The EYFS framework and National Curriculum form the basis for our long term planning: setting out the expectations in each year group. The medium term planning organises the topics systematically term by term. Short term weekly plans are prepared for daily teaching. Children are taught Maths by their class teacher in mixed ability classes.

Teaching and Learning

At Holymead Primary School we recognise the need to create a curriculum that balances the need for a procedural understanding of number and the operations, alongside a deeper conceptual understanding of the links between topics. This will be achieved through using rich tasks [Nrich, NCETM Progression with Reasoning documents, NCETM Teaching for Mastery, White Rose Maths documents] and other problem solving and reasoning resources.

The emphasis during teaching follows mastery principles so that:

- future mathematical learning is built on solid foundations which do not need to be re-taught
- children are supported through interventions to meet the age related expectation each year – including flexible rapid response groups
- children are better able to keep up with their peers, so that gaps in attainment are narrowed and attainment of all is raised.

Teachers will plan units of work that last for three to four weeks. The units will address misconceptions and common difficulties with topics. This allows a full in-depth immersion where the maths can be fully explored and enables connections to be made ensuring pupils gain the solid foundation that can be built upon over time.

Lessons will vary in structure so that over time there is a mixture of direct teaching of the whole class or small guided groups, mental calculation and reasoning activities, lesson starters or plenaries, independent activity and group work promoting co-operative learning. Children will also have regular opportunities to practise their arithmetic skills over the course of a week, so that they can solve age related calculations independently.

Holymead Primary places a significant emphasis on using a range of practical equipment and visual images to support children's mathematical development, for example Numicon, Dienes equipment Cuisenaire Rods and pictures/diagrams to represent problems [including use of bar modelling].

The variation of concrete, pictorial and abstract representations are designed carefully to draw attention to the mathematical structure. Teachers are encouraged to move back and forth between representations (concrete, pictorial and abstract) so that children can fully explain new concepts using mathematical language.

Supporting Disadvantaged/CIC

- Rapid Response Intervention
- Numicon interventions in EYFS/Y1/Y2
- Tracking of raw scores and target tracker statements in pupil progress meetings
- 1:1 provision to meet expected standard
- Identify pupils in middle/higher sets to ensure conversion to Greater Depth based on prior attainment
- Use of online learning platforms or apps so support learning

Homework

At Holymead Primary, homework will be set regularly in KS1 and KS2 to ensure that children become competent at the recall of number facts, times tables and the use of calculation methods (see Calculation Policy). This will be achieved by using a mixture of written tasks, times tables practice including Times Table Rockstars and Numbots). Teachers will also set homework that follows up content previously taught to reinforce concepts or deepen understanding through challenges.

Assessment

At Holymead Primary we see assessment as an integral part of the teaching process and strive to make our assessments purposeful and useful to the next steps of teaching so that learning is matched to each child's needs.

Marking will celebrate what has gone well, and also identify the child's next step in their learning. Marking will also be used to diagnose errors, and to set further questions to address a misconception or set a probing question to extend thinking by editing and adapting the next day's teaching and learning. Children will correct their errors using their editing pens so they are able to recognise what they need to do. Marking will help to identify the children who need additional practice at a particular skill and should access the Rapid Response Group.

DART time (Dedicated Assessment and Reflection Time) is set weekly by the class teacher and will be personal to each child's needs. The focus for DART is the recall of number facts and times tables.

Class teaching, the use of times table practise and daily arithmetic and heat maps on Times Table Rockstars and Numbots will support with identifying areas for individuals.

Teachers will use results of formative assessments (Numicon testing, Target Tracker steps, skills audits, arithmetic tests, times table test) and summative assessment (Optional SATS testing / NFER Tests) to inform the planning for groups and individuals within their classes.

Following assessments, some children will be identified for intervention groups, these include Numicon, one to one tuition, groups designed to target misconceptions that arose in assessments including Rapid Response.

Monitoring, Evaluation and Review

The subject leader will monitor the planning and class books to ensure the objectives for each year group are systematically planned.

There will be regular observations of lessons, review of weekly plans and work reviews to ensure continuity, progression and quality marking.

The EYFS Profile will record children's achievements. KS1 and KS2 teachers will use Target Tracker to inform their teacher assessment.

Target Tracker steps will be used to track children's progress three times per year.

Data analysis will inform intervention planning for year groups, groups of pupils (pupil premium, EAL, gender) and individual children.

Pupil conferencing will take place throughout the year to evaluate children's mathematical experiences and inform future planning and events.

EYFS Profiles, KS1 and KS2 SATS results will be analysed to inform future training needs and to identify trends that can be addressed.

The curriculum, standards and inclusion committee will monitor the progress data and impact of new initiatives.

Contribution of Maths in other curriculum areas

Confidence in mathematics is essential for pupils to successfully apply their skills and reasoning in other subjects, particularly in science, geography and design & technology.

The opportunities for teaching maths in the other curriculum are identified on the medium term overview for each termly topic. Links should be purposeful and provide a context for applying a range of mathematical skills including: measures, estimates, probability, pattern spotting as well as the cycle of collecting, presenting and analysing data.

Teachers are expected to include data handling within science lessons at least once per term.

SMSC

There will be opportunities planned in the mathematics curriculum for pupils to work collaboratively to develop their communication and team working skills. This is important so that pupils can verbalise their reasoning, as well as developing positive attitudes to maths.

By making links in the curriculum, children will be able to explore the cultural influences of mathematics – particularly in the arts.

To allow our AIM pupils to develop their mathematical communication and cooperative learning skills, we will take part in any local, regional and national mathematics challenges or workshops throughout the year.

Parental Involvement

We encourage parents to be involved in their child's learning by:

- Inviting parents to mathematics workshops about calculation methods and times tables
- Inviting parents with their child, to workshops where parents can work alongside their child
- Working with parents in Y2 and Y6 to support children with the end of key stage assessments
- Publishing information about the maths curriculum for each year group on our school website
- Supporting their child at home with times tables, calculation methods, maths games and homework

Conclusion:

It is the aim of the school, to raise levels of achievement in mathematics by promoting a positive attitude and providing rich mathematical experiences. Children should view themselves as mathematicians that are able to apply knowledge, skills and understanding to everyday life, but to also enjoy and appreciate the abstract nature of mathematics.



UNICEF CRC Article 29

Education must develop every child's personality, talents and abilities to the full.

Reviewed February 2021 by Laura Dunk and Danielle Payne

To review February 2023