Holymead Primary School

Mathematics Policy October 2015

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.

In the EYFS, KS1 and Year 3 children are taught in mixed ability classes. From Year 4, children are organised into ability sets.

Able, interested and motivated (AIM) mathematicians in Year 6 will work with the maths leader to develop mathematical reasoning and language to a higher level

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] 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

• 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.

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].

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 and the online learning platform My Maths. Teachers will also set follow up homework to 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 through regular DART time (Dedicated Assessment and Reflection Time).

Teachers will use results of formative assessments (Numicon testing, Target Tracker steps, skills audits) and summative assessment (Optional SATS testing / Arithmetic Tests) to inform the planning for groups and individuals within their classes / maths sets.

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

Children in KS1 and KS2 will be set individual targets based on their personal needs in number and times tables development. Meeting the targets will be celebrated with target certificates.

Monitoring, Evaluation and Review

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

There will be regular observations of lessons, review of weekly plans and work scrutinies 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.

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
- 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 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.

October 2015, Review October 2017

Linked Documents:

Calculation Policy

Progression in Fractions Overview

Use of Numicon Guidance

Times Tables Expectations