

## **Holymead Primary School**

### **Mathematics Policy January 2018**

#### **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. In Year 4,5 and 6 children are organised into ability sets.

#### **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 a range of quality resources including: NCETM Progression with Reasoning documents; NCETM Mastery resources; White Rose Maths documents; Maths No Problem textbooks; Nrich website.

Our approach 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 structured interventions (e.g. Numicon) as well as rapid response groups to overcome misconceptions and difficulties
- 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 into

topics where the maths can be fully explored. It 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 part-part-whole and bar modelling].

The different types concrete, pictorial and abstract representations are utilised 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 & SEN pupils**

- Numicon interventions
- Tracking of raw scores and target tracker statements in pupil progress meetings
- 1:1 provision to meet expected standard
- Identify and track pupils in middle/higher sets to ensure conversion to Greater Depth based on prior attainment
- Use of online learning platforms or apps to support learning (e.g. Doodle Maths)

#### **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 and online learning (Times Tables Rockstars and Number Gym). 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 will also be used to diagnose errors and misconceptions for correction in DART time (Dedicated Assessment and Reflection Time). Marking will inform the children attending rapid response intervention groups. 'Pink to think' and 'Star Challenges; will be used to set further questions to deepen thinking.

Teachers will use results of both summative and formative assessments (NFER Tests, mock SATS, arithmetic tests, Target Tracker steps, EYFS early learning goals, times table 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 times table targets based on their personal needs. Meeting the targets will be celebrated with target certificates.

### **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 every term.

Data analysis will inform intervention planning for year groups, groups of pupils (pupil premium, pupil premium plus, 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 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.

January 2018, Review January 2020

Linked Documents:

Calculation Policy