



Maths Policy

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Date for review:	
Signed:	Headteacher
Signed:	Chair of Governors



Mathematics Policy

Heygarth Primary School

'Learning and Achieving Together for Life.'

Our Vision

At Heygarth Primary School, we strive to prepare pupils with confidence and resilience to tackle mathematical problems independently. This will help our children function in a mathematical world.

Maths lessons at Heygarth empower pupils to explore and challenge mathematical ideas together. We encourage children to be inquisitive and think deeply about mathematical concepts. To be able to do this consistently across the whole school, all year groups follow Maths - No Problem! (Foundation Stage use key concepts from the lesson structure, ensuring children are well-equipped for Year 1).

This effective scheme encourages all children to develop their initial understanding, mathematical reasoning and problem solving. Regardless of age, children are encouraged to use concrete equipment. They draw their thinking and finally explain what they think in their own journal. Children then apply their knowledge to the workbook.

Through thorough teacher assessment and teaching of the highest standard, immediate interventions take place to ensure each child achieves their very best.

Communication is at the heart of lessons with pupils leading discussion, whilst teachers effectively facilitate worthwhile conversation. To prepare pupils to be efficient, effective mathematicians, a deep understanding of number sense, arithmetic skill and reasoning is promoted throughout their education. Exploring mathematics is exciting, inspiring and impacts the future of our pupils.

Aims

(As stated in the National Curriculum 2014)

"The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on."

Planning and Delivery (Years 1-6)

Mathematics is taught every day (within reason) for 1 hour. Years 1-6 follow Maths - No Problem!, delivering lessons in a consistent approach across the school. This scheme follows a CPA approach, so within the delivery of each lesson, teachers will provide appropriate resources to aid children's understanding of the concept being taught. This visual, concrete tool helps to deepen children's understanding and scaffolds them towards the next step of drawing what they notice and then consolidating what they have learnt in an abstract form.

Teachers will spend a good proportion of the lesson encouraging the children to explore their own thoughts. Through specific questioning, children's ideas will be challenged and their levels of curiosity raised. Once the main exploration of the lesson has been accomplished, the children will then reflect on their learning and complete their own individual journal. Following on from this, the children complete the Guided Practice (usually with peers or as a whole class) and then complete their workbook independently. The workbook consolidates what they have learnt so far and can often challenge the children, to deepen their understanding of the concept. This part of the lesson moves towards the abstract stage of learning.

In addition to the Maths - No Problem! scheme, arithmetic lessons are also taught to develop children's fluency, reasoning and critical thinking skills.

Maths in EYFS

EYFS also follow the CPA (Concrete, Pictorial, Abstract) approach.

Concrete: involves the use of objects such as sticks, pebbles, cubes etc to aid counting, numeric operations such as addition and subtraction.

Pictorial: involves children drawing pictures to represent their mathematical thinking and problem solving

Abstract: involves writing number stories/sentences as equations e.g. $3 + 2 = 5$

Children look at one number at a time to secure composition and cardinality of numbers to 10 and during this time they also look at time, shape, space, money etc so that we are delivering a rounded mathematical educational programme.

Number activities, problems and resources are available at all times in and around the EYFS environment and are an integral part of Continuous Provision.

Maths homework is sent home bi-weekly in F2 and there is a focused adult-led maths session 4 days a week.

Early Years use Anno's World to introduce each number but do not follow a scheme.

The children record what they have learned about a number/ concept in a journal at the end of each week, which prepares them for their transition into Year 1.

Technology

Calculators should not be used as a substitute for good written and mental arithmetic. They should therefore only be introduced near the end of Key Stage 2 to support pupils' conceptual understanding and exploration of more complex number problems, if written and mental arithmetic are secure.

Children are encouraged to use iPads and/or computers to develop their arithmetic skills and enhance Times Table knowledge. All children in school between Years 1 and 6 have access to Numbots and TT Rockstars.

A range of apps are accessed to support the children's learning across the school.

Assessment and Monitoring

Using the 'Balance' tool for assessment, teachers make regular formative judgements, focusing on learning that has taken place and to plan next steps. Strengths and areas for development will be identified and addressed. Immediate verbal feedback is regularly given to children during the lesson and through effective marking and using Balance, the children have a target or challenge to help them achieve the next step in their learning.

Children in Years 2 and 6 complete the statutory summative assessments (SATs) in May.

Parents' evening takes place twice throughout the academic year and a formal report is written at the end of the year, to guide parents and update them on their child's progress. This time is also used to highlight next steps to secure good progress.

The teaching and assessment of mathematics is monitored through regular learning walks and half termly 'book-looks'. Teachers receive feedback, highlighting what is working well and identifying areas for improvement.

Staff receive PDM (Professional Development Meetings) linking to this particular subject area and we work closely with other schools, through the Maths Hub, to constantly review how we teach and assess mathematics.

Regular monitoring of maths aims to achieve:

- Insight into the nature of maths teaching across the school;
- It gives class teachers the opportunity to review their own practice and discuss teaching maths with a subject specialist;
- It gives the maths leader an insight into areas of strengths, enabling good practice to be shared amongst colleagues;
- It allows resources to be audited and for the assessment of current and future resource requirements;
- It allows the maths leader to set targets, demonstrating the school's commitment to self-evaluation and improvement of standards in maths;
- It provides opportunities for bespoke support for areas of need.

Inclusion

We recognise that supporting access to mathematics for all pupils is crucial. The range of needs include those for whom language and communication difficulties are the result of sensory or physical impairment; for some, English may be an additional language requiring additional support; pupils may have a speech and language delay, impairments or disorders, specific learning difficulties as a result of dyslexia, dyspraxia or ADHD. Other difficulties in communication/interaction may have arisen from a disrupted education through illness or early childhood trauma.

At Heygarth we ensure that we are aware of barriers to learning and we endeavour to meet the needs of all pupils in our school.

Communicating ideas and understanding:

- Consider a variety of methods for communicating ideas;
- Adopt a multi-sensory approach;
- Try not to introduce more than one concept at a time;
- Consider how technical words are introduced;
- Use physical movement to help remember concepts;
- Enable opportunities to discuss ideas in pairs;
- Key vocabulary displayed on a working wall.

Equal Opportunities

All teaching and non-teaching staff at Heygarth Primary School are responsible for ensuring that all pupils irrespective of gender, ability, ethnicity and social circumstance, have access to the curriculum and make the greatest possible progress and achievement, in line with the Equality Act 2010.

Health and Safety

The vast majority of mathematics learning takes place in class, or in an outdoor learning area, and each classroom has their own health and safety board specific to that learning environment. They also have a personalised risk assessment.

Staff are aware that using smaller manipulatives, such as dienes, counters and/or money, could be a choking risk. Specific and clear instructions are given about how to use equipment appropriately.

If children need to use scissors in class, there are clear rules about how to move around the classroom with scissors and the children should be using them sensibly. Adult support should be on hand to reduce risk and help those with poor fine motor skills.

Role of the Subject Leader

At Heygarth, the Maths Subject Leader is responsible for a consistent approach to teaching maths throughout the school. This is done through regular conversations with colleagues, as well as routine learning walks and book-looks.

The Maths Subject Leader needs to know all staff are confident and secure delivering the Maths - No Problem! scheme and any new members of staff undergo training. Through moderation meetings and CPD offered, staff will be confident assessing children's progress in maths and able to input their observations into 'Balance'.

The Maths Subject Leader needs to ensure all staff are kept up to date with new research and findings to improve the teaching and learning at Heygarth. Staff need to be updated if there are any amendments made to the core curriculum - be it content taught or tools for assessment - and any new published documents from the government to be sent to all, or appropriate, staff.

If staff feel confident teaching mathematics, as a result of good support and training from the subject lead, pupils will also feel confident. They will be engaged in their maths learning and feel naturally curious - questioning the concepts learnt. A good understanding of maths will help prepare our children for a successful future.

The Maths Subject Lead will also work with families, ensuring parents feel supported and know how to support their child's maths journey at home.

Role of Governors

The role of the link governor for maths is based on trust, openness and transparency. They know the school well. They will support the monitoring of maths, ask questions for clarification or explanation and challenge.

Conclusion

It is the responsibility of all staff at Heygarth Primary School to share the love of learning in mathematics and to model the curiosity in their everyday lives.

Mathematics Policy written by: Mrs N. Furlong (Maths Subject Lead)

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