

Heritage Park Primary School

Maths Policy



Approved by: Miss Karen Bell (Headteacher)

Last reviewed on: March 2021

Next review due by: March 2022

Statement of intent

“Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history’s most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.”

(The National Curriculum in England framework document, July 2013)

At Heritage Park Primary School all children are encouraged to see mathematics as an interconnected subject and to make connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. We aim to teach children the essential skills and knowledge to develop an understanding of the world and to create a natural curiosity and love for maths as a subject. Heritage Park Primary School offers an engaging mathematics curriculum and high-quality teaching to produce individuals who are numerate, creative, independent, curious and confident mathematicians.

Through a positive, caring environment and a growth mindset approach, Heritage Park Primary School aims to build learners’ resilience and perseverance. All children are helped to 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, to reason mathematically and to solve problems and to be prepared for when they leave to go to Secondary school. We encourage them to value the importance of mathematics in everyday life and to be prepared for a successful working life through the quality teaching and learning of mathematics.

Legal framework

This policy has due regard to statutory guidance including, but not limited to, the following:

- DfE (2013) ‘National curriculum in England: Mathematics programmes of study’
- DfE (2020) ‘Statutory framework for the early years foundation stage’ EYFS reforms early adopter version

Early Years provision

Developing a strong grounding in number in the Early Years is essential so that all children develop the necessary building blocks to excel mathematically. Children will be taught to count confidently and to develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.

Frequent and varied opportunities will be provided to build and apply this understanding - including using manipulatives, such as small pebbles and tens frames for organising counting. Children will be helped to develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition to working towards the age related expectations for maths at the end of the Foundation Stage curriculum, the Early

Learning Goals for Number and for Numerical Patterns, the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures.

Children will be encouraged to develop positive attitudes and an interest in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and to see mistakes as learning opportunities.

The National Curriculum

A maths mastery approach is taken to the curriculum, in which fluency comes from deep knowledge and practice. Structured questioning is used to ensure that pupils develop fluent technical proficiency and think deeply about the underpinning mathematical concepts. Focus is put on the ability to make connections, with the aim of ensuring that what is learnt is sustained over time.

Mathematical concepts are introduced using a 'Concrete, Pictorial and Abstract' approach; enabling all children to experience hands-on learning when discovering new mathematical topics and allowing them to have clear models and images to aid their understanding. Sustained levels of challenge are incorporated through varied and high-quality activities with a focus on procedural and conceptual fluency, reasoning and problem solving. Pupils will 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.

Emphasis is given to mathematical language and questioning so pupils can discuss and explore the mathematics they are doing, supporting them to take ideas further and to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language. Children are valued for the contributions they make and are encouraged to value the contributions of others.

Pupils will undertake independent work, and have the opportunity to work in groups and discuss work with fellow classmates.

Lessons will allow for a wide range of mathematical, enquiry-based research activities, including the following:

- Questioning, predicting and interpreting
- Pattern seeking
- Collaborative work
- Problem-solving activities
- Classifying and grouping

The classroom teacher, in collaboration with the subject leader, will ensure that the needs of all pupils are met by:

- Setting tasks which can have a variety of responses.
- Providing resources and tasks of differing complexity, according to the attainment of the pupils, providing differing levels of challenge.
- Utilising teaching assistants to ensure that pupils are effectively supported.

Roles and responsibilities

The classroom teacher is responsible for:

- Acting in accordance with this policy.
- Ensuring progression of pupils' mathematical skills, with due regard to the national curriculum.
- Planning lessons effectively, ensuring a range of teaching methods are used to cover the content of the national curriculum.
- Liaising with the subject leader about key topics, resources and support for individual pupils.
- Monitoring the progress of pupils in their class and reporting this on an annual basis to parents.
- Reporting any concerns regarding the teaching of maths to the subject leader or a member of the senior leadership team (SLT).
- Undertaking any training that is necessary in order to effectively teach the subject.

The special educational needs coordinator (SENCo) is responsible for:

- Advising staff how best to support pupil's needs.
- Advising staff on the inclusion of mathematical objectives in pupils' Personal Support Plans (PSPs).
- Advising staff on the use of teaching assistants in order to meet pupils' needs.

The subject leader is responsible for:

- Preparing and reviewing policy documents, curriculum plans and schemes of work for the subject.
- Reviewing changes to the national curriculum and advising on their implementation.
- Monitoring the learning and teaching of maths, providing support for staff where necessary.
- Ensuring the continuity and progression from year group to year group.
- Encouraging staff to provide effective learning opportunities for pupils.
- Helping to develop colleagues' expertise in maths.
- Organising the deployment of resources.
- Communicating developments in the subject to all teaching staff.
- Organising, providing and monitoring CPD opportunities in the subject.
- Ensuring common standards are met for recording and assessing pupil performance.
- Advising on the contribution of maths to other curriculum areas, including cross-curricular and extra-curricular activities.
- Collating assessment data and setting new priorities for the development of maths in subsequent years.
- Providing a termly impact report to keep the Headteacher, governors and staff informed, regarding the school's maths provision.

Planning

At Heritage Park Primary School, maths is taught daily as a discrete lesson and as part of cross-curricular themes when appropriate. Fortnightly arithmetic tests are alternated with an arithmetic strategies session, in addition to the daily maths lesson. All relevant staff members are briefed on the school's planning procedures as part of their induction training.

Long term planning is detailed in the programme of study in the 'National curriculum in England: mathematics programme of study', published in 2014. These are set out for KS1 and KS2, as the key objectives to be taught within each year group.

Medium term planning is based on the blocks of work set out in the White Rose scheme of work. This curriculum also provides pedagogic advice for teachers and premium teaching and learning resources are available via our White Rose subscription. Blocks of work use a Concrete, Pictorial and Abstract approach to guide children through their understanding of mathematical processes using 'small steps' and supporting all learners to deepen their understanding. Decisions about when to progress to a new step or to break down the step further are based on the security of children's understanding and their readiness to progress, in line with the non-statutory Mathematics Guidance for Key Stage One and Two (DfE 2020). Activities enable children to explore real-life problems, thus promoting the value of mathematics in everyday life.

Short-term planning is the responsibility of the classteacher. Plans take into account pupils' needs and identify the method in which topics could be taught, along with common misconceptions. All lessons will have a clear learning intention, which are shared and reviewed with pupils.

Short-term plans will be shared with the subject leader to ensure there is progression between years. Support with planning maths is offered to Early Career Teachers as part of their induction.

Assessment and reporting

Assessment will be undertaken in various forms, including the following:

- Talking to pupils and asking questions
- Discussing pupils' work with them
- Marking work against the learning intention
- Pupils' self-evaluation of their work
- Classroom tests and formal exams

Formative assessment, which is carried out informally throughout the year, enables teachers to identify pupils' understanding of subjects and inform their immediate lesson planning. Children will be provided with feedback either verbally or through written marking. When marking work teachers should adhere to the school's Feedback and Marking Policy.

A baseline assessment of maths skills is completed upon entry into the Reception class. The EYFS Profile will be completed for each pupil in the final term of the year in which they reach age five. The progress and development of pupils within the EYFS is

assessed against the early learning goals outlined in the 'Statutory framework for the early years foundation stage'.

In Years 1 to 5, children will complete termly PUMA tests which will produce a standardised score. These will be used as part of teacher assessments. Year 6 will complete the autumn and spring tests only, as their summer assessments will be based on SATs results. In the summer term, Year 2 will sit both their SATs test and the PUMA tests. Children in Years 1 to 6 will complete fortnightly arithmetic tests using the 'Weekly Written Arithmetic Questions' resources.

In the summer term of Year 4, pupils complete the Multiplication Tables Check (MTC) to determine whether they can recall their times tables fluently: essential for future success in mathematics. Additional support will be provided for those pupils who have not mastered their times tables.

Following the termly assessments, all teachers will provide the Headteacher and SLT with a copy of the results and an outline of areas for development based upon their test analysis. The assessments and analysis will be discussed within termly pupil progress meetings, attended by the classteacher and the SLT and any necessary actions put in place.

Results of summer term assessments and information regarding a child's attainment in maths will be discussed within a 'handover' meeting, with the pupil's next teacher.

Resources

The subject leader is responsible for the management and maintenance of maths resources, as well as for liaising with the school office manager in order to purchase further resources. The subject leader will undertake an audit of maths equipment and resources on an annual basis.

Maths equipment and resources are easily accessible to pupils during lessons.

Home and School Links

Mathematics is given as a homework subject, in accordance with the homework policy and comprises of practice of times table recall using Times Table Rock Stars or on Maths Shed. Clear instructions and regular monitoring of homework completed is to be carried out by the classteacher.

Regular communication on maths teaching and learning at Heritage Park Primary School will be posted via 'Really School', Google Classroom and/or Tapestry.

Verbal information about their child's progress and attainment will be provided to parents at consultations during the Autumn and spring terms. Parents and Carers will be provided with a written report during the Summer term.

Equal opportunities

All pupils will have equal access to the maths curriculum. Gender, learning ability, physical ability, ethnicity, linguistic ability and/or cultural circumstances will not impede pupils from accessing all maths lessons. Lessons will be adapted to meet the pupil's

needs and alternative arrangements involving extra support will be provided where necessary.

All efforts will be made to ensure that cultural and gender differences will be positively reflected in all lessons and teaching materials used.

Special Educational Needs and/or Disabilities.

The expectation is that most pupils will move through the programme of study at broadly the same pace. Teachers set high expectations for every pupil, whatever their prior attainment. Lessons are planned to address potential areas of difficulties for all children and to remove barriers to pupil achievement. Some children will require additional scaffolding and support within a small step.

Where a child has been identified as having a Special Educational Need or Disability (SEND) they will receive additional support within the classroom from the class teacher and the class teaching assistant and/or 1:1 teaching assistant. The SENCo, along with the class teacher, will monitor the progress of these children through their PSP and or Educational Health Care Plan (EHCP) targets and staff discussions. Staff may follow recommendations from external agencies, when planning their lessons and preparing resources, in order to provide quality first teaching to all pupils.

Children who grasp concepts rapidly are challenged through being offered rich and sophisticated problems before any acceleration through new content.

Monitoring and review

Maths is monitored regularly by the subject leader. The Senior Leadership Team (SLT) are responsible for ensuring the findings of monitoring lead to positive change and improvement. The SLT organise Professional Development and training according to the targets set out in the School Development Plan (SDP). Staff individual needs are assessed through performance management meetings, staff meetings, book scrutinies and lesson observations.

This policy will be reviewed on an annual basis by the subject leader and any changes made will be communicated to all teaching staff.

This policy should be read in conjunction with the school's Calculation Policy, Feedback and Marking Policy and the Special Educational Needs policy.

Conclusion

By following this policy, we at Heritage Park Primary School seek to develop as fully as possible the knowledge and understanding of mathematics in all the children in our care.