



Maths Policy

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Introduction

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.

(National Curriculum 2014)

The aims of the 2014 National Curriculum are for our pupils to:

- Become fluent in the fundamentals of mathematics through varied and frequent practice with complexity increasing over time.
- Develop conceptual understanding and ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically; follow a line of enquiry, conjecture relationships and generalisations.
- Develop an argument, justification and proof by using mathematical language.
- Problem solve by applying knowledge to a variety of routine and non-routine problems. Breaking down problems into simpler steps and persevering in answering.

The National Curriculum sets out year-by-year programmes of study for key stages 1 and 2. This ensures continuity and progression in the teaching of mathematics.

The EYFS Statutory Framework 2021 sets standards for the learning, development and care of children from birth to five years old and supports an integrated approach to early learning. This is supported by the 'Development matters' non statutory guidance. The EYFS Framework in relation to mathematics aims for our pupils to:

- Develop a strong grounding in number which is essential so that all children develop the necessary building blocks to excel mathematically.
- Count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.
- Have frequent and varied opportunities to build and apply this understanding – such as using manipulatives, including small pebbles and tens frames for organising counting – children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built.
- Experience rich opportunities to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures.
- Develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

Highfields Primary School is a Rights Respecting school and therefore believe that all children have the right to a good quality education (article 28) and that mathematics is an integral part of this. The purpose of mathematics in our school is to develop:

- positive attitudes towards the subject and awareness of the relevance of mathematics in the real world
- competence and confidence in using and applying mathematical knowledge, concepts and skills
- an ability to solve problems, to reason, to think logically and to work systematically and accurately
- initiative and motivation to work both independently and in cooperation with others
- confident communication of maths where pupils ask and answer questions, openly share work and learn from mistakes
- an ability to use and apply mathematics across the curriculum and in real life
- an understanding of mathematics through a process of enquiry and investigation

We aim to provide a stimulating and exciting learning environment that takes account of different learning styles and uses appropriate resources to maximise teaching & learning (article 29 – education must develop all children's talents and abilities to the full).

Breadth of study

Careful planning and preparation ensures that throughout the school children engage in:

- practical activities and games using a variety of resources
- problem solving to challenge thinking
- individual, paired, group and whole class learning and discussions
- purposeful practise where time is given to apply their learning
- open and closed tasks
- a range of methods of calculating e.g. mental, pencil & paper and using a calculator

- working with computers as a mathematical tool

Through our creative approach to teaching and learning we also seek to explore and utilise further opportunities to use and apply mathematics across all curriculum areas.

Teachers' planning and organisation

Long term planning

The National Curriculum for Mathematics 2014, Development Matters and the Early Learning Goals (Number, Shape Space & Measure) provide the long term planning for mathematics taught in the school.

Medium term planning

Reception to Year 6 use the White Rose Maths Hub schemes of learning as their medium term planning documents. These schemes provide teachers with exemplification for maths objectives and are broken down into fluency, reasoning and problem solving

They support a mastery approach to teaching and learning and have number at their heart. They ensure teachers stay in the required key stage and support the ideal of depth before breadth. They support pupils working together as a whole group and provide plenty of time to build reasoning and problem solving elements into the curriculum.

Short term planning

The above schemes of learning support daily lesson planning. Lessons are planned using a common planning format and are monitored at intervals by the mathematics subject leader. EYFS planning is based on the Development Matters and Early Learning Goals document and delivered as appropriate to individual children with thought to where the children are now and what steps they need to take next. All Key Stage 1 and 2 classes have a daily mathematics lesson of 60 minutes where possible. In Year 1, classes have 3 lessons a week in the first half term to support their transition from Early Years. Teachers of the EYFS ensure the children learn through a mixture of adult led activities and child initiated activities both inside and outside of the classroom. Mathematics is taught through an integrated approach.

Special educational needs & disabilities (SEND)

Daily mathematics lessons are inclusive to pupils with special educational needs and disabilities. Where required, children's IEPs incorporate suitable objectives from the National Curriculum for Mathematics or Development Matters and teachers keep these in mind when planning work. These targets may be worked upon within the lesson as well as on a 1:1 or small group basis outside the mathematics lesson. Maths focused intervention in school helps children with gaps in their learning and mathematical understanding. These are delivered by trained support staff and overseen by the Special educational needs co-ordinator and/or the class teacher. Within the daily mathematics lesson, teachers have a responsibility to not only provide differentiated activities to support children with SEND but also activities that provide sufficient challenge for children who are high achievers. It is the teachers' responsibility to ensure that all children are challenged at a level appropriate to their ability.

Equal Opportunities

Positive attitudes towards mathematics are encouraged, so that all children, regardless of race, gender, ability or special needs, including those for whom English is a second language, develop an enjoyment and confidence with mathematics (article 23 – children with disabilities have the right to a full life). The aim is to ensure that everyone makes progress and gains positively from lessons and to plan inclusive lessons. Lessons involving lots of visual, aural and kinaesthetic elements will benefit all children including those for whom English is an additional language. Differentiated questions are used in lessons to help children and planned support from Learning Support Practitioners and Assistants.

Fluency

Children in Years 1 to 6 have a daily fluency session. This is a short burst activity focusing on skills previously taught. Children complete this independently and then self-mark these with the guidance of the teacher and any misconceptions are addressed.

Times table Rockstars

Children in Year 2 to 6 have access to the interactive program to develop rapid recall of times table facts. This is completed 3 times a week in school using a paper based assessment which is differentiated for each Year group and teachers can track progress of individuals. Children can access this at home with individual passwords.

Children in Year 1 have access to the interactive program Numbots which focus on development of key number skills and this can be used at home and in school.

Pupils' Records of work

Children are taught a variety of methods for recording their work and are encouraged and helped to use the most appropriate and convenient. Children are encouraged to use concrete resources, mental strategies and their own jottings before resorting to more formal

written methods (see mathematical calculations policy for more details on this). Children's own jottings to support their work is encouraged throughout all year groups.

Marking

Marking of children's work is essential to ensure they make further progress. Work is marked against success criteria, in line with the school marking policy, and includes next steps where necessary. Children are encouraged to self-assess their work regularly and given time to read teachers' comments and make corrections or improvements. Responses to marking are made as close to the work as possible, ideally at the start of the next lesson. Some pieces of work in mathematics can be marked by children themselves, particularly exercises involving routine practice, with support and guidance from the teacher.

Assessment

Assessment is an integral part of teaching and learning and is a continuous process. Teachers make assessments of children daily through:

- regular marking of work
- analysing errors and picking up on misconceptions
- asking questions and listening to answers
- facilitating and listening to discussions
- making observations

These ongoing assessments inform future planning and teaching. Lessons are adapted readily and short term planning evaluated in light of these assessments.

Key Stage 1 and 2 have assessment books where cold tasks are given to children to assess retention of taught skills. Teachers will then record on SIMs any objectives achieved by children. This is done regularly throughout the year and enables teachers to identify gaps in understanding and then address accordingly.

Medium term

Termly PUMA assessments are carried out across the school using the assessment materials for each year group provided and these are linked to the White Rose schemes of work. These materials used alongside judgements made from class work and assessment books support teachers in completing the Insight tracker. Pupil provision meetings are timetabled each term for all classes. Progress of pupils is discussed and appropriate intervention considered and put in place where appropriate.

Long term

Year 2 and Year 6 complete the statutory national tests (SATs) in May each year. Teachers will also assess against the interim assessment frameworks to provide teacher assessment judgements. Pupils in Year 4 take part in the statutory multiplication tables test in June each year. In all other year groups, end of year assessment is based upon the Insight tracker which is updated continuously throughout the year as a result of both formative and summative assessment.

General Data Protection Regulation

The General Data Protection Regulation provides a framework to ensure that personal information is handled properly. Personal information in school is managed in accordance with the requirements of the General Data Protection Regulation (GDPR). For further details of how we manage personal data, please see our privacy notice, which can be found on our school website <http://www.highfields.sandwell.sch.uk/our-school/3980-privacy-statement.html>. School's Data Protection Policy and Records Management Policy can also be found on our website.