Mathematics Policy

Our Vision

Our vision and values are at the core of everything we do. They underpin our teaching and learning, and provide an environment which prepares our pupils as confident, happy citizens.

Our school aims are:-
To provide a safe and stimulating school environment.
To promote high standards of teaching and learning.
To value and develop all members of the school community

Curriculum

The school's curriculum is designed to meet the needs of its pupils, and its major aims are to provide all children with an education which will help them to:

Enable all to achieve their potential, celebrating success within a caring environment.

- Raise levels of attainment for all pupils, enabling them to achieve their personal best.
- Foster a love of learning.
- Develop confident, disciplined and enquiring learners, able to make informed choices.
- Develop an increasing responsibility in pupils for their own life-long learning.
- Foster self-esteem and personal responsibility, linked to respect for the needs and feelings of others.
- Facilitate considerate and positive relationships between all members of the school community.
- Ensure equal and inclusive opportunities in relation to gender, race, class, special needs and belief.
- Value and respect all cultures.
- Provide a safe and happy work place.
- Promote a thoughtful attitude towards the immediate and wider environment.

The **National Curriculum for Mathematics** aims to ensure that all pupils:

- become *fluent* in the fundamentals of mathematics, including through varied and frequent practise 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

Principles for teaching and learning

To ensure coverage of the National Curriculum we will:

Plan

Planning takes account of the National Curriculum Programmes of Study for each year group, as well as the Newfield Mathematics Curriculum. The Written Calculation Policy underpins progression in arithmetic as children move through school.

Arithmetic is planned for daily, in addition to main mathematics lessons in Key Stage 2 and as part of the daily lesson in KS1. Reasoning and problem solving are an integral part of mathematics lessons and opportunities for these are planned for regularly.

Planning follows a medium term overview and all areas will be covered on a half-termly basis. Number (which includes Fractions, Decimals and Percentages) has the greatest weighting overall. Measures, Geometry, Ratio and Proportion, Algebra and Statistics are taught and planned for as specified in the National Curriculum.

Lessons are adapted during the lesson if appropriate and weekly plans are altered to meet the needs of the children.

The National Curriculum states that:

- *The expectation is that the majority of pupils will move through the Programmes of Study at broadly the same pace.*
- *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 practise, before moving on.*

Modelling

Mathematics should build from a concrete understanding, based in real-life experiences and practical objects, then move on to pictorial, written and finally abstract concepts. The Written Calculation Policy and Newfield Park Maths Curriculum document underpin these principles and clearly support the development of mathematical thinking.

Teachers use a range of practical resources and manipulatives, as well as visual images such as bar-modelling, to support children and mathematical concepts in lessons.

Marking (see Marking Policy for generic guidelines)

Subject specific guidance is:

- Presentation of recording should be corrected and modelled when necessary
- Specific mathematical vocabulary should be corrected by the teacher and written out by the child (as in other lessons)
- Number reversals should be corrected and practised as above
- Modelled examples of questions to deal with misconceptions
- Gap Tasks to move the learning on/consolidate – reasoning, using and applying or opportunity to correct may all be part of appropriate tasks
- Rulers should be used for mathematical drawing and modelled accurately
- Purple pens used to respond to reasoning questions which may be part of Gap Tasks
- Rule of 8 applied in arithmetic lessons
- Progression in difficulty should be evident

Language

Children and adults will use correct mathematical language appropriate to the year group (see Written Calculation Policy) and Mathematical language list (Staff area). Incorrect use of mathematical language will be corrected by staff and the correct vocabulary used in books and lessons.

Effective questioning will be used to support the application of skills and encourage reasoning responses by the children. Staff will model how to use such language where appropriate.

Mathematical vocabulary related to the week or lesson will be displayed on Working Walls, and referred to during teaching. Subject specific dictionaries are available in all classrooms and children are encouraged to use them when necessary.

Assessment

Children have curriculum-related targets, which are updated every half-term and shared with both parents and children. Attainment is tracked using the internal school system; data used to inform Pupil Progress Meetings and interventions. Assessments are undertaken by teachers and teaching assistants throughout lessons and used to support or challenge children's learning.

Moderation of monitoring of Maths is undertaken on a regular basis by teaching staff, Maths Working Party and the Leadership Team. It is also shared with other schools when required.

Teaching Assistants

Planning is shared with teaching assistants, so they are aware of who and how they can support each lesson. They often observe, as well as deal with misconceptions and feed this back to the class teacher as appropriate.

SEND Provision

At Newfield Park we believe every child has an equal right to a rounded education that allows them to achieve their full potential. All pupils, regardless of ability or background, should have the opportunity to fully develop their capabilities. We recognise that some of our children may have more than one area of significant need and that teaching and learning will need to be skilfully adapted to meet those needs. This may be accomplished by:

- Planning lessons to ensure that all tasks can be appropriately scaffolded or differentiated to accommodate children with SEND, ensuring that children with SEND can access the same, or similar, tasks as the rest of the class, in line with the curriculum.
- Using a wide range of Wave 1 teaching strategies – this may involve the use of additional equipment, thinking time, pre-teaching, using a study buddy, providing writing frames, using coloured overlays/print, breaking instructions down into chunks, visual timetables, setting clear goals or building relationships.
- Translating instructions and tasks as appropriate to accommodate children who have English as an additional language.
- Accounting for the needs of more able and gifted children by making tasks more challenging, appealing to their problem solving, reasoning and critical thinking skills and creating appropriate extension activities. In addition to lessons, the most able mathematicians are offered the chance to take part in Maths competitions and clubs run by the local authority. Children also compete with others around the country in the Primary Maths Challenge.

Safeguarding

Newfield Park is committed to providing an environment where all stakeholders feel safe. Children are encouraged at all times to share any worries and concerns that they may have and know who to approach if they feel unsafe. Through varied teaching and learning experiences children learn how to keep themselves safe as part of our broad and balanced curriculum.

If, during the course of a lesson, the teacher becomes aware of any child protection concern, or a child makes a disclosure of such a concern, they will immediately log this on the CPOMS system and follow the school's wider safeguarding policy.

Pupil Premium

Newfield Park is committed to addressing the additional needs of children who may come from disadvantaged backgrounds or who receive additional Pupil Premium funding. Staff understand the importance of quality teaching for all, identifying potential barriers for learning and exploring varied teaching methods and interventions to achieve the best outcomes.

Staff regularly use data to track and monitor progress and seek to engage parents in all areas of their child's learning. Strategies at the core of our practice include collaborative learning, high quality feedback, metacognition techniques, raising aspiration and the use of digital technologies.

Interventions

A range of interventions are used to support children who are at risk of not achieving their full potential. These needs are identified through data analysis and discussed at Pupil Progress Meetings with teachers and the Leadership team.

Maths Council

Newfield Park has a Maths Council which meets regularly. They run initiatives in school, such as a homework club and lead in assemblies to share their ideas.

Learning Environment

All classrooms have a working wall which reflects weekly teaching. They may include some of the following features:

- key vocabulary
- modelled examples
- questions
- challenges
- real-life examples
- examples of work
- visual images

Classrooms all have resources available for children to use during lessons to support their learning. Additional items are located centrally in the Maths cupboards. There are also a number of digital resources available to staff and children; which are accessible through the school system. Children can also use 'Mathletics' and 'TTRockstars' from home to help support and extend their learning.

S.M.S.C.

In Maths lessons, children are encouraged to explore how the subject relates to everyday real-life challenges and the world of work. We also actively promote girls continuing to study Mathematics and have close links with Wolverhampton University, where they run regular S.T.E.M (Science, Technology, Engineering & Maths) days. Our Maths Council promotes the subject in school and works collaboratively with other Halesowen schools to share good ideas.

Cross-curricular links

Maths naturally lends itself to Science and Geography tasks in the form of data-handling, measuring and problem solving activities and this is a key element of those subjects. Similarly, Art and Design and design and Technology lessons will also involve elements of measuring and shape and space.

Homework

Maths homework is set weekly from Year 2 onwards. A school format is followed in KS2, allowing all children to choose the appropriate level of challenge from Fluency, Applying the Skill or the Killer Question. Homework may also involve honing basic skills, such as number bonds and times tables.

Resources

Most generic resources will be kept in a central location where they can be accessed by all teachers both electronically and physically. Class teachers will have frequently used resources such as number lines/rulers stored in the classroom. It is the responsibility of teachers to inform the Subject Leader if any resources need replacing or if new ones need purchasing.

Roles of the Subject Leader

The Subject Leader is responsible for monitoring the planning, teaching and assessing of Mathematics across the whole school. In conjunction with teachers, they ensure all resources are up to date and relevant for the topics being taught. They help colleagues to develop their own subject expertise and knowledge and understanding. Action plans and policies for Mathematics are the responsibility of the subject leader.

Mrs K Sharratt & Miss Janelle Parchment

Date: June 2020

Review date: June 2023