Brookfield Park Primary School

Nurture, include and inspire to succeed

Mathematics Policy

September 2024

Policy will be reviewed September 2025

Brookfield Park Primary School **Ethos**

- Brookfield Park is a **'can do' school** where we make a difference to every child and help them to achieve
- Each child is unique. Each child brings different experiences, skills and ideas into the classroom. Each child has the capacity to grow, reach their potential and exceed it
- We enable each child to unleash their potential and prepare them for a future that can't even be imagined today
- We have the highest ambition and expectations for our pupils. Children here know that through hard work, application and good behaviour, anything is possible.
- We challenge, energise and inspire our pupils to have the highest aspirations for themselves
- We are proud to be a family school with a strong culture of kindness. Children are expected to show respect and kindness to everyone around them. We insist on good manners and high standards of behaviour at all times from everyone in our school community.

Brookfield Park Primary School **Vision**

When looking to the future, our vision is to ensure that Brookfield Park is increasingly regarded as:

- being the **number one** provider of nurture and wellbeing in our community
- being the school built on good behaviour, empathy and consideration for others

- being one of the best schools in our community for both academic achievement and life skills development

- being a school with a rich and broad curriculum tailored to meet the needs of every child

- being the school of choice and the thriving hub of the community

Brookfield Park Primary School **Mission Statement**

- The school will be an educationally inclusive school - one in which learning, achievements, attitudes, well-being and the happiness of all members of the school community matters.

- The school will provide a challenging, broad and exciting curriculum that extends into the world beyond the classroom, which will actively encourage, motivate and develop the talents of everyone in school.

- The school is committed to being a healthy and safe school. Everyone here recognises that investing in emotional, mental and physical health and providing a safe, secure environment is important. Through PSHRE, the school will support children in gaining the knowledge and skills required to keep themselves safe, healthy and happy, and thrive in their future.

- The school will ensure that all learning takes place within a collaborative, vibrant, stimulating and quality environment which meets the needs of our children.

- The school will build the qualities of citizenship, in which children will be given opportunities to take ownership and responsibility and be encouraged to make positive contributions to their own learning, the learning of others, the school and broader society.

- The school will help children develop self-confidence and resilience and therefore independence, to enable them to become life-long learners, who make good choices and decisions.

Mathematics INTENT

- To empower children to have a confident and resilient attitude towards Mathematics.
- To enable children to talk enthusiastically about Mathematics and understand the importance of the subject in everyday life.
- To provide children with opportunities to develop effective thinking and explanation skills to prepare them for the future.
- To encourage children to be inquisitive learners who can successfully work individually and in collaboration with others.
- To enable children to persevere and solve challenging problems applying skills of both fluency and reasoning.

IMPLEMENTATION

Programmes of Study of the National Curriculum and the statutory framework for early years are implemented.

EYFS**:-**
Number
Numerical patterns

Key Stage 1 and 2: **-**

Number-number and place value

Number-addition and subtraction

Number-multiplication and division

Number-fractions including decimals from Year 4 and percentages from Year 5

Measurement

Geometry-properties of shapes

Geometry-position and direction

Statistics (from Year 2)

Ratio and proportion (from Year 6)

Algebra (from Year 6)

White Rose Maths Planning is used in Year R to Year 6. This is adapted and amended as necessary.
Nursery planning has been developed to enable progression into the Reception curriculum.
Reception, Year 1 and Year 2 also follow the Mastering Number NCETM programme.
From September 2024 Years 4 and 5 are following the KS2 Mastering Number NCETM programme

Principles of Teaching and Learning in Mathematics

At Brookfield Park teachers use a variety of teaching and learning styles in mathematics lessons. In the Early Years Foundation Stage pupils are taught through whole class sessions, small group work and individual work. Practical work linked to themes is planned which is fun and enjoyable for the pupils. There is a strong emphasis on meeting individual needs and planning for next steps in their learning.

At Brookfield Park we aim at all times to challenge, motivate and encourage the learners to talk about what they have been doing and deepen their understanding.

Teaching is underpinned by a belief in the importance of mathematics and that the vast majority of children can succeed in learning mathematics in line with national expectations for the end of each key stage.

Teachers plan using an agreed planning proforma and also use an agreed marking and feedback sheet.

The whole class is generally taught mathematics together, with no differentiation by acceleration to new content. The learning needs of individual pupils are identified early and addressed rapidly through careful scaffolding, skilful questioning and appropriate intervention, in order to provide the necessary support and challenge. Some pupils will also work on learning plan targets and receive extra intervention. Challenges are also set for all pupils including those more able in Mathematics.

Factual knowledge (e.g. number bonds and times tables), procedural knowledge (e.g. formal written methods) and conceptual knowledge (e.g. of place value) are taught in a fully integrated way and are all seen as important elements in the learning of mathematics.

Repetition of key ideas (for example, in the form of whole class recitation, repeating to chatty partners etc) is often used. This helps to verbalise and embed mathematical ideas and provides pupils with a shared language to think about and communicate mathematics.

Teacher-led discussion is interspersed with short tasks involving pupil to pupil discussion and completion of short activities.

The reasoning behind mathematical processes is emphasised. Teacher/pupil interaction explores in detail how answers were obtained, why the method/strategy worked and what might be the most efficient method/strategy.

Making comparisons is an important feature of developing deep knowledge. The questions “What’s the same, what’s different?” are often used to draw attention to essential features of concepts.

Precise mathematical language is always used by teachers, so that mathematical ideas are conveyed with clarity and precision.

Pupils are required to do the same (e.g. when talking about fractions, both the part and its relationship to the whole are incorporated into responses: “The shaded part of the circle is one quarter of the whole circle”).

Conceptual variation and procedural variation are used throughout teaching, to present the mathematics in ways that promote deep, sustainable learning.

Sufficient time is spent on key concepts (e.g. multiplication and division) to ensure learning is well developed and deeply embedded before moving on.

The use of high quality materials and tasks to support learning and provide access to the mathematics is integrated into lessons. These include visual images and concrete resources.

There is regular interchange between concrete/contextual ideas, pictorial representations and their abstract/symbolic representation.

Pupils should be able to apply their understanding to independent tasks. Higher attainers should be able to show recordings in more than one way, different possibilities, explain it as a story, verbalise thinking methods and reason ideas etc.

At Brookfield Park the aspects of number, place value, addition, subtraction, multiplication and division, fractions, measures, shapes, position and direction are taught in all key stages with statistics also taught in KS2. These are taught through the mastery approach developing skills in problem solving, reasoning and fluency.

Basic numbers facts are regularly practised in each class and in KS2 times tables are chanted with pupils also answering quick fire questions during a specific 10-15 minutes each day. Numbots and TT Rockstars programmes are used at home and in school.

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the 4 operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.

Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word-reading knowledge and their knowledge of spelling.

The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.

At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

By the end of year 6, pupils should be fluent in written methods for all 4 operations, including long multiplication and division, and in working with fractions, decimals and percentages.

Pupils should read, spell and pronounce mathematical vocabulary correctly.

At Brookfield Park, we aim to ensure that no pupil experiences harassment, less favourable treatment or discrimination within the learning environment because of their age; any disability they may have; their ethnicity, race or national origin; their gender; their religion or beliefs. We value diversity of individuals within our school and do not discriminate against pupils because of 'differences'. We believe that all pupils matter and value all families too. We give all pupils every opportunity to achieve their best by taking account of the pupils' range of life experiences when planning for learning. As an inclusive school we recognise the need to tailor the approach to support pupils with identified SEN&D as well as those who are identified as benefiting from further enrichment and challenge.

Enrichment

Throughout their time at Brookfield Park pupils will have the opportunity to take part in enterprise activities to develop and embed Mathematical learning.

Health and Safety

Teachers always plan mathematical activities with high regard to health and safety.

Resources

There is a wide range of resources to support the teaching and learning of mathematics across the school. All classrooms have a range of resources. Further resources are stored in the Resource Room. The Mathematics Leader is responsible for monitoring and taking stock of the school's resources for mathematics.

IMPACT Assessment/Monitoring and Evaluation

Assessment is used to inform future planning and to provide information about pupils throughout their time in school.

Formative assessment is carried out throughout each lesson; the teacher regularly checks pupils' knowledge and understanding and adjusts the lesson accordingly.

Each term pupils are assessed in Mathematics and their progress is monitored. White Rose Mathematics end of term tests are used in KS1 and KS2 along with teacher assessment. Year 6 also use previous SATs papers. Pupils are identified for intervention. This is monitored regularly and reported on the following term.

The Mathematics Subject Leader alongside the Mathematics Governor has the responsibility for monitoring standards of pupils' work and the teaching of Mathematics in school.

The Mathematics Subject Leader maintains a portfolio of photos and samples of pupils' work and displays to demonstrate standards, pupils' knowledge, progression in skills and coverage.

An annual report to parents/carers details attitudes towards mathematics and the progress and achievements made in mathematics.

An end of Autumn term report is also sent home and parents' meetings are held in the Spring term.

Statutory assessment in the summer term involves:-

- Reporting on whether a child is emerging or expected in the ELGs at the end of Reception
- Year 4 Multiplication Tables Check (MTC)
- Year 6 statutory tests in Mathematics

- **Review** This policy will be reviewed and modified on an annual basis