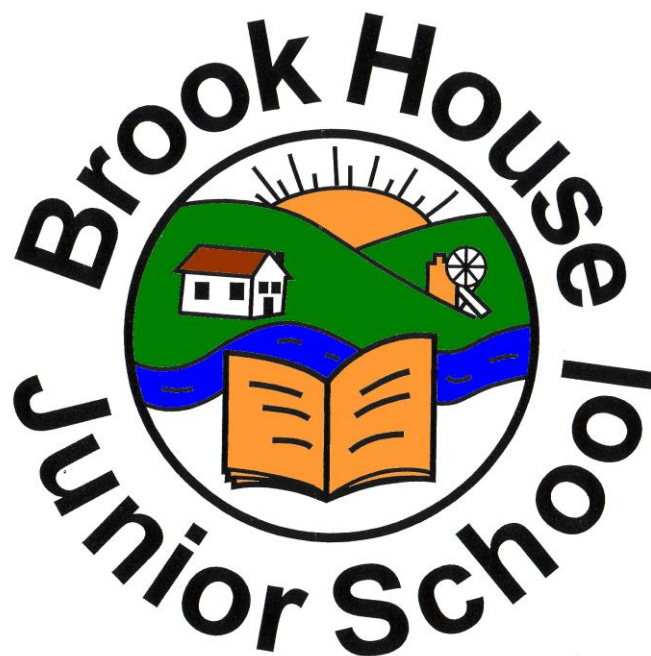


Brook House Junior School



Mathematics Policy 2018

Rationale

All school policies form a corporate, public and accountable statement of intent. As a large junior school it is very important to create an agreed whole school approach of which staff, children, parents, governors and other agencies have a clear understanding. This policy is the formal statement of intent for mathematics. It reflects the essential part that mathematics plays in the education of our pupils. It is important that a positive attitude towards mathematics is encouraged amongst all our pupils in order to foster self-confidence and a sense of achievement. The policy also facilitates how we, as a school, meet the legal requirements of recent Education Acts and new National Curriculum requirements.

Aims and objectives

Mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many people to the development and application of mathematics.

The aims of mathematics are:

School Staff

- To promote a confident, positive attitude towards the learning and use of Mathematics making it an enjoyable experience;
- To promote confidence and competence with numbers and the number system;
- Encourage pupils by believing that every child, with hard work, can be good at Mathematics through promoting a Growth Mindset.
- To promote the ability to solve problems through connecting ideas, decision-making and applying their mathematical skills in a range of contexts, including other subjects such as Science;
- To promote mathematical reasoning by following a line of enquiry, developing an argument and making justifications using mathematical language;
- To promote a practical understanding of the ways in which information is gathered, presented and used (Statistics);
- To promote the exploration of features of shape and space (Geometry) and develop measuring skills (Measurement) in a range of contexts;
- To understand the importance of Mathematics in everyday use, especially in relation to essential life skills, such as telling the time and understanding money.

Children

- To develop an enjoyment of learning through practical activity, investigation, exploration; mental exertion and discussion;
- To develop confidence and competence with numbers and the number system;
- To develop the ability to solve problems through connecting ideas, decision-making and applying their mathematical skills in a range of contexts, including other subjects such as Science;
- To develop the ability to reason mathematically by following a line of enquiry, developing an argument and making justifications using mathematical language;
- To develop a practical understanding of the ways in which information is gathered and presented (Statistics);
- To explore features of shape and space (Geometry), and develop measuring (Measurement) skills in a range of contexts;
- To understand the importance of Mathematics in everyday life, especially in relation to essential life skills such as telling the time and handling money; and
- To foster positive attitudes towards Mathematics by developing pupils confidence, independence, persistence and co-operation skills and understand Growth Mindset in a Mathematical context.

Parents and Carers

- To be understanding and supportive of our aims in teaching and learning Mathematics.
- To attend and contribute to Parent Consultation Meetings.
- To support their children with Mathematics homework activities (please refer to Homework Policy) including the importance of learning their multiplication tables (and division facts) off by heart.
- To praise their children for the good things that they do in Mathematics.
- To communicate and work with school whenever further support is needed to develop their children's mathematical skills and understanding.
- To make mathematics part of children's everyday lives.

Governors

- To appoint a designated link governor who will:
 - i) Meet with the Mathematics Subject Leader at least once a year to find out about; the school's systems for planning work, supporting staff and monitoring progress; the allocation, use and adequacy of resources; how the standards of achievement are changing over time.
 - ii) Visit school and talk to pupils about their experiences of Mathematics;
 - iii) Promote and support the positive involvement of parents in Mathematics;
 - iv) Attend training and other events relating to the Mathematics curriculum;
 - v) Report jointly with the Subject Leader, both for the School Prospectus and to the governing body with recommendations, if appropriate, once a year.
- To be understanding and supportive of our aims in the learning and teaching of Mathematics and to review this policy annually.

Our Mathematics Curriculum

At Brook House, each year group has a long term overview showing when each unit of work is being covered. The White Rose Maths scheme was used to help with the blocking of different units of work. We use the Busy Ant Collins Maths scheme alongside the Maths – No problem series, which is based on the principles of how Mathematics is taught in Singapore and aligned with the National Curriculum 2014, to support our planning and delivery of Mathematics teaching and learning. Teachers also make their own resources and have access to Twinkl. Assessment of mastery within Mathematics is in the form of PITA (Point in Time Assessment) scales which is based on ongoing teacher assessment. NFER tests are used at the end of the year in years 3-5 and teachers use these results alongside their teacher assessment to form their end of term judgements.

The children are grouped into maths sets. In each year group there is a greater depth maths set and the other two sets are made up of the remaining children. Teachers of the two "middle" sets plan together and share resources. Where possible the greater depth group covers the same work but extends into mastery activities. We use colours as an indication of which level a child is working at.

Greater depth

Mastery

Working towards Mastery

Working within Age-related expectations (ARE)

Working below Age-related expectations (ARE)

There is overlap in terms of the planned activities e.g. highest attainers in Set 2/3 and lowest attainers in Set 1. Flipcharts are used to craft individual sequences of lessons with the emphasis being placed on small steps of embedded progress towards Mastery (Set 2/3) or Greater depth (Set 1). Pupils are provided with opportunities to develop and extend their mathematical skills through completing challenges and working

collaboratively (using Kagan Co-operative Learning). Lessons generally follow the following format/structure:

1. **Revisit** – brisk revision of previous learning – quick fire questions/Purple polishing – complete corrections and new challenges in books.
2. **New learning)**
3. **Talk task** – to reinforce learning – Kagan structures - children partner up (shoulder partner discussion) to complete these activities in books – not whiteboards! There is an expectation that these happen at least once a week. Recently blue and red star challenges have been used as talk tasks also so that all children have access to reasoning questions.
4. **Independent activities** - pitch and differentiation

(Mini-plenary to be included within the Independent task)

5. **Plenary**

Our main drive in school this year has been to improve knowledge, understanding and fluency. As a result, each year group begins the afternoon session by having a 15 minute Maths Blast session. This can take the form of a recap of previous learning or as a pre teach task for new learning. A range of topics are covered within these sessions in order to keep skills sharp. Quite often a reasoning or test question is also included which can be discussed as a class.

Calculation Policy

Please refer to our Calculation Policy which can be found on our website in the Curriculum/Maths area.

Resources

The use of Mathematics resources is integral to the concrete – pictorial – abstract approach and thus planned into our learning and teaching. We have a wide variety of good quality equipment and resources, both tangible and ICT based, to support our teaching and learning. These resources are used by our teachers and children in a number of ways including:

- Demonstrating or modelling an idea, an operation or method of calculation, e.g.: a number line; place value cards; dienes; money or coins; measuring equipment for capacity, mass and length; bead strings; the interactive whiteboards and related software; 3D shapes and/or nets;
- Numicon and related resources and software; multilink cubes; clocks; protractors; dice; number and fractions' fans; individual whiteboards and pens; and 2D shapes and pattern blocks, amongst other things;
- Enabling children to use a calculation strategy or method that they couldn't do without help, by using any of the above or other resources as required; and
- Providing a context, where possible and linking it to the application and practise of calculation strategies and number skills.
- Resources within individual classes are accessible to all pupils who should be encouraged to be responsible for their use.
- All resources (including larger items shared by the whole school) are located in the Mathematics area located in the corridor adjacent to the school office.

A range of Mathematics related software (apps) is also available and this is accessible via the shared server, which children can access when projected onto the Interactive Whiteboards in each classroom; by using individual iPad; or by using the Computing suite as a whole class.

Each child at school has access to the subscription only Mathletics website, which they can access at home or at school to support their learning in Mathematics. The website follows and supports the National Curriculum 2014 and learning can be child lead or teacher lead, with individual teachers setting work for the children which appear when they access the website.

Homework (please refer to the School's Homework Policy)

Mathematics homework is set for children each week. Homework provides opportunities for children to: practise and consolidate their skills and knowledge; develop and extend their techniques and strategies; and prepare for their future learning through out of class activities and homework. Homework activities are varied, interesting and fun so that the children are motivated; the tasks often compliment the area of Mathematics being taught that week and are set using Mathletics. Children who achieve gold level in mathematics receive their certificate during an assembly and their photo is added to the Mathletics wall of fame in the hall.

Parental involvement

The school aims to involve parents/carers in their children's learning as much as possible and to inform them regularly of their child's progress in Mathematics. Parents/carers have the opportunity to meet with child's class teacher at least twice a year at Parent Consultation Meetings and receive written reports during the year. Parents/carers are encouraged to speak to their child's (maths) teacher at any point during the year, either informally or by making a specific appointment to discuss anything to further support them at home. Information about their child's standards, achievements and future targets in Mathematics is shared with parents/carers at these times and also ways that parents/carers may be able to assist with their child's learning. Parents/carers are encouraged to support their children with homework. School also provides a number of opportunities for parents/carers to learn about what their child is learning and the way their child is being taught through Parent Mornings.

Subject Leader

The role of the Subject Leader is to provide professional leadership and management in Mathematics in order to secure high quality teaching, effective use of resources and high standards of learning and achievement for all pupils. They will achieve this by affecting the following key areas:

- strategic direction and development; teaching and learning.
- training and coaching staff on Mathematical pedagogy within the school and keeping up-to-date with developments from a county and national level.
- having regular discussions with the Head Teacher and other senior leaders about teaching and learning in Mathematics through book scrutiny reports.

Interventions

There are a range of resources to support the teaching of mathematics across the school. Any children, especially children who qualify for the Pupil Premium, who are shown to not be making expected progress are targeted for additional support in class. Many of these children also receive additional support in the form of small intervention groups. The intervention programmes that we use in school are 1stClass@Number2 and Big Maths. We also use the Mathletics computer program to provide additional 'catch-up' opportunities.

Marking

At Brook House we have an agreed marking policy which guides colleagues in effective marking creating a system of simple codes that the school uses to celebrate what children are doing well alongside suggesting ways forward. (See Marking Policy).

Equal opportunities

All pupils are entitled to a broad and balanced curriculum and have equal access. (See Equal Opportunities Policy) All children have equal access to the curriculum regardless of their gender. This is monitored by analysing pupil performance throughout the school.

Race equality

All pupils are entitled to a broad and balanced curriculum and have equal access. (See Race Equality Policy) We incorporate mathematics into a range of cross-curricular subjects and are looking at ways to introduce the multicultural aspects of mathematics e.g. Islamic patterns in RE.

Health and safety

We provide safe and healthy working conditions for all pupils and staff. Relevant procedures as laid down in the Health and Safety Policy will be followed. Pupils are taught to use hardware and equipment correctly. (See Health and Safety Policy)

Transition

Opportunities to liaise with Beighton Nursery and Infant School are provided and links are encouraged through co-ordinator meetings, shared staff meetings and INSET days Y2 visit their new teachers in Y3. In Year 6 staff from several secondary schools visit to meet staff and teach their new intake. Transition units between Y6 and secondary schools are completed if required.

Sue Warren (Class teacher and Maths Lead – December 2018).