

**Bearpark Primary School**

**Maths Policy**

**Our Vision:**

Through a positive, caring environment, we provide the opportunity for every child to reach their full potential.

**Rationale**
At Bearpark Primary School we believe that mathematics is a tool for everyday life. It is a whole network of concepts and relationships which provide a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas and to tackle a range of practical tasks and real life problems

The National Curriculum order for mathematics describes in detail what pupils must learn in each year group. Combined with the Bearpark Primary Calculation Policy, this ensures continuity and progression and high expectations for attainment in mathematics.

It is vital that a positive attitude towards mathematics is encouraged amongst all of our pupils in order to foster confidence and achievement in a skill that is essential in our society. At Bearpark we use the National Curriculum for Mathematics (2014) as the basis of our mathematics programme. This is supplemented by White Rose, NRICH and NCETM. Assessment for Learning, developing fluency, an emphasis on reasoning, problem solving and the development of mathematical thinking, and a rigorous approach to the development of teacher subject knowledge are all essential components of the Bearpark Primary approach to this subject.

**Aims**
We aim to provide the pupils with a mathematics curriculum and high quality teaching to produce individuals who are numerate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their mathematical skills to the full.

Our pupils should:
• have a well-developed sense of the size of a number and where it fits into the number system
• know by heart number facts such as number bonds, multiplication tables, doubles and halves
• use what they know by heart to figure out numbers mentally
• calculate accurately and efficiently, both mentally and in writing
• draw on a range of calculation strategies
• recognise when it is appropriate to use a calculator and be able to do so effectively
• make sense of number problems, including non-routine/’real’ problems and identify the operations needed to solve them
• explain their methods and reasoning, using correct mathematical terms
• judge whether their answers are reasonable and have strategies for checking them where necessary
• suggest suitable units for measuring and make sensible estimates of measurements
• explain and make predictions from the numbers in graphs, diagrams, charts and tables
• develop spatial awareness and an understanding of the properties of 2D and 3D shapes

**Provision**

We teach maths progressively through the sharing of key knowledge and skills, alongside visual representations of mathematical concepts and ideas. We recognise the importance of children also developing an enjoyment of mathematics and to experience success in the subject developing their ability to reason and solve problems with increasing confidence.

Pupils are provided with a variety of opportunities to develop and extend their mathematical skills, including:
• Group work
• Paired work
• Whole class teaching
• Individual work including 1:1 tuition

Pupils engage in:
• consolidation of basic skills and fluency in number facts

• reasoning and problem solving
• written methods

• mathematical discussion

• the development of mental strategies
• practical work
• investigational work

• maths games

We recognise the importance of establishing a secure foundation in fluency and recall of number facts, and mental calculation strategies, as well as standard written methods. We use accurate mathematical vocabulary in our teaching and children are expected to use it in their verbal and written explanations.

Mathematics contributes to many subjects and it is important the children are given opportunities to apply and use mathematics in real contexts. It is important that time is found in other subjects for pupils to develop their numeracy skills, e.g. there should be regular, carefully planned opportunities for measuring in science and technology, for the consideration of properties of shape and geometric patterns in technology and art, and for the collection and presentation of data in history and geography.

We endeavour at all times to set work that is challenging, motivating and encourages the pupils to think about how they learn and to talk about what they have been learning. Additional enrichment opportunities are provided for pupils to further develop mathematical thinking e.g. through cooking, music, and maths investigations and games.

Teachers plan reasoning and problem solving activities into their lessons to ensure that pupils develop the skills of mathematical thinking and enquiry.

To provide adequate time for developing mathematics, maths is taught daily and discretely. Maths lessons may vary in length but will usually last for 60 minutes in KS1 and KS2. We believe that if firm foundations are established in key mathematical concepts then children are able to develop a deeper and more cohesive understanding of complex mathematics as they develop. Therefore, throughout KS2 each class devotes time each day to ‘Early Maths’, where pupils develop and consolidate maths knowledge and skills.

**Teaching Approaches**
Our teaching and learning incorporates the use of a range of practical equipment, thereby allowing us to present maths in many different forms and contexts, which can suit the needs of children with varied learning styles and allows children to show their understanding. With a continuous focus on revisit and review, teaching aims to reinforce and consolidate daily work, through the repetition of activities which address ‘non-negotiable’ basic skills, all of which are fundamental in the development of a confident mathematician.

Teachers use a range of teaching strategies to engage the children in maths and ensure progress is made by all children within a class; no set formula is used. A typical lesson would include:

• Both teaching input and pupil activities,
• A balance between whole class, guided grouped and independent work, (groups, pairs and individual work)

Sometimes the focus for the session is new learning, at other times pupils may be practising, to master the application of a concept they have learned earlier. The focus of the session may vary for different children depending on their learning needs. Teachers plan learning that is differentiated if necessary to meet the needs of all pupils.

At times there may be opportunities to develop skills and understanding of mathematics through additional activities, some of which may take place at home. The school has invested in the TT Rock Stars and RM Maths websites, which are accessible learning platforms that can be used at home.

**Target Setting**
Teachers set termly individualised targets for each child which allow children to focus on a key concept identified as posing a problem to the individual. In EYFS these targets are presented as whole class targets.

**Assessment**
**Formative Assessment**
Teachers integrate the use of formative assessment strategies such as effective questioning, clear learning objectives, the use of success criteria and effective feedback and response in their teaching.

**Summative Assessment**
The school’s progress tracking system is updated termly. National Curriculum tests are used at the end of KS1 and 2; teachers use past and sample papers to inform their assessments as they prepare pupils for these assessments. All assessments and teaching informs teachers understanding of a child’s ability in maths. The school’s Assessment and Marking Policies inform high quality feedback and pupils’ response to it in Mathematics.

**Early Years Foundation Stage (EYFS)**
We follow EYFS curriculum guidance for Mathematics. However, we are committed to ensuring the confident development of number sense and put emphasis on mastery of key early concepts. Pupils initially explore numbers to 10 and the development of models and images for numbers as a solid foundation for further progress.

**Outcomes**

The maths curriculum is taught this way at Bearpark to ensure children have the time and opportunity to explore, develop and demonstrate mathematical ideas, while enriching their learning experience and deepening understanding. Our focus for teaching maths this way is that by the end of KS2 pupils are able to:

* Demonstrate quick recall of facts and procedures,
* Use flexibility and fluidity to move between different contexts and representations,
* Independently apply their skills to find the answers,
* Recognise relationships and make relevant connections in mathematics.

We believe that a mathematical concept or skill has only been *mastered* once a child can show it in multiple ways, using the necessary mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations. Together, these elements help cement knowledge so pupils truly understand what they have learnt.

**Role of the Subject Leader**
• Ensures teachers understand the requirements of the National Curriculum and helps them to plan lessons.
• Leads by example by setting high standards in their own teaching.
• Prepares, organises and leads CPD and joint professional development.
• Works with the SENCO.
• Observes colleagues from time to time with a view to identifying the support they need.
• Attends CPD provided by Durham Education Centre and other providers.
• Keeps parents informed about Mathematics issues
• Discusses regularly with the Headteacher and the mathematics governor the progress of implementing National Curriculum for Mathematics in school
• Deploys support staff to address mathematics related needs within the school.
• Monitors and evaluates mathematics provision in the school by conducting regular work scrutiny, learning walks and assessment data analysis.

**Reviewed:** October 2023

**Maths Co-Ordinator:** Mrs Donna Jones