Policy for Mathematics

Curriculum Intent:

Mathematics is a means of communicating using not only words but symbols. It is a universal language and our understanding of it should be a natural part of our experiences and development. 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.

The 2014 National Curriculum for mathematics aims to ensure that all children:

- become fluent in the fundamentals of mathematics.
- can reason mathematically.
- can solve problems by applying their mathematics to a variety of routine and nonroutine problems.

"Mathematics is a creative and highly interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas." (NC 2014)

It is our intention at Newham Bridge Primary School:

- to build upon the mathematical knowledge already acquired before our children start school.
- to help our children acquire a sound understanding of the basic mathematical skills and become fluent in them.
- to consolidate learning through practical skills
- to relate basic skills to problem solving and reasoning problems
- to develop the power of logical reasoning
- to develop positive attitudes, confidence, and enjoyment in mathematics
- to develop resilient learners

The mathematics curriculum will have relevance, children will be encouraged to draw upon everyday experiences and tasks will be such that the ability of each child will be recognised in order to extend the most able, encourage the average ability child and support those with learning difficulties, thus ensuring relevant differentiation.

Curriculum Implementation:

Every child should experience the complete range of mathematical concepts in line with the expectations of the National Curriculum, which is set out in six strands: Number including Fractions, Algebra, Ratio and Proportion, Measurement, Geometry, Statistics. Using and applying mathematics is integrated throughout these six strands to ensure children can reason and problem solve.

Arithmetic and securing written methods of calculation is a key part of the Maths curriculum. Every day, as part of our Maths lessons, the children complete Key Instant Fact Recall (KIRF) and arithmetic. This gives them the opportunity to practise those skills and operations whilst improving their mental recall. This takes place each morning from Y1 - Y6.

All children will follow and be taught the programmes of study from the National Curriculum 2014. Children should have opportunities for individual, group, and class work. We use White Rose planning and assessments which are personalised to meet our pupil needs from EYFS - Y6. In lessons, children may use concrete apparatus initially to develop a secure understanding of a mathematical strand before moving onto pictorial and abstract concepts.

To deliver the curriculum effectively the following types of organisation will be used:

- whole class teaching
- flexible grouping to meet pupil needs.
- one to one

Class teachers understand the need to work flexibly and are continually assessing and intervening throughout lessons to support all children. Teaching assistants can be used to work in small group situations. Mathematics is not a subject in isolation; it is an integral part of the whole curriculum:

- Developing appropriate language - English
- Applying measurements and calculations during investigations – Science
- Reading grids and co-ordinates from maps - Geography
- Dates, time, and Roman Numerals when accessing timelines - History
- Measurements in planning – Design and Technology
- Identifying musical patterns - Music
- Physical knowledge of direction and angles during sports activities - P.E.
- Collecting and classifying data – Computing

It is valuable time is given to the understanding of mathematics through practical activities wherever appropriate and we encourage the ability to investigate and solve problems. Investigations are spontaneous and should be recognised and pursued at the time they occur.

<u>Curriculum Impact:</u>

The assessment, recording and reporting process will follow the whole school policy.

We developed an assessment tracking system to suit the needs of our school in two areas of mathematics: KIRF and Whiterose National Curriculum Objectives from our scheme of planning. Both staff and children are confident when using the system. Each child has a

tracking grid, which is found in the front of their exercise books for Maths, back of their arithmetic books for their KIRF. The grids are continually updated and used to inform next steps in learning. These grids then form part of our termly judgements. As a school we moderate termly the children's learning and formalised assessments to plan interventions, next steps and make assessment judgements.

Where possible, marking is conducted live in class with the child and instant feedback and intervention is put in place during the lesson for the child to make progress and access the lesson. When marking activities and tasks at the end of the session, C.O.W marking is used consistently across school.

- C: Correct your work. The child works in green pen to correct any mistakes or misunderstandings from the previous lesson.
- O: Own it. The child has displayed a good understanding of the concept covered and is given a problem linked to the previous lesson to extend their understanding further.
- W: Work with me. The child has displayed limited understanding from the previous lesson and may need extra support from the class teacher or TA to build a foundation of the previously taught strand.

Curriculum Resources:

Each classroom is appropriately resourced. Additional resources are stored in cupboards and bookshelves in the corridors outside of the classrooms. Children should be encouraged to value and take care of all equipment.

There is a wealth of computing resources within school to support and enhance the teaching of Maths. KS1 access 'Numbots' in school and at home to support their learning with number knowledge and bonds. KS2 access 'Times table Rockstars' in school and at home to support their learning with multiplication and division facts. We also encourage children to access NRICH and other Mathematical websites through our Parental Calculation Handout.

Every term Maths is celebrated throughout school in a variety of ways: working with Santander to build money knowledge in the wider community, parental calculation support sessions, NSPCC Number Fun, Spatial Reasoning circuit, parental support to bring maths into their home (online games and board games), Times tables sing off.

Curriculum and Parents:

Parents are encouraged to be active participants in their child's learning. We aim to provide an open-door policy whereby parents can seek advice or support from any member of staff. We endeavour to communicate well through newsletters, topic leaflets, homework diaries, reading journals, reports, open days, parental workshops, and the website. Furthermore, parents are invited into school during Maths celebration events to discuss methods the children use with their class teacher and provide opportunities for learning Maths at home.

Homework is given throughout school to consolidate work undertaken in class. Regularity and amount of homework differs throughout school we endeavour to give one piece of Maths homework per week. Year 6 operate a homework club after school.