



MATHEMATICS POLICY

Note: When reference is being made to Probus School, this policy refers to Probus Pre-School and Probus Kids Club.

MATHEMATICS POLICY

1. AIMS AND OBJECTIVES

- 1.1. At Probus School, we value every pupil and the contribution they have to make; therefore, we aim to ensure every child achieves success. Mathematics is a highly creative subject that provides a foundation for understanding of the world around us. It enables children to develop an ability to calculate, to reason mathematically and to solve problems, through understanding patterns and relationships in both number and space. These are crucial skills in everyday life, and critical in science and technology. High-quality mathematics education should make children curious and be enjoyable, as well as encourage an appreciation for mathematics as beautiful and powerful.
- 1.2. The aims of mathematics for all pupils:
 - become fluent in the fundamentals of mathematics, through varied and frequent practise with increasingly complex problems over time, so pupils develop conceptual understanding, 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.

2. TEACHING AND LEARNING STYLE

- 2.1. At Probus school, we use a variety of teaching and learning styles during mathematics lessons. We believe all pupils can attain highly in mathematics and all pupils have different strengths and development areas. As a result, we teach pupils in groupings that are flexible and dependent on the pupils needs. The large majority of pupils progress through the curriculum content at the same pace. Differentiation is achieved by emphasising deep knowledge and through individual support and intervention. The questioning and scaffolding individual pupils receive in class as they work through problems will differ and pupils who grasp concepts rapidly are challenged through more demanding problems which deepen their knowledge further.
- 2.2. Practise and consolidation play a key role to mathematics learning. Carefully designed variation within this builds both fluency and understanding of underlying mathematical concepts. Teachers plan progression in relatively small steps, which pupils must master before moving to the next stage. This means at early stages of learning, focus is placed on curriculum content in considerable depth. Teachers use precise questioning in class to test conceptual and procedural knowledge, and assess pupils regularly to identify those requiring intervention so that all pupils keep up. Teachers ensure that concepts are modelled to pupils using multiple representations- ensuring there is a mixture of concrete, pictorial and abstract examples. Pupils are also encouraged to make rich connections between different mathematical ideas to develop fluency, reasoning and an ability to solve increasingly complex problems.
- 2.3. To promote enjoyment, enthusiasm and confidence for maths, we ensure pupils have plenty of opportunities to learn in an engaging, interactive manner, through play, games or taking part

in outside activities. Our programme of 'Multiplication Challenges' from Y2 onwards helps develop instant recall of key facts for children in a manner they find thrilling.

- 2.4. The role of 'talk' is an important feature of maths lessons at Probus. This helps pupils become fluent in mathematical recall of facts and to understand maths concepts more deeply.
- 2.5. Each classroom has a wide range of resources, which are accessible for the children to support their work, including number lines and squares, digit cards and small apparatus. Each has a working-wall including an inviting, informative display, which may encompass vocabulary, examples of children's work, modelled examples of methods and good examples of mathematical reasoning and problem solving. The aim of this is to provide a focal-point for children during lessons and support and celebrate their learning. Children use ICT in lessons where it will enhance their learning.
- 2.6. Mathematics at Probus is not reserved for Maths lessons. Pupils apply their mathematical knowledge to science and in other subjects.

3. MATHEMATICS CURRICULUM PLANNING

- 3.1. The National Curriculum for Mathematics (2014) describes in detail what pupils must learn in each year group. Combined with our Calculation Policy, this ensures continuity, progression and high expectations for attainment in mathematics at Probus.
- 3.2. At Probus, we use the Abacus Maths Scheme as a foundation to Maths planning. This ensures our curriculum is mapped-out across all phases which ensures continuity and supports transition. We actively supplement this programme with other materials including those from White Rose Maths, AET Maths and NCETM to provide a rich and varied approach is taken towards reasoning and problem-solving.

4. EARLY YEARS FOUNDATION STAGE

- 4.1. Mathematics within the EYFS is developed through purposeful, play based experiences and will be represented throughout the indoor and outdoor provision. The learning will be based on pupils' interests and current Cornerstones themes and will focus on the expectations from Development Matters / Early Years Outcomes. As the pupils progress through, more focus is placed on representing their mathematical knowledge through more formal experiences. Pupils will be encouraged to record their mathematical thinking when ready and this will increase throughout the year.

5. TEACHING MATHEMATICS TO CHILDREN WITH SPECIAL NEEDS

- 5.1. We teach mathematics to all children, whatever their ability. It is part of the school curriculum policy to provide a broad and balanced education to all children. We provide learning opportunities that are matched to the needs of all children. Work in mathematics takes into account the targets set for individual children in their Individual Education Plan (IEPs).
- 5.2. Through our mathematics we provide opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents, and those learning English as an additional language, and we take all reasonable steps to achieve this. For further details, see separate policies: Special Educational Needs; disability Discrimination; Gifted and Talented Children; English as an Additional Language (EAL).

6. MATHEMATICS CURRICULUM PLANNING

6.1. Formative Assessment (AFL- monitoring children's learning)

Assessment is an integral and continuous part of the teaching and learning process at Probus and much of it is done informally as part of each teacher's day to day work. Teachers integrate the use of formative assessment strategies such as: effective questioning, clear learning objectives, the use of success criteria, effective feedback and response in their teaching and marking and observing children participating in activities. Findings from these types of assessment are used to inform future planning. Children are also encouraged to identify and discuss how they can improve their own and each other's work

6.2. Summative Assessment (evaluating children's learning)

Assessments of key objectives are recorded on Classroom monitor- an online tracking tool- which along with half-termly Star Maths assessment tests and yearly standardised tests, help inform a teacher's judgement about the progress of each child.

Statutory End of Key Stage Assessments are carried out in Y2 and Y6 where the children are assessed and assigned a level of attainment.

7. MONITORING AND REVIEW

7.1 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.

- Sets and ensures the implementation of Maths SIP targets, through evaluation of strength and weaknesses and in consultation with SLT.
- Prepares, organises and leads CPD and joint professional development. This is an essential component in developing a mastery approach in our school.
- Works with SLT to discuss the progress of Mathematics in school.
- Monitors and evaluates mathematics provision in the school by conducting regular work scrutiny, learning environment walks and assessment data analysis.
- Supporting colleagues in the teaching of mathematics for example through disseminating information in staff meetings and CPD opportunities.

Signed:

Date:

Reviewed and revised: Summer 2018

Next Review: Summer 2020