Maths Policy
North Wootton Academy

This policy should be read in conjunction with the Calculation Policy.

What is maths and why is it important?

Maths is where we learn and develop our mathematical knowledge, understanding the interconnection between concepts and applying this across a range of scenarios to develop problem solving and reasoning skills.

Pupils will be taught to understand what mathematics is and why we learn this through the following statement.

Today we are going to be mathematicians:
We will learn how to apply our mathematical knowledge across a variety of concepts and make connections between them, allowing us to be critical thinkers and problem solvers.

Aims of the National Curriculum

The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and 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 nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Intent

At North Wootton Academy, we aim to provide our pupils with a high-quality mathematics education that equips them with key skills and conceptual understanding of mathematical concepts and develops their ability to communicate their mathematical reasoning and become critical thinkers.
We aim to:
● develop mathematical competency and skills and understanding across key concepts
● develop fluent mathematicians who are confident and able to apply their mathematical knowledge to a variety of problems
● develop pupils' ability to reason about mathematical concepts and make connections within the mathematics programme of study, the whole school curriculum and between disciplines and the wider world
● develop independent problem solvers who take risks in their learning and challenge themselves
● foster an enjoyment of mathematics and create critical thinkers

Implementation

Curriculum – The mathematics curriculum is structured into units for each year group. Each unit builds upon learning from the previous year group and has been designed so that links between concepts can be made. Units are designed to focus on one specific area of the mathematics curriculum so that pupils have time to deepen their understanding as well as making connections across the different areas of learning.

Pedagogical approach – The school is currently embedding a mastery approach in teaching. As such, North Wootton Academy is working alongside the Cambridgeshire Maths HUB, following a mastery programme. We strongly believe that becoming a mastery school will help us to deliver our mathematical intent and continue to raise attainment and enjoyment of mathematical learning throughout the school.

Classroom practices – In classrooms, there are many systems in place to support us in achieving our aims. Throughout the school, children are taught to become fluent in the key mathematical concepts.

- In Key Stage 1 and EYFS, classes have a Number of the Day, completed weekly, within which pupils are taught to make connections and apply their understanding of mathematical concepts through just one number.
- In Key Stage 2, children complete Fluent in Five, which are 5-minute sessions looking at fluency within calculations and developing reasoning through discussion of appropriate methods.
- Across the school a CPA (concrete, pictorial and abstract) approach is applied to support depth of understanding across calculations and mathematical concepts (examples noted in calculation policy).
- Every maths lesson includes an element of fluency, reasoning and problem solving to develop a depth of understanding across the mathematics curriculum.
- Lessons are structured in a way that includes teacher modelling, pair work and independent learning with a 'hinge question' to assess progress within a lesson, allowing for immediate targeted support and scaffolding of tasks.
- Learning tasks are adapted so pupils can access them, with support in place using scaffolding and tasks are extended in a way designed to deepen thinking and develop problem solving and reasoning skills.

Impact

Daily – On a daily basis, assessment, marking and feedback is the most effective way of measuring impact. Live marking is used as much as possible with the children so that teachers are able to gain immediate feedback on the progress being made within a lesson and identify gaps in learning. These are then plugged through either immediate intervention in the lesson or during a short catch up session later in the week.

Additional tracking – Fluency is tracked on a half termly basis to allow staff to identify quickly any ongoing areas of weakness that may need to be addressed in a more formal intervention setting for a short period of time and allows for vulnerable groups to be tracked carefully. In addition, from Year 1 upwards, more formal termly assessments are used (PiXL tests and SATs papers) and full QLAs are taken, with the weakest areas being addressed within lessons.

All of this information is used to make a termly judgement about the working level of each pupil; these are then quality assured through a data validation process where data, books and teaching are reviewed by the subject leader and discussed with class teachers to ensure accuracy in assessment. All SEND, EAL and pupil premium champions track these cohorts specifically on a half-termly basis and conduct pupil progress reviews twice yearly. Regarding SEND pupils, this may involve the reviewing of their progress on NAP steps as required for pupils 2 years below the expected level. Within EYFS, key milestones have been identified across the year and these are used to assess understanding of pupils and to identify any gaps that need addressing.