

# Appleton Wiske Community Primary School

## Mathematics Policy

### Intent

Our mathematics curriculum teaches pupils to make sense of the world around them by developing their ability to calculate, communicate, reason and solve problems. We aim to inspire our pupils to appreciate the beauty and power of mathematics in order to fully understand and grasp relationships and patterns in numbers, shapes and space. Our pupils learn that mathematics is essential to everyday life and is intrinsically linked to other disciplines such as science, technology, engineering and finance. At our school, pupils will:

- Gain an appreciation for mathematics and an enjoyment of the subject
- Develop their knowledge and understanding of concepts which enable mastery in mathematics
- Develop their mathematical fluency and the ability to recall and apply knowledge rapidly and accurately
- Learn to reason, think logically and work systematically to solve problems in real life
- Develop an understanding of mathematics through a process of enquiry and practical experiences, both independently and collaboratively
- Learn to express their thinking and communicate using the correct mathematical vocabulary
- Use their initiative and apply their learning in mathematics across the curriculum

### Implementation

The mathematics curriculum is delivered through discrete lessons focusing on specific skills and knowledge, and learning is clearly sequenced so that pupils revisit and recall previous learning in order to develop mastery in the subject. We provide opportunities for our pupils to use and apply their learning in everyday situations, including problem solving, and links are made with other curriculum areas. Pupils use a range of resources to enhance their learning in mathematics, including ICT, number lines, number squares, digit cards and practical apparatus. The school has developed a guide to calculations which illustrates progression and outlines methods to be taught.

In EYFS, the teaching of mathematics covers 'Numbers' and 'Shape, Space and Measures' and is underpinned by the *Characteristics of Effective Learning*: playing and exploring (engagement), active learning (motivation) and creating and thinking critically (thinking). Pupils are taught through play and they experience mathematics through a wide range of activities which are both child led and adult supported including songs and rhymes; practical activities and mathematical games; individual, group and whole class discussions and activities; open and closed tasks; active 'hands on' ways of recording; working with computers as a mathematical tool; problem solving/investigations. Concepts of shape, space, direction, size, length, capacity and mass are developed through sand, water and tactile play, outdoor provision, small world play, storytelling and nursery rhymes. In Key Stage 1 and Key Stage 2, we cover all aspects of mathematics as outlined in the National Curriculum:

Year 1	Number and Place Value; Calculations; Fractions; Measurement; Geometry
Year 2	Number and Place Value; Calculations; Fractions; Measurement; Geometry; Statistics
Year 3	Number and Place Value; Calculations; Fractions; Measurement; Geometry; Statistics
Year 4	Number and Place Value; Calculations; Fractions and Decimals; Measurement; Geometry; Statistics
Year 5	Number and PV; Calculations; Fractions, Decimals and Percentages; Measurement; Geometry; Statistics
Year 6	Number and PV; Calculations; Fractions, Decimals and Percentages; Ratio and Proportion; Algebra; Measurement; Geometry; Statistics

We teach and challenge our pupils through 'Convince Me Maths', which extends their mathematical understanding through reasoning and provides appropriate differentiation for all. Each unit follows the same sequence: Vocabulary, Show (concrete, pictorial, abstract), Do (fluency), Think, Explain and Solve. Pupils are given opportunities to work on a range of activities with varied timescales – some short in duration and some developed over a longer period. Pupils engage in practical activities and mathematical games; problem solving/investigations; individual, paired, group and collaborative activities; open and closed tasks; a range of methods of calculating such as mental, pencil and paper and using a calculator; and consolidation of basic skills and number facts. Work is marked using the school's marking code (see feedback policy) and, in Years 2 to 6, pupils self-assess their work. All pupils are provided with next steps, and they are given time to make corrections or extend their learning. Through 'Convince Me Maths', pupils become more independent and responsible for their own learning.

See 'Mathematics – A Whole School Approach'

#### Assessment:

Pupils are assessed according to the criteria set out in the Early Years Foundation Stage and National Curriculum for Years 1 to 6. In EYFS, regular observations and assessments of learning are recorded using Learning Journeys and the school's Early Years online monitoring system. Pupils are assessed at the end of EYFS using the Early Years outcomes for 'Numbers' and 'Shape, Space and Measures'. In Key Stage 1 and Key Stage 2, the school's electronic tracking system is used for planning, tracking and assessment, and provides clear progression through the skills and knowledge needed in each year group. Formative assessment is ongoing; teachers monitor pupils' learning throughout every session and adapt their practice and planning accordingly. Formal assessments in mathematics are carried out, tracked and monitored at least termly. Summative assessment is tracked on the school's electronic tracking system and used to measure pupil progress. Pupil progress is monitored by the Head Teacher and teaching staff in order to identify gaps in learning or slow progress. Teaching staff attend moderation sessions organised by the local authority and with the local cluster of schools. End of Key Stage assessments are analysed by the Mathematics Leader and Head Teacher, which then feed into the SEF and SIP. Parents are informed of their child's progress in mathematics through parent/teacher consultations, written reports and informal discussions throughout the year. Monitoring of the subject is carried out by the Mathematics Leader, Head Teacher and Link Governor. A variety of methods are used, including lesson observations, learning walks, planning scrutinies, book scrutinies and pupil conferencing.

#### Impact:

Our pupils receive a deep and rich mathematics curriculum which allows them to develop their fluency, reasoning and problem solving skills. Progression of knowledge and skills is clearly sequenced and cumulative, ensuring pupils build on prior learning so that they understand and can apply this to future learning across the whole curriculum. Our mathematics curriculum provides a foundation for understanding the world and prepares pupils for their lives beyond primary education.

Revised: June 2021

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Name	Position	Signature	Date
Neil Clark	Head Teacher		
Karen Hainsworth	Class Teacher/Maths Lead		
Liz Atkinson	Class Teacher		
Bethany Rowling	Class Teacher		
Paula Gudger	HLTA		
Nicki Guyll	HLTA		
Helen Allen	GTA		
Jackie Loverock	GTA		
Sue Stainthorpe	GTA		
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