

Appleton Wiske Community Primary School
Mathematics Policy

At Appleton Wiske Community Primary School we believe mathematics teaches children how to make sense of the world around them through developing their ability to calculate, communicate, reason and solve problems. It enables children to understand and appreciate relationships and patterns in numbers, shapes and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics. The statutory requirements for the teaching and learning of mathematics are laid out in the National Curriculum 2014. In the EYFS they are laid out in 'Specific' areas of Numbers, Shape, Space and Measures.

We are an inclusive school; we set high expectations and recognise the importance of accurate and regular assessment in order to support individuals at every part of their learning journey and in whatever circumstances. We use one-to-one support, small groups and cross-phase work to help with this. We plan teaching opportunities to help children with additional needs outlined in the SEND code of practice. We view equal opportunities in the widest possible sense as embracing the well-being, contribution and development of all the school community irrespective of gender, race, religion, ability, disability, age or socio-economic group. We aim to provide for all children so that they achieve as highly as they can towards mastery in mathematics according to their individual abilities.

We aim for our children to develop:

- an awareness of the fascination of mathematics and a positive attitude towards the subject.
- competence and confidence in knowledge, concepts and skills to achieve their full potential towards mastery in mathematics.
- an ability to reason, think logically and work systematically and accurately to solve problems in real life.
- initiative and an ability to work independently and in co-operation with others.
- an ability to express their thinking and communicate using the correct mathematical vocabulary.
- the skills to use and apply mathematics across the curriculum.
- an understanding of mathematics through a process of enquiry and practical experiences.

Teaching and learning styles

The school uses a variety of teaching and learning styles. Our principal aim is to develop children's knowledge, skills, understanding and mastery in mathematics. Wherever possible, we encourage the children to use and apply their learning in everyday situations. Problem Solving in mathematics is integrated into planning and teaching and where possible, cross curricular links are made. In all classes there are differing mathematical abilities. We teach and challenge all pupils through 'Convince Me Maths', which is based on a number of key research theories and resources to create a rigorous approach to learning mathematics. It allows children time to think and to enjoy an exciting journey saturated with exploration, reasoning and finding key relationships. Children start at the same point using concrete manipulatives and move quickly and successfully through a range of reasoning and problem solving challenges in order to access the mastery curriculum. This teaching model allows all children the opportunity to move at a rapid pace with teachers guiding them as necessary to more concrete and pictorial support in order to fully understand and embed the basic concepts. We provide suitable differentiated learning opportunities for all children by matching the challenge of the task to the ability of the child. Children are given opportunities to use mathematics in computing where it will enhance their learning through modelling ideas and methods.

Planning

- The mathematics curriculum is delivered using the National Curriculum Programmes of Study for 2014.
- In the EYFS, the Early Learning Goals are followed to ensure continuity and progression from the Early Years Foundation Stage through to the National Curriculum.
- The three key aims of the new mathematics curriculum (fluency, reasoning and problem solving) are approached in every area of mathematics teaching.
- Mathematics is planned for separately to other subjects.
- Planning includes differentiation by age and ability when appropriate.
- Short term planning is flexible and fluid, allowing for assessment and reflection after each session.
- Children with additional entitlements such as SEND and Pupil Premium will be identified in the teacher's planning with appropriate provision in place.

- Long and medium term plans are based on the yearly expectations set out in the National Curriculum and through the use of additional supporting documents.

EYFS

In the Early Years Foundation Stage, the teaching of mathematics covers Numbers, Shape, Space and Measures. Children are taught through play and they experience mathematics through a wide range of activities 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.

Key Stage 1 and Key Stage 2

The National Curriculum 2014 is organised into areas of Number, Measurement and Geometry throughout Year 1 to Year 6 with Statistics being introduced from Year 2 upwards and Algebra and Ratio and Proportion in Year 6. The school has developed a guide to calculations which illustrates progression and outlines methods to be taught. Through all areas, children are given opportunities to work on a range of activities with varied timescales – some short in duration and some developed over a longer period. Children 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; working with technologies such as iPads; consolidation of basic skills and number facts.

Assessment

- 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.
- Pupil Progress is monitored by the Head Teacher and teaching staff in order to identify gaps in learning or slow progress.
- End of Key Stage Assessments are analysed by the mathematics co-ordinator and Head Teacher, which then feed into the SEF and SIP.
- Parents are informed of their children's progress in mathematics through parent/teacher consultations, written reports and informal discussions throughout the year.
- Tracking in the EYFS is through the use of NYCC's baseline and yearly tracking system.
- Targets and next steps in mathematics are set and reviewed regularly with the children.
- Children's work is moderated internally and externally throughout the year.

Monitoring

Monitoring is undertaken on a regular basis by the mathematics leader, Head Teacher and supported by the link governor. A variety of methods are used, including lesson observations, learning walks, planning scrutinies, book scrutinies and pupil conferencing. Monitoring evidence can be found in the Head Teacher's Monitoring File. The subject leader is responsible for improving the standards of teaching and learning in mathematics through:

- Attending regular training and network meetings and cascading information to staff.
- Monitoring the subject through a range of methods identified above.
- Developing the action plan and updating the policy in line with statutory requirements and the school's needs.
- Tracking pupil progress.
- Purchasing and organising resources.

Resources

There is a range of resources for the teaching of mathematics throughout the school. Classrooms contain resources such as number lines, number squares, digit cards, apparatus and a 'Convince Me Maths' working wall which is accessed by the pupils to enhance their learning. Teachers have a range of resources, including ICT, for use in mathematics lessons and across the curriculum. Resources for children with additional needs are purchased and created as appropriate.

Revised: May 2019

Review date: May 2020

