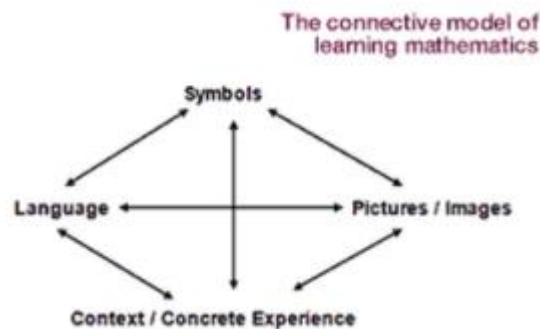


Mathematics Curriculum Policy 2023 - 2024

Rational and Intent Statement

At Knighton Mead we value a maths curriculum that is creative and engaging. All children are to have access to this curriculum and make progress in lessons. Our children need to develop the necessary skills to make them 'deep thinkers' acquiring maths skills that can be recalled quickly and transferred and applied in different contexts. They need to be able to make rich connections across the areas of maths and use their knowledge in other subjects. Maths is the foundation for understanding the world and we want our children to know the purpose behind their learning and to apply their knowledge to their everyday lives. To do this, we consider the model of connectivity as presented by Haylock and Cockburn



National Curriculum Aims

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 have conceptual understanding and can recall and apply their knowledge rapidly and accurately to problems

Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

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.

We follow the National Curriculum for each year group, which is supported by published and teacher made materials. This provides flexibility, which allows teachers to be creative and develop professionally.

White Rose

To support the teaching of maths, we follow the White Rose scheme of Work. This ensures that our children have full coverage of the Maths National Curriculum and to allow our children to revisit topics several times over the year allowing their knowledge to embed.

At Knighton Mead, we believe that mastery is achievable for all. White Rose combines the best of both 'mastery' and 'spiral' approaches in the curriculum. It follows many mastery principles:

- Longer on topics to gain a deeper understanding
- Making connections
- Keeping the class together on the same topic
- Through effort, all pupils are capable of understanding, doing, and improving at maths.

At the same time, recognising that spending a good chunk of time on a topic doesn't mean all pupils will 'master' it the first time they see it. They need to do it again and again in different contexts and different years to truly develop their understanding on their journey to mastery, therefore building in revisiting and reinforcing activities are important features of a spiral curriculum too.

Teaching Strategies

Direct teaching of class, groups or individuals is planned as appropriate using a range of interactive and practical approaches suited to a variety of learning styles. When working with the whole class, we use an interactive approach wherever possible. A balance of practical, investigative, oral, and written activities is used throughout the school.

Children are given opportunities for investigative work and problem solving, at all ages and levels, to develop their ability to apply their mathematical skills to real life situations.

The children develop their mathematical language through opportunities to question and explain their methods and in discussion with the teacher, support staff and each other. As a school, we have high expectations and standards regarding presentation and methodology to provide consistency and continuity. Children's recordings are encouraged to be neat and of a high standard presented in a clear and organised way and in a variety of forms.

Concrete, Pictorial, Abstract

Working alongside the model of connectivity we advocate the use of the CPA approach. Children throughout the school need to be given the opportunity to see maths in a variety of contexts. The use of physical objects should not be seen solely as the domain of the Early Years.

All classes are required to have a dedicated maths zone with a variety of equipment available for the children to access during every maths lesson. All children, regardless of their year group will be encouraged to use resources to aid their learning.

All children are encouraged to use models and images to aid their understanding. As highlighted in the White Rose scheme of work, all children will be taught and encouraged to use tens frames, part, whole models and bar models. These will be evident in all classrooms and in children's workbooks.

Coverage

EYFS

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 the expectations from Development Matters / Early Years Outcomes. Mathematical understanding can be developed through stories, songs, games, imaginative play, child initiated learning and structured teaching

Key Stage 1

Children in Key Stage 1 receive a daily maths lesson of 1 hour. They carry out Morning Calculations 3 times a week.

Key Stage 2

Children in Key Stage 2 receive a maths lesson of 1 hour 4 x weekly. They carry out Morning Calculations 5 times a week. They also have 2 more sessions for teaching mental maths and times tables.

Entitlement

At our school we teach Maths to all children, whatever their ability and individual needs. Maths forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our maths teaching we provide learning 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. All children are catered for within maths lessons ensuring that the teacher offers the necessary support and challenge for each individual to make progress. We ensure that maths is taught in creative and engaging lessons using a wide range of manipulatives to aid and support our children in their learning. ICT is used across the school to deliver the maths curriculum and to offer our pupils a range of exciting activities to challenge and inspire.

Planning

Long Term

The 2014 National Curriculum provides the long-term planning for Mathematics throughout the school.

The framework has six main areas of study:

- Numbers (including place value, addition, subtraction, multiplication, division, fractions, decimals, and percentages)
- Ratio and Proportion
- Algebra
- Measurement
- Geometry
- Statistics

Medium Term

The White Rose scheme of work lays out the order and term in which skills are taught. Teachers, in consultation with the maths coordinator have a certain amount of flexibility in ensuring that it meets the needs of children in their class. More time can be spent on area whilst also ensuring that other mathematical skills are not neglected.

Short Term

All teachers are required to plan on a weekly basis for their class. Assessment for learning will guide the teacher to make the decision if the children are ready to move on, or if they require longer on a particular subject.

Assessment

Short Term

Children's classwork is assessed frequently through regular marking, analysing children's errors, questioning and discussion. Children's work is marked, and feedback is given with next steps in line with the marking and feedback policy.

Medium Term

At each data point all children will complete a White Rose assessment.

Key Stage 1: 1 x arithmetic, 1 x reasoning and problem solving

Key Stage 2: 1 x arithmetic, 1 x reasoning and problem solving

Evidence will also be drawn from the following areas:

- Highlighted assessment grids (when the children have mastered a skill, not when they have covered a skill)
- Work in books (including Every Day Calculation books) and on Tapestry
- Weekly mental maths tests results
- Times tables sound check to be carried out at each data point

Pupil interviews can be carried out with pupils who you feel more clarification for.

Long Term

Long-term assessments are made against Age Related Expectations. The following tests are also carried out annually:

- SATs at the end of Y6
- Y4 Times Tables Test