



Curriculum Map: mathematics

Learning and achievement for all: a curriculum rich in knowledge about our world

Intent: Our mathematics curriculum is designed to develop confident, enthusiastic and highly motivated learners who are articulate, resourceful, resilient and reflective young mathematicians. We teach a range of approaches to solve problems, so that our children ultimately choose and use the most effective and efficient methods.

Mathematics lessons follow the mastery approach, ensuring that our children acquire a deep, long-term, secure and adaptable understanding of the subject, enabling them to move on to more advanced concepts and methods in a timely fashion.

Our 'underpinning' scheme- The OFSTED endorsed 'Power Maths':

- *builds every concept in small, progressive steps
- *is built with interactive, whole class teaching in mind
- *provides the tools needed for growth mindsets
- *helps the checking of understanding and ensures that every child is keeping up
- *establishes core elements such as intelligent practice and reflection

Mathematics lessons make clear links with other curriculum subjects and learning is rooted within real life contexts. Our mathematics curriculum is carefully designed to provide opportunities to revisit concepts/methods in order to secure understanding and use and apply these in wider and more abstract mathematical situations. A strong emphasis is placed on arithmetic and fluency with number, place value and the four operations in order to equip children with the ability and confidence to tackle mathematical problems and investigations.

Implementation:

There are five 'elements' to the implementation of our Mastery Approach:

1. Coherence

Our lessons are broken down into small, connected steps that gradually unfold the mathematical concept, providing access for all children and leading to a generalisation of this concept and the ability to apply it to a range of contexts.

2. Representation and Structure

Concrete and pictorial representations are used liberally in our lessons to unlock and expose the

mathematical concept being taught, the aim being that, ultimately, pupils can do the mathematics without recourse to the representations originally offered.

3. **Mathematical Thinking**

In order to be understood deeply, taught mathematical ideas are worked on by our pupils, they are thought about, reasoned with and discussed with others. They are not merely passively received.

4. **Fluency**

Our pupils quickly, efficiently and effectively recall facts and procedures and this allows them to flexibly move between different contexts and representations of mathematics.

5. **Variation**

The teaching staff represent the mathematical concept (often in more than one way) to draw attention to fundamental critical episodes in order to develop a deep and holistic understanding. Furthermore, the sequencing of the episodes, activities and exercises used within a lesson and follow up practice, pay close attention to what is kept the same and what changes. Variation allows the mathematics to be connected and draws attention to inherent relationships and structure.

- Teachers use on-going assessment and give regular feedback to address misconceptions and identify areas where support is needed. Power Maths assessments take place on the completion of each unit and the school is currently trialling the summative assessment materials from this scheme.
- Our calculations policy is well established and embedded within our lesson sequences. It is applied consistently across the key stage and aligns with that of the local high school and our key feeder infant schools. The yearly overviews ensure full and appropriate coverage of all mathematical objectives and progression of skills.
- Mathematical language and vocabulary is a key focus and is taught explicitly. It's correct use is modelled and encouraged
- Children reflect on learning using self-marking and correct/upgrade answers using a purple pen
- Mathematical fluency is taught within and alongside our core scheme and is practiced daily by all children. Questions are tailored to meet the objectives of the National Curriculum and progression/continuity is built upon within and between year groups
- Timetables are learnt and rehearsed daily by all classes in all year groups. A 'Times Tables Rockstar Club' is available weekly for our Year 3 and 4 children
- Knowledge organisers are beginning to be used to reinforce and extend the recall of mathematical facts and methods
- All of our pupils are actively encouraged to choose and use effective and efficient working strategies and to be persistent and resilient learners. All teaching staff promote and model such methods and behaviours. At key points within, and at the close of lessons, pupils are given opportunities to reflect upon these key principles and the impact that they have had on their success.
- Learning is scaffolded, reinforced and extended through carefully structured teaching and a wide variety of concrete and pictorial resources to allow individuals to harness, consolidate and internalise skills. Resources are readily available in classrooms, from which teachers can select and children can independently choose in order to demonstrate and communicate their mathematical understanding and reasoning.
- Cross-curricular opportunities within the curriculum consolidate mathematical understanding/learning

Impact:

Children recognise the importance of mathematical achievements. They become confident and capable mathematicians who can increasingly use and apply their understanding and select efficient and effective

working strategies in real life situations. Children become quicker and more accurate in their recall of multiplication facts and application of arithmetical fluency.

Children can explain their understanding and working methods and use the appropriate mathematical vocabulary to express precisely their reasoning.

By the end of their time at Kinsale, children will have the mathematical knowledge and understanding to go confidently onto the next stage of their educational journey.

