



# Kiwi Primary School

## Maths Curriculum: Intent, Implementation & Impact

### SOAR

- We **S**trive for success
- We **O**wn our actions
  - We are **A**mbitious
- We are **R**espectful, reflective and resilient

Maths the Kiwi  
way is:

Exciting  
Practical  
Meaningful  
Purposeful  
Relevant  
Memorable

Inclusive  
Pacey  
Engaging  
Challenging  
Progressive  
Visual

## Intent

At Kiwi Primary School, we are committed to providing all our children with a grounded understanding of Maths, equipping them with the skills of calculation, reasoning and problem solving, that they need in life beyond school.

We promote a positive, can-do attitude towards all maths learning and have high aspirations for all our learners.

It is our aim that every pupil can look back positively on their school experience having reached the highest standards of work and achievement. Our school ethos is underpinned by our school values based upon 'SOAR':

- We Strive for success
- We Own our actions
- We are Ambitious
- We are Respectful, reflective and resilient

By the end of Foundation Stage it is our intent that all children are confident with counting aloud; understand one more, one less and can select resources to support their learning; are able to subitise with confidence; are able to double numbers and use recall from rote.

By the end of KSI it is our intent that all children understand place value of numbers within 100 and can read and write these numbers; have a solid understanding of the value of two-digit numbers and are able to add and subtract 2-digit numbers using an efficient strategy; and to multiply and divide numbers linked to 2, 5 and 10.

By the end of LKS2 it is our intent that all children will be proficient at their multiplication – up to 12x; have a solid understanding of place value, including being able to determine the value of numbers up to 4 digits.

By the end of KS2 it is our intent that all children are self-reliant learners who able to select an efficient method of calculation for all operations; to show calculation fluency and to understand the connections between the four operations; are able to use technical vocabulary in full sentences to articulate understanding.

In our Resource Base our intent is to provide a tailored curriculum that responds to the needs of each individual child. It is our intent that all children will be able to develop confidence in their maths understanding; are given opportunities to progress at their individual pace; are able to access a high quality of education that enable all to reach their full potential.

## Implementation

At Kiwi Primary School, we follow the Primary National Curriculum, which provides detailed guidance for implementation and ensures continuity and progression in the teaching of mathematics. We use Mastery in Maths as our approach to teaching maths across the whole school. This approach dictates that children, once meeting the objectives, are extended through questioning, deep analysis and exploration to broaden their knowledge. This ensures that concepts are fully and securely understood before moving onto new objectives.

An essential part of teaching for mastery is the CPA Approach (concrete, pictorial, abstract). Teachers go between the three different stages to reinforce concepts.

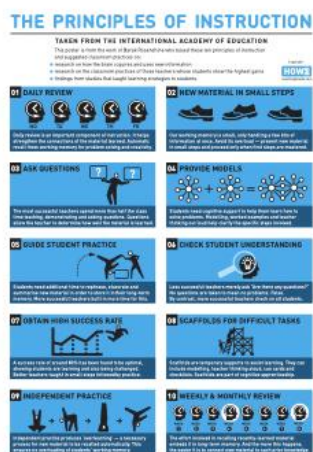
Concrete is the 'active' stage, using concrete objects/manipulatives to solve problems.

Pictorial is the 'seeing' stage, using representations of the objects involved in maths problems. This stage encourages children to make a mental connection between the physical object and abstract levels of understanding, by drawing or looking at pictures, circles, diagrams or models which represent the objects in the problem.

Abstract is the 'symbolic' stage, where children are able to use abstract symbols to model and solve maths problems. The 'abstract' concept is introduced when children have a firm understanding of the 'concrete' and 'pictorial'.

Our approach to teaching and learning is built around Rosenshine's Principles of Instruction. These define the key elements of effective practice. They are based around research, including [cognitive load theory](#), and are designed to give direct links from research into practice.

All lessons follow 10 basic principles:



- Review previous knowledge- Children to recap learning.
- New learning to be presented in small steps.
- Ask a large number of questions to encourage thinking and discussion.
- Provide models and representations.
- Guided student practice – variation in question type.
- Check for understanding throughout.
- Obtain high success rate.
- Provide scaffolds for difficult tasks- In place when needed, remove when not.
- Require and monitor independent practice.
- Engage children in daily, weekly and monthly reviews- (Flashback 4/ Big Maths)

At Kiwi Primary School we facilitate these principles through:

- Structured sessions with clear routines that identify and address gaps and misconceptions through targeted interventions
- Emphasis on verbal, formative feedback that is immediate
- Smooth links between formative and summative assessment processes to provide a clear understanding of pupil knowledge and gaps
- Planning templates with clear expectations for scripted modelling and success criteria for new knowledge
- Focus core skills and 'deepening skills' so all learners can succeed
- Regular opportunities for recall and review of previous knowledge
- A timetable with short, focused sessions
- Opportunities for developing positive learning behaviours
- Ensuring consistency across classes in year groups to ensure equal learning opportunities for all

Classroom routines and processes: *Rosenshine in action*

*At Kiwi Primary School, the primary role of all adults is to facilitate high-quality learning opportunities according to the principles outlined above.*

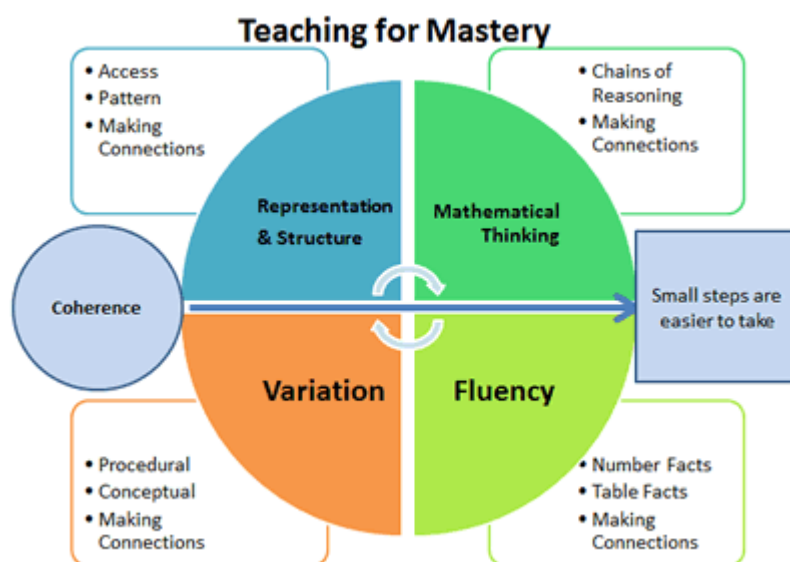
### The Curriculum

Our curriculum is bespoke to Kiwi Primary School and was designed to address the needs of our pupils and their context. There is a strong emphasis on developing core skills in maths, with opportunities to apply them across the curriculum. All curriculum content has been chosen and is viewed through the lenses of our school values.

As a school we ensure only high-quality resources are used to support learning. White Rose is used as the vehicle to drive the maths, with teachers adapting the lessons to incorporate the Rosenshine principles and the 5 Big Ideas, to meet the needs of all learners.

## Maths - Five Big Ideas in Teaching for Mastery

Lessons include the principles that underpin mastery, through the 5 Big Ideas. These are the central components in the teaching for mastery are the Five Big Ideas.



### Coherence

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

### Representation and Structure

Representations used in lessons expose the mathematical structure being taught, the aim being that students can do the maths without recourse to the representation

### Mathematical Thinking

If taught ideas are to be understood deeply, they must not merely be passively received but must be worked on by the student: thought about, reasoned with and discussed with others

### Fluency

Quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics

### Variation

Variation is twofold. It is firstly about how the teacher represents the concept being taught, often in more than one way, to draw attention to critical aspects, and to develop deep and holistic understanding. It is also about the sequencing of the episodes, activities and exercises used within a lesson and follow up practice, paying attention to what is kept the same and

what changes, to connect the mathematics and draw attention to mathematical relationships and structure.

### EYFS

We teach mathematics in EYFS using both White Rose and Mastering Number. Teachers and practitioners support children in developing their understanding of mathematics in a broad range of contexts in which they can explore, practice and discuss their developing understanding. Learning includes working with numbers, shapes and measures, recognising patterns, making connections, plus counting, sorting and matching. Our children in the EYFS learn by playing and exploring, being active, and through creative and critical thinking which takes place both indoors and outside. We recognise that children learn through routine, continuous provision and incidental learning opportunities, as well as planned sessions and activities. Mathematical understanding can be developed through stories, songs, games, routine, questioning, imaginative play, child-initiated learning and structured teaching. All objectives taught are linked to the Early Years Framework.

### Fluency in EYFS and KSI

Mastering Number is used across EYFS and KSI. It aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2. The aim over time is that children will leave KSI with fluency in calculation and a confidence and flexibility with number. Attention will be given to key knowledge and understanding needed in Reception classes, and progression through KSI to support success in the future.

### Fluency in KS2

In KS2, Number Sense is used to deliver The Times Tables Fluency programme. This builds fluency in multiplication and division facts and an understanding of multiplicative relationships. These sessions are taught daily in Year 3 and Year 4 with further consolidation implemented in Year 5 and Year 6.

### Multiplications Table Check (MTC)- Children in Y4 will sit the MTC in June.

In Y4, time is set aside daily to become proficient with multiplication. In addition to the daily practice, children have regular opportunity to practice and rehearse their tables through a wide range of activities, such as: Hit the button, TT Rockstars, Timetables Booklets. Timetables Rockstars is used to allow children to practice at home. to

### Resource Base Curriculum Organisation

The Resource Base has a range of learning spaces in which children can thrive and gain the skills and knowledge they need to progress through their education. The specialised classrooms enable the team to provide individual children with personalised experiences based on their particular needs. This is achieved through a combined approach of informal and more formal learning. The curriculum is tailored to each child – their needs and interests being of

paramount importance. The curriculum is designed in response to the needs of the individual children using the SEND assessment toolkit alongside a baseline assessment to then use small steps to work through their learning. Assessment is used throughout the year to ensure the level of learning is monitored and appropriate for the learner.

The curriculum is organised to meet the provision maps and targets set out in each child's Education and Health Care Plan. Each child will have their own visual timetable to help guide them through their days with a careful balance of sessions which is adapted to needs over time. This enables all children to have a personalised, highly engaging, multi-sensory approach to their learning.

### Impact

The implementation of this curriculum ensures that when children leave Kiwi Primary School, they are competent mathematicians. The impact of our mathematics curriculum is that children understand the relevance and importance of what they are learning in relation to real world concepts. Children know that maths is a vital life skill that they will rely on in many areas of their daily life. Children have a positive view of maths due to learning in an environment where maths is promoted as being an exciting and enjoyable subject in which they can investigate and ask questions; they know that it is reasonable to make mistakes because this can strengthen their learning through the journey to finding an answer. Children are confident to 'have a go' and choose the equipment they need to help them to learn along with the strategies they think are best suited to each problem. The Senior Leadership Team and Governors work a cycle of monitoring to ensure that the intent and implementation are embedded effectively resulting in the desired impact.