



Long Itchington C of E Academy

Maths Curriculum Intent Statement

Intent

The 2014 National Curriculum for Maths aims to ensure that all children:

- Become fluent in the fundamentals of mathematics
- Are able to reason mathematically
- Can solve problems by applying their mathematics skills

At Long Itchington, we enable children to become secure mathematicians by:

- Encouraging them to become deep thinkers;
- To make connections between the different areas of mathematical learning;
- Become fluent in arithmetic;
- Apply mathematical knowledge to solve increasingly complex problems;
- Recall facts quickly and apply them to differing contexts.

At Long Itchington, we ensure consistency, progression and coherency by structuring lessons so each step is deliberate and purposeful. Each lesson is designed so that learning focuses on connecting new mathematical ideas that have already been understood. Wherever possible, the maths curriculum is enhanced by linking content through other subjects such as science and computing.

Our Calculation Policy has been devised and is used by all teachers to follow a sequenced and coherent pathway. This is shared with parents in order to support children's learning at home.

Through constant revisiting and application of key facts throughout all strands of maths, children will leave Long Itchington fully prepared for the next stage in their learning.

Implementation

EYFS

Long Itchington ensures that maths is taught in Early Years in order to equip pupils with the skills, mathematical knowledge and understanding that they need before they move into Key Stage 1. Our reception class follows the White Rose scheme of learning which maps out the number, shape and space knowledge, pattern recognition and measures knowledge that children will learn. This ensures that a transition into Key Stage 1 provides our reception pupils with what they need in order to become confident in representing, communicating and independently applying their mathematical knowledge to contexts.

In addition to a daily White Rose Maths lesson, our EYFS pupils are developing their fluency skills by taking part in the NCETM Mastering Number programme daily. This enables pupils to engage in whole class discussions about number before having the opportunity to apply their learnt knowledge with carefully planned and sequenced continuous provision activities. Pupils are

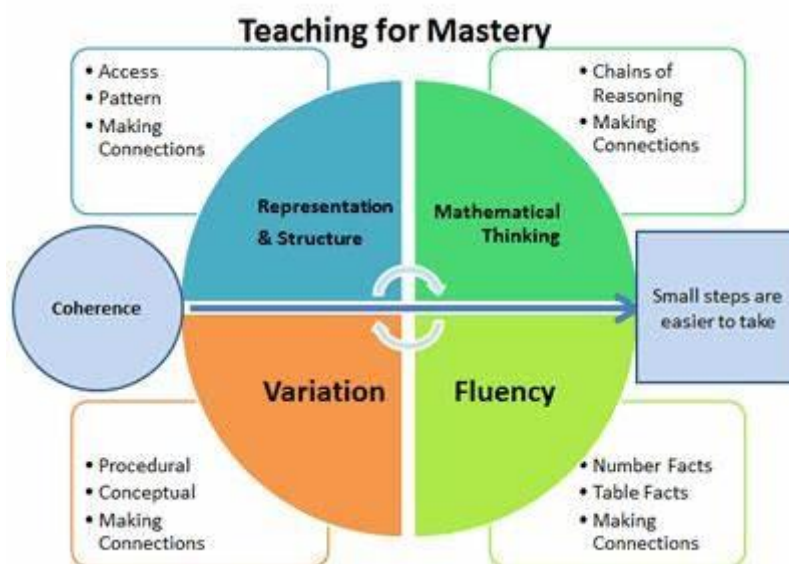
introduced to the manipulatives such as Numicon and part whole representations during activities which enables familiarity and development of the use of these as they move into Year 1. Pupils are also exposed to mathematical understanding through number stories, rhymes, poems and in real life contexts. For example, pupils are able to identify how many children are having a hot dinner or packed lunch through use of daily guided counting and subitising with their teacher using tens frames.

Key Stages 1 and 2

Long Itchington follows a teaching for mastery approach to support mathematical learning. Mastery is defined as:

- Representing concepts in multiple ways;
- Communicating solutions using mathematical language;
- Independently applying learnt concepts to new problems.

We follow the five “big ideas” from the NCETM:



1. Representation and Structure

Concrete, pictorial and abstract representations are exposed to children. All classes have a range of concrete manipulatives for children to explore with to support their learning. Through instruction and guided practice, children use concrete materials to demonstrate learning pictorially and then in abstract form. This sequence gives children the opportunity to access the concept being taught so they understand why mathematical algorithms and procedures work.

2. Mathematical Thinking

Taught ideas are not just received passively but are worked on to develop deep understanding. Children are given opportunities during guided and intelligent practice to explore possible solutions to problems, reason and discuss with peers and adults. Children will be given opportunities to structure their ideas to the class, where connections and

conjectures are begun to be made. Children will become “critical friends” when discussing mathematical problems.

3. Fluency

Children are given a range of opportunities to quickly and efficiently recall facts and procedures to then be able to use them in different mathematical contexts. All children from Years 1-6 take part in daily fluency practice. Key Stage 1 pupils take part in additional daily fluency sessions as part of the NCETM Mastering Number Programme. Key Stage 2 pupils complete daily arithmetic practice containing a mix of current and previous learning. Key Stage 2 pupils also have access to Times Tables Rockstars so that table facts can be practised regularly. The whole school takes part in weekly Maths Challenge awards – pupils can work towards set fluency tasks for age-related expectations – a Bronze, Silver, Gold and Platinum task in each year group. Long Itchington celebrate pupils’ achievement of each award during weekly celebration assemblies.

4. Variation

Teachers ensure that they vary the way a concept is presented and include varying practice questions so that mechanical repetition is avoided during lessons. Different orientations of pictorial representations are varied, missing number problems will feature in teaching and learning and pupils are exposed to different examples.

5. Coherence

Learning is broken down into small steps. At Long Itchington, we use the White Rose Maths scheme of learning where there is a focus on one key point each lesson, which allows for deep and sustainable learning. The sequencing of learning ensures that certain concepts are planned as important pre-cursors to later ideas. Knowledge of number and place value underpins all other mathematical learning, therefore the curriculum map of each year group show these topics as the starting points to their curriculum for the upcoming year.

The Structure of a Maths Lesson

What you will see in a maths lesson:

- A maths lesson is facilitated by the teacher, with all of the children in the class working on the same task at the same time.
- Maths lessons are organised so that children are working in mixed ability pairings or groups.
- Maths learning is not differentiated by task.
- Children who grasp concepts rapidly are further challenged through completing Deepening Understanding tasks.
- Those who are not yet fluent are given time to consolidate their understanding through the support of additional scaffolds and further guided practice.
- Pre-teaching is also a tool used during intervention time in order to prepare children for upcoming learning.

- Key questions are used throughout the lessons to elicit reasoning and encourage deeper understanding. Precise questioning is used so that teachers are able to identify those needing intervention.

Anchor Task
<ul style="list-style-type: none"> - An Anchor Task to link previous learning to new learning - Children are given time to explore, discuss and reason with their partner during the anchor task, use concrete and pictorial representations to support their reasoning
Vocabulary
<ul style="list-style-type: none"> - Class comes together to discuss anchor task - Children hear the modelling of correct mathematical vocabulary, visible on working walls - Misconceptions are addressed and new learning introduced
Guided Practice
<ul style="list-style-type: none"> - Tasks are scaffolded and modelled by the teacher to ensure the success of Intelligent Practice. - Teachers make effective use of interactive whiteboards to model concepts using high-quality, carefully designed teaching slides. - Explicit use of concrete, pictorial and abstract scaffolds and modelling of strategies and procedures through worked examples. - Teachers use metacognitive strategies when talking through worked examples. - Teachers ensure they are checking for understanding throughout guided practice in order to ensure pupils are ready for intelligent practice
Intelligent Practice
<ul style="list-style-type: none"> - Independent tasks to ensure procedural and conceptual fluency as opposed to mechanical practice - Deeper understanding takes place through carefully selected tasks

Pupils with SEND

Children with SEND will be supported to succeed in maths through given opportunities for pre-teaching and explicit addressing of misconceptions. Children may be supported to use concrete resources for an extended period of time. They may be offered bespoke provision initially supported by an additional adult as well as interventions.

Children with social, emotional and behavioural difficulties are given a bespoke package to motivate and support learning opportunities and success. This may include a behaviour chart and reward system and a visual success criteria. Children with physical and sensory needs may be provided with movement breaks during maths lessons, a concentration station or ear defenders.

Pre-teaching can be used to reduce anxiety and to set out expectations and routine for the lesson. Where children have communication and interaction difficulties, they may be supported through now and next communication, key vocabulary displays, a supportive partner or by an additional adult.

Some children may require additional processing time and bespoke lesson planning.

Monitoring

Monitoring of mathematics at Long Itchington is carried out with staff and using a collaborative, supportive and developmental approach.

Learning walks involve a learning discussion where staff have an opportunity to share their outcomes, scaffolding and assessment procedures. Leaders, teachers and children work collaboratively to carry out pupil voice discussions and book looks.

The evidence is triangulated and captures the process and the outcomes more accurately.

An overview of monitoring:

- Learning Walks – teaching and learning is captured through the structure, guided practice, intelligent practice and deepening understanding. There is also a focus on the modelling of concrete, pictorial and abstract concepts throughout the lesson.
- Pupil Voice – children discuss how they learn, show examples of their methods for calculations and explain their learning journeys.
- Book Looks – progress is captured through increased confidence in use of calculation fluency, reasoning and deepening understanding.
- Pupil Progress Meetings – discussions to identify pupils who are not making expected progress and to enable pathways to support those pupils to achieve. Pupil Progress Meetings can also identify where pupils are making better than expected progress and how this can be sustained and built upon.

Assessment

Assessment for learning takes place daily during maths lessons. Pupils who are finding a concept difficult to understand are supported through carefully selected scaffolding and additional guided practice. Pupils who are confidently understanding new concepts are encouraged to demonstrate deepening understanding of the same concept.

At the end of every term, a White Rose Maths assessment is carried out, consisting of both an arithmetic and reasoning paper.

Information from these assessments is collated and teachers identify any gaps in learning, addressing these as next steps in teaching. Planning of targeted, fluid and flexible interventions ensures that pupils are able to keep up with the curriculum and pre-teaching of new concepts equips these pupils with the skills and knowledge that they need before whole class teaching.

Leaders monitor the data from these assessments carefully and take appropriate steps to support the teaching and learning of maths at Long Itchington.