

At Team Larkfields, we aim to foster in each child a lifelong love of learning. We believe it is our responsibility to provide an environment of mutual respect and tolerance in which children not only feel secure, but enjoy themselves. Our goal is to enable them to achieve their very best in everything they do. We strive for our children to be confident global citizens who are prepared for the 21st century.

Our children Take Care of: Our children will flex the muscles of:

- | | | |
|-----------------|-----------------------------------------------------------------------------------|-----------------|
| Ourselves |  | Resilience |
| Each Other | | Resourcefulness |
| Learning | | Reflectiveness |
| The Environment | | Reciprocity |

Larkfields Junior School

Mathematics Policy

November 2017

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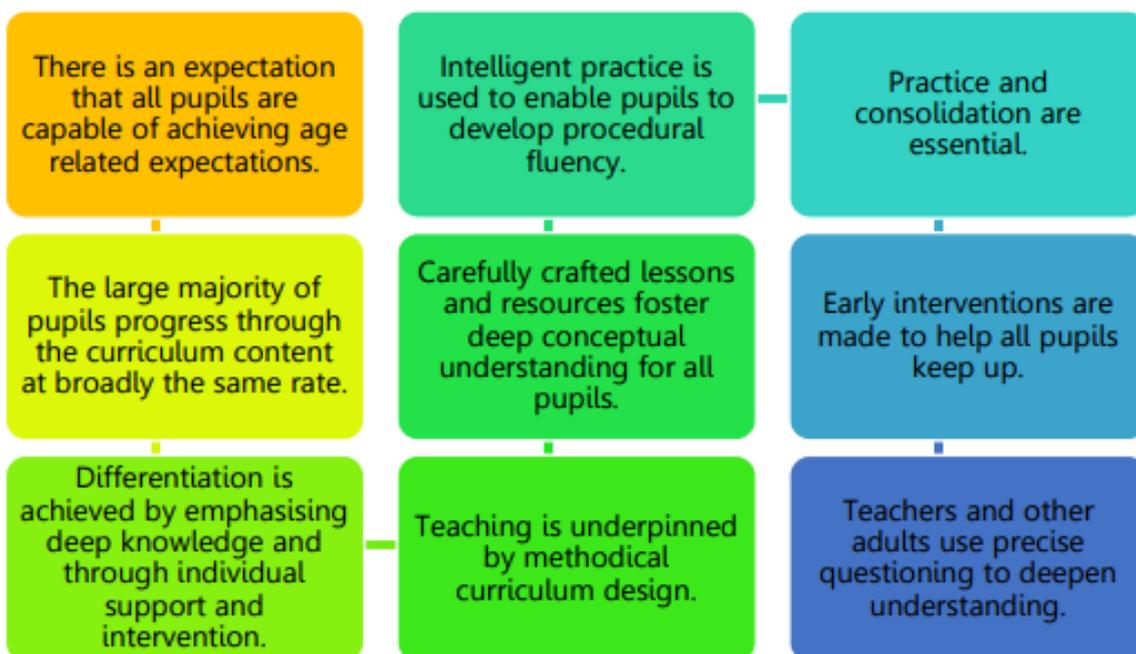
Introduction

'Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, the appreciation for the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.'

(National Curriculum, 2013).

Approach to Mathematics

At Larkfields Junior School, we have committed to a mastery approach to the teaching of Mathematics, which has the following goals:



a. Core Philosophies

In order to work towards these goals, as a school, we have adopted the following core philosophies, which will affect our classroom practice in the following ways:

- *All children are capable of succeeding.*

We have done away with the concept of 'less able children' in numeracy. In lessons children will all have access to an age-related curriculum. Differentiation will be

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addressed through the level of support they receive and the level of depth their tasks are pitched at.

- *Everyone moves through the curriculum at the same pace.*

We do not generally ability stream at Larkfields. Pupils who grasp concepts more rapidly will be extended by going into greater depth on the age related objectives. Pupils who find specific concepts more difficult to grasp will be given extra support during, before and/or after lessons as capacity allows.

- *If the vast majority of pupils haven't got it, go back and do it again.*

The only way to achieve mastery is to build upon a solid foundation of conceptual understanding and procedural fluency. To ensure a good level of understanding, it will be necessary to move through the curriculum more slowly at times, allowing everyone to keep up and the rapid graspers to deepen their understanding.

- *Talk is good.*

Aim 2 of the National Curriculum is for pupils to be able to reason mathematically. In order to develop this ability, children need to be able to talk about their mathematics. We aim to give children throughout the school the ability to do this in every lesson.

- *Less in each lesson, small steps, securely.*

To ensure no child is left behind in their learning, and pupils develop a genuine conceptual understanding of the topics covered, we try to include less in each lesson, making sure all pupils are able to understand the content thoroughly before moving on. The cohesive design of our mathematics curriculum and approach to planning enables teachers to achieve this.

- *More time on each topic, do it once, do it well.*

We have redesigned our curriculum in order to only cover topic once, with the key arithmetic skills being taught first in all year groups.

- *A commitment to key skills.*

In order to achieve mastery, pupils need to have procedural fluency. To this end, our curriculum is organised with the key arithmetic units first. These arithmetic skills are then drawn upon and reinforced through the teaching of other mathematical units throughout the year.

b. Aims

Through approaching mathematics in this way, our aim is that pupils would develop:

- a positive attitude towards mathematics;
- **fluency** in selecting and using appropriate methods of calculation;



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- their ability to **reason** mathematically with confidence, independence and flexibility to follow lines of inquiry, conjecture and an ability to generalise;
- an ability to **problem solve** using their fluency and reasoning as tools to facilitate their approach;
- a conceptual understanding through the process of using **concrete** resources, **pictorial** representations and finally **abstract** mathematical concepts;
- an appreciation of the patterns and relationships which make up the structure of mathematics;
- an ability to use and apply mathematical skills across the curriculum and in real life contexts.

c. Scheme

To aid us in our approach to teaching mathematics, as a school we utilise the White Rose Maths Schemes of Learning to structure both our long, medium and short term planning.

Assessment in Mathematics

Teachers continually assess children using formative assessment techniques. This enables teachers to quickly intervene in addressing misconceptions and guiding pupils learning. This approach to assessment also allows children who may not have grasped a concept to be targeted for immediate intervention either in the lesson, prior to the next lesson or through a targeted impact session. Teachers also gain a view on the progress of the class as a whole and when required can amend their weekly planning to provide additional teaching on specific concepts.

In addition to this, a formal baseline assessment is conducted using the NFER assessment materials, with termly assessments being conducted following this. These allow the school to track the individual progress of pupils across the school.

Resources

As discussed above, resources are essential for modeling concepts to **all** children through the 'concrete, pictorial, abstract' approach which we have taken as a school. To this end, every classroom has its own set of mathematical enabling items for children to access both independently to support their work and also as part of the taught element of lessons. Beyond this, we also have an extensive central store of resources which can be drawn upon by staff to help model concepts to children.

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In addition to these practical resources, we also make use of published materials such as Target Your Maths, Focus Maths, Teaching for Mastery by Oxford Owls and White Rose Maths Hub materials.