

Oakdene Primary School



Maths at Oakdene

Subject Leader: Mr. M. Weston

Mission Statement

Oakdene - Growing and Learning Together

The above statement is our Mission Statement which is what we are all aiming to achieve at Oakdene.

We will try to achieve this through our aims in everything we do at Oakdene.

The Maths curriculum is underpinned by the whole school Intent, Implementation and Impact statement.

(see separate Curriculum Statement document)

Maths at Oakdene

Intent

At Oakdene, we follow a Mastery approach to mathematics. The learning challenge (LC) will often be the same challenge from preceding and forthcoming lessons, as children develop their learning in depth and with variation. Children will work on the learning challenge at roughly the same pace, with the expectation that all children can do Maths. Children's learning should constantly demonstrate the aims of the Maths curriculum: Fluency, Reasoning and Problem Solving.

The teacher will have broken each learning challenge up into smaller steps (often using the White Rose Maths sequence of work for planning support). Progression should be visible through the work in books over a number of days on the same learning challenge.

We hope that our approach will help children develop a deeper understanding of key mathematical concepts and methods, whilst simultaneously giving them a determination to succeed in Maths, developing ever-increasing confidence and enthusiasm for the subject.

Implementation

The agreed structure of most lessons, following ideas from the Shanghai and Singapore approaches to Maths, is as follows:

Maths Recall (15 minutes)

Each day, there should be a 15-minute slot where children are practising their Maths skills and revising concepts already taught. This will generally be some number work to build children's fluency in basic number skills, times tables etc. Although it doesn't matter where in the day this session takes place, it will often be the first part of an hour-long Maths session. Teachers will use question level analysis from assessments, and objectives from their current year group (and previous ones as needed) to decide what is required in this slot. From Year 2 upwards, this recall slot will also incorporate 5-A-Day questions (or varying number depending on the year group) where prior work is revisited.

Challenge (15-20 minutes)

The main part of the Maths lesson will often start around a 'challenge' question linked to the current learning challenge. Children work on this together, in mixed-ability pairs or small groups, demonstrating our school values such as friendship, honesty and determination. They should be given concrete resources to help and support them when appropriate. The teacher sweeps the room at this point, listening out for positive thinking, as well as initial intervention on any misconceptions. Mini-plenaries should take place throughout this part of the lesson, with more

able children being given additional questions that involve deeper thinking as the task goes on - this may also be seen in their books with a greater depth symbol.

By the end of the task, the teacher should be pulling together the best thinking and sharing it with the class, whilst refining children's techniques. Children should then be 'logging' their learning from this task into their Maths books - this should move from concrete representations into pictorial and abstract ideas in their books. Questioning to develop children's reasoning should be used, with children using vocabulary from their Maths working wall. More able children should be showing greater depth in their thinking and understanding at this point.

Guided Work (10 to 15 minutes)

Based on the learning from the challenge, teachers should now be using precise teaching to ensure all class members understand the major concepts for the lesson, leading into children's independent work. Guided work should take place, where the teacher works through problems with the class. Some children may still need to use manipulatives more to help them with answers. This is the key precision teaching part of the lesson, where the teacher models the correct methods.

Independent Work (10 to 15 minutes)

Children are then given questions to answer linked to the objective, which should link back to the challenge and the guided part of the lesson. The questions will show some conceptual or procedural variation and will usually increase in difficulty level through the sheet. This work should be completed independently, although children can use their '3 Before Me' techniques. Again, the teacher (or a learning assistant) sweeps the room to deal with minor misconceptions, complete some formative assessment and to identify children who are struggling and that will need immediate intervention before future sessions. A second adult may support one particular group. All children should (wherever possible) receive the same work, so that all have the chance to achieve. A further 'star question' should deepen the thinking of any rapid graspers, and the Working Wall may be used for any further problem solving tasks. Any children struggling should receive support from an adult or increased use of manipulatives. In some circumstances, where children are unable to access the current year group content, they may work on differentiated piece of work that links to the class learning challenge (for example, linked challenges from a prior year group). Teachers choose the best questions to deliver the teaching and learning from a variety of sources, such as White Rose Maths and Build-A-Sequence (materials developed by Tara Loughran, who delivers local Maths CPD).

The final few minutes of a lesson may be used for the children to mark their own work and self-assess against the LC (learning challenge).

Alternatives

Although this lesson structure will be visible for many lessons, teachers should be using their judgement and expertise to change this, depending on the needs of their children. Sometimes, the whole lesson may be based around a 'challenge' task. On other days, children may simply have some guided and independent work to really nail down a concept.

TT Rockstars and Sumdog are also used both in school and at home for children to practise a variety of Maths skills. Numbots and Century are being introduced in the 2021-2022 academic year.

Foundation Stage

In foundation stage, children really focus on in-depth learning of specific numbers, looking at them in detail and in many different ways. In this way, they get an early understanding of number and shape that is embedded and makes them confident early mathematicians ready for future learning.

We have also, in 2021-2022, introduced the NCETM Mastering Numbers Programme to children in both EYFS and KS1. This programme gives daily support in basic number work.

Impact

It is likely that children will have 3 or 4 pieces of work per week in their books. Normally, sheets will be stuck in on the left-hand page, which contain challenge, independent and star questions. Children then have their right-hand pages to demonstrate working out, explanations and other learning linked to those questions.

Our approach to the teaching and learning of Mathematics has led to a full coverage of curriculum content, deeper understanding of concepts, and clearer progression demonstrated in books. Fluency, problem solving and reasoning is interwoven into every lesson, developing children's confidence and enthusiasm for the subject. Our children strive to achieve our value of excellence in Mathematics.

Curriculum and Coverage

The Maths National Curriculum 2014 is followed at Oakdene Primary School.

We are currently following through the long-term overview of *White Rose Maths*, which enables any pupils at home to access videos and worksheets linked to our work in school.

More details on coverage of the different parts of the Maths curriculum, including how the progression of objectives is broken down, are visible on the Maths curriculum page of the school website.