



**Timbertree Academy**  
The best in everyone™  
Part of United Learning

# Maths

# Curriculum

# Design

*Education with*

*Character*

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## Intent

At Timbertree, we believe that being a confident, able mathematician is essential in ensuring that our pupils are given the best life chances possible. We understand that maths is vital for making sense of the world around us by seeing patterns and making connections. Our goal is that our pupils develop a curiosity about maths, which is seen, most importantly, as a matrix of skills and knowledge. In maths, we teach to mastery. This ensures that no child is left behind. If a concept is not understood, we reteach it but in a different way. We move on when content is understood. Maths is a universal language, hence we teach to all for all to learn.

At Timbertree, we adopt a curriculum that provides opportunities for:

- Learning of facts and new knowledge;
- Exploring concepts and structures;
- Mastering skills through reasoning and problem solving;
- Making links and developing mathematical resilience.

## Implementation

### **Maths in the Early Years and Foundation Stage:**

At Timbertree, we use the White Rose Maths SoL as the basis for our medium term planning. Through this, children explore number with increasing depth so that they see numbers as a way of interpreting and understanding the world around them. Children are introduced to numbers through a variety of representations so that they can recognise the numerals and the amounts. Once this is secured, children start to manipulate numbers through simple operations, such as basic addition and subtraction. Children readily access practical resources and visual representations to scaffold their learning and which allow them to talk about what they know and have learned.

Vocabulary in the EYFS is essential to the development of confident mathematicians, in number and across all other strands of maths. As a result, the maths provision in the EYFS focuses on discussion to allow children to develop their understanding of the everyday language of shape, space and measures. Whilst maths is taught daily within a discrete maths lesson, opportunities are planned for child initiated-learning through available resources and provocations.

### **Planning and Preparing Maths:**

At Timbertree, we use White Rose Maths 3.0 as the basis of our medium-term planning. White Rose Maths is influenced, inspired and informed by the work of leading maths researchers and practitioners across the country, who aim to build a culture of deep understanding, confidence and competence in maths. Teachers follow the White Rose Maths 3.0 scheme and adapt resources, scaffolds and challenge to meet the needs of their pupils.

When short term planning, teachers unpick the small steps which have been planned in a logical and cumulative way which deepens understanding lesson by lesson. If needed or necessary, teachers have the facility and direction to go back and revisit pre-requisite learning if this is not secure, before moving onto the teaching of new skills.

### **Calculation Policy**

At Timbertree, we have adopted the White Rose Maths Calculation Policy as it aligns with the SoL we are implementing across school. This ensures that calculation is taught in a progressive way and the skills in which the children are using are built upon year after year.

## Maths Lessons:

As a school, we use the Rosenshine Principles to guide the delivery of all lessons. All maths lessons at Timbertree follow this structure:

Part	Explanation
Mental/ Oral Starter	This is linked to our oral mental starter menu and always has a number or place value focus. Children are taught skills and/or have opportunities for independent practice in a variety of contexts.
Vocabulary, WALT, WILFs and WHY	Vocabulary linked to the new learning is shared with the children and its meaning is explicitly taught. The teacher shares the new skill that is being taught and its significance within their maths learning journey. WALTs are written without a context, so that they are transferrable, and with a measure which is used to guide the success criteria. They also take this opportunity to share its purpose within the context of the wider world.
Direct Instruction and Guided Practice	<p>Each small skill is broken down into smaller processes (WILFS). Teachers use these to scaffold their explicit modelling of the skill being taught, which removes the threat of sub-standard modelling. This is known as the 'I' section and the teacher acts as a narrator in order to reduce cognitive load for children lacking background knowledge.</p> <p>In the 'WE' section of the lesson, the teacher demonstrates and asks children to assist. This allows the children to build confidence and access each WILF as a scaffold to their learning. A teacher may move fluidly between the 'I' and 'WE' section based on their immediate assessment for learning. Teachers will also check for understanding and target their support appropriately. A hinge point question is used to determine whether the children are ready to move from guided to independent practice.</p> <p>In the 'YOU' section of the lesson, the children are provided with a question to work out independently by following the WILFs. When the teacher is confident that the child has grasped the learning, they are able to move onto independent practice in their books. Any children not yet secure, will participate in a carpet conference to work through a few more questions with the guidance of the teacher or learning support practitioner.</p>

Independent Practice	Children are given the opportunity to work independently with access to WILFS and modelled examples as a scaffold. To ensure mastery, children are exposed to a variety of questions. Once children have shown confidence in the fluency stage of their learning, they all have the opportunity to apply their skills and understanding to reasoning and problem solving questions. If necessary, the teacher may draw children back together to remodel this, focusing on their own narration to allow children to develop their own schema to assist with independent reasoning and problem solving. Reasoning is supported and developed using sentence stems to develop the children's articulation of their mathematical thinking and understanding.
Summary	Children are given the opportunity to demonstrate mastery of the skill and articulate their learning. The teacher explains how the lesson will link to future learning and reinforces the key skills and knowledge taught that day.

## **Maths at Home**

At home, parents are asked to support their child's maths learning by securing their basic arithmetic facts. In Years 1 and 2, addition and subtraction facts to 20 are shared with parents and daily practice forms part of the homework expectations. Children in reception and Key Stage 1 have access to Numbots, which they can use at home to help reinforce number fluency. In Key Stage 2, we use Times Tables Rock Stars to encourage children to practise their rapid recall of their multiplication and division facts. In Year 6, each child has access to CGP books to work on throughout the year as well as past SATS papers to complete in the spring term.

Children in Years 1-6 have White Rose homework books. They are allocated 2-3 pages weekly which link to the teaching which has occurred that week.

## **Assessment of Maths**

- Daily, through Wave 1 teaching (questioning, independent opportunities to practise skills, low-stake testing etc.)
- Hinge point questions
- Weekly, through pupils' oral and written responses (in maths books and across the curriculum)
- At the end of every unit using White Rose end of unit checks
- Data input on the curriculum assessment tracker when units are completed
- Termly, through maths assessment papers completed by all pupils at the end of each academic term (Rising Stars PUMA papers for Years R, 1, 2, 3, 4 and 5 and past SATs papers for Year 6). This data is used to inform future planning and interventions.
- Using the statutory assessments at the end of EYFS and Key Stage Two.
- Year 4 children will sit the Multiplication Tables Check during the summer term.

## **Special Educational Needs Provision**

Here at Timbertree, we are passionate about giving all children the maths skills that they need to be successful. Support is given during Wave 1 teaching through appropriate differentiation (if needed), presentation of material and the available scaffolds. This is to reduce cognitive load for the child. If a child has been identified as having significant maths gaps (2 years or more below ARE), the SENCo will consider an intervention for that child. The school uses the following maths interventions:

- Precision Teaching for arithmetic skills and recall;

- Rising Stars On Track Maths (KS2).
- Tutoring
- SHINE Interventions

Through termly PUMA assessments, children who have a maths age of 6 months or more behind their chronological age, become a focus for each Class Teacher and are strategically targeted during the teaching of maths.

Children who are SEND Support+ or EHCP have maths targets on their Individual Provision Maps (IPMS) which are taken from the SEND Continuum and are practised during the daily teaching of maths and in any intervention group.

## **Impact**

Through the teaching of maths, we strive to ensure that by the end of their primary education, all pupils can demonstrate a secure knowledge of number, calculate fluently and with good understanding, articulate patterns and relationships as well as logically deconstructing problems in order to solve them. We aim for pupils to see the purpose and significance of all areas of maths so that they can analyse new information and apply their maths skills to their own lives on a daily basis. Furthermore, mathematics is of central importance to modern society. It is key to jobs in our digital economy and critical to science, technology, finance and engineering. Mathematics is necessary for any employment or independent life. Therefore, we encourage children to recognise this.