# Curriculum Intent for Mathematics

At West Leigh Junior School, we develop pupils who see themselves as mathematicians and problem solvers. This is addressed by ensuring that the aims of the National Curriculum (to develop fluency, reasoning and problem solving) are core in all maths lessons, but this alone does not form the entire West Leigh Junior School curriculum.

'We are problem solvers'

In Maths, SEND and vulnerable pupils are supported through small-group teaching within maths bands, allowing for focused adult support and personalised scaffolding. Targeted interventions, led by our Maths Lead, and times table fluency groups taught by a qualified teacher ensure pupils consolidate key skills, build confidence, and make strong progress alongside their peers.

**Structure of planning**

Each year group is given clear medium term planning which has a cyclical pattern. Although this is in opposition to many mastery approaches, it is believed that returning to a topic several times in a year allows greater opportunity to build upon prior learning whilst also ensuring more regular opportunity to recall this. Although all topics recur, some recur more frequently than others; this is so that the needs of learners can be met. This approach also benefits those pupils who may, for unforeseen circumstances, miss a period of learning.

Within lessons, there is rapid development from basic knowledge and understanding to the point of current knowledge and understanding, in order to take steps to make further progress.

**Developing confidence in reasoning**

Throughout the school (Year 3 – 6), pupils are given regular opportunities to develop their reasoning skills. This often takes the form of 'Can You Convince Me' where pupils need to apply their mathematical knowledge and understanding along with carefully selected evidence in order to prove or disprove a mathematical idea. Initially, this can be daunting for pupils; however, they are encouraged to 'have a go' and are also provided with high quality examples (from staff and pupils) in order to help refine their approaches. Although this work is not marked, the mathematical areas being addressed are discussed and misconceptions identified to inform next steps/future learning. Due to the work not being marked, this has given many pupils greater confidence to take risks with their reasoning and try out alternative approaches.

**Problem Solving**

At West Leigh, we have our own approach to problem solving which uses four steps (see WLJS problem solving process). This process was carefully selected so that the skills can be transferable to any subject and is not solely specific to maths.

In order to develop the range of mathematical problem-solving skills required, these are taught in Years 3-5 so that the Year 6 pupils possess the ability to be adaptable problem solvers by the end of KS2.

**Year 3 and Year 4** *(these skills are repeated in order to deepen the level of understanding and so that more challenging problems can be tackled with greater assurance)*

Drawing a diagram
Drawing a table

Acting it out or using concrete material
Guessing and checking
Creating an organised list
Looking for a pattern

**Year 5**

Creating a tree diagram
Working backwards
Using simpler numbers
Approaching open-ended problems

**Problem solving – building up approaches to multi-step problems**

Solving a range of problems is integral to our curriculum. In order that pupils can access complex multi-step problems, they need to develop the skills required in order to be able to record the stages. The expectation for each year group is as follows:
Year 3: regular opportunities to solve 1-step problems
Year 4: regular opportunities to solve 1-2 step problems
Year 5: regular opportunities to solve 1-3 step problems
Year 4: regular opportunities to solve 1-3+ step problems

**Developing Fluency**

Although many aspects of daily lessons address the fundamental importance of developing fluency, there are several key aspects of West Leigh's curriculum that are not specific to the National Curriculum.

- **TTRockStars**: every pupil has access to this website with their unique login details. Progress is tracked and celebrated by members of staff and participation is further encouraged by TTRS advocates (staff) in each year group.
- **Class arithmetic**: It was identified that, in order to fulfil the requirements of our curriculum and ensure the progress that pupils deserve, class arithmetic (30 min max) was introduced in addition to maths group sessions. These lessons, by solely focusing upon arithmetic, have freed up time in maths lessons to focus upon developing problem solving and reasoning further.

**Transition**

It is believed that in order to fully equip the Year 6 pupils in their transition to KS3, it is necessary to add certain skills to their curriculum to provide them with the best chance of success in KS3. In the weeks following the National KS2 tests (SATs), the pupils have opportunity to:

- Complete mathematics using pen (as is often expected in KS3)
- Develop their problem solving skills further in extended problem solving tasks, applying the range of skills developed in Years 3-5