

# OUR VISION FOR MATHS AT TANY'S DELL

*We aim to provide our mathematicians with a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject. We aim to enable children to master the skills needed for everyday life, to prepare them for secondary school and for them to be able to 'reach for the stars' when it comes to future employment.*

*Our ambition is to develop within our children:*

- Fluency in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- The ability to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- The ability to solve problems by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions
- A broad range of skills in using and applying mathematics.
- The ability to think independently and to persevere when faced with challenges, showing a confidence of success.
- The ability to embrace the value of learning from mistakes and false starts.
- A wide range of mathematical vocabulary.

**Reason, problem solve  
and investigate**

**Use statistics**

**Use algebra**

**Use measures**

**Know and use  
numbers**

**Add and subtract,  
multiply and divide**

**Describe position,  
direction and  
movement**

**Understand the  
properties of shapes**

**Use fractions**

**OUR BIG IDEAS**

are for children to ...

***In order for the children to achieve these we will ensure that:***

- Children are given regular, at least weekly, opportunities to use their mathematical skills in real life contexts (including through role-play and stories) to solve problems and puzzles relating to money, measures, time, shape, handling data and other everyday situations.
- Children experience learning through a concrete, pictorial, abstract approach at all stages of development.
- When children are learning how to solve problems, they will have access to a range of practical resources and visual displays (including bar models, number lines and hundred squares) that support and reinforce knowledge.
- They will be provided with many opportunities to develop a wide range of mathematical vocabulary, including that of reasoning and should be encouraged to speak in full sentences.
- Problems will be modelled to them by the teacher 'thinking aloud'; describing the clues that helped to identify an appropriate strategy, identifying what needs to be recorded and how.
- Children will be encouraged to consider whether calculations could be done mentally (with or without jottings) before choosing a written method.
- Teachers will also model how to represent practical situations using apparatus, pictures – core representations -and number sentences and encourage children to choose their own ways of representing.
- Children will be given regular opportunities to describe and compare methods and solutions, so that they can develop the ability to explain their own thinking clearly and discuss which strategy is most effective.
- They will also be taught how to use numbers, diagrams (including bar models) and symbols, in addition to words, when writing reasoned explanations.

