MATHS AT THAMESIDE

INTENT

Years 1-6 follow the National Curriculum. Nursery and Reception follow Development Matters. Maths makes up one of the prime areas and consists of two strands (Number and Shape, Space & Measure)

The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** 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.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

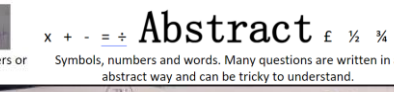
The expectation is that the majority of pupils will leave Thameside enjoying the appreciation of the beauty and power of maths. We want our pupils to be able to approach all aspects of maths with confidence and resilience. Children should be able to apply their maths skills and knowledge in a range of situations and make cross curricular links.

IMPLEMENTATION

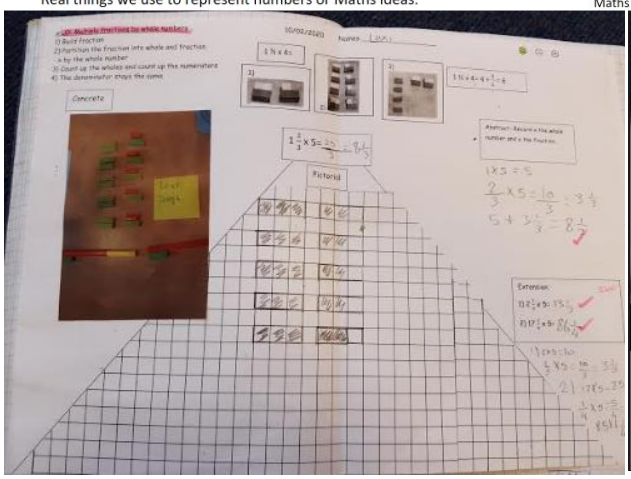
At Thameside the approach we take is to teach children maths concepts through the approach of 'Concrete, Pictorial, Abstract'. From Years 1-6 children use manipulatives (e.g. counters, Diennes blocks, Numicon) to introduce new concepts. These are represented in a variety of pictorial ways. Then children move on to developing their use of abstract methods.

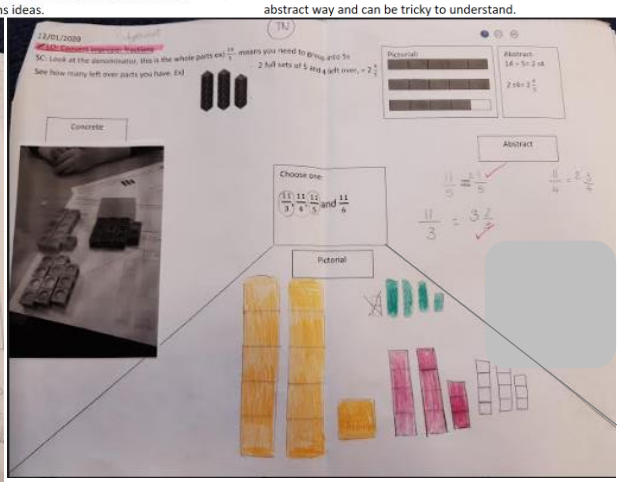
Real things we use to represent numbers or Maths ideas.

Pictures, drawings or diagrams we use to represent numbers or Maths ideas.



Symbols, numbers and words. Many questions are written in an abstract way and can be tricky to understand.





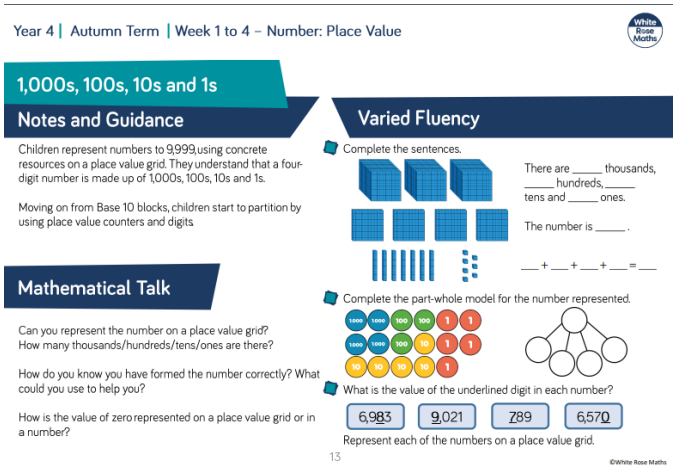
Sequence of learning

From Years 1-6, we follow White Rose for our sequence of learning. [This is supplemented by the use of other resources including: Kangaroo Maths; I See Reasoning; NRich and Abacus.]

The White Rose aim is to develop a whole new culture of deep understanding, confidence and competence in maths – a culture that produces strong, secure learning and real progress.

White Rose Maths follows the national curriculum objectives in units, ranging between one and six weeks per topic, allowing for a slower and deeper approach across a sequence of lessons.

Children are therefore given more time and opportunity to dive deeply into each area of Maths; once they understand a new concept, we encourage them to apply their understanding to contextual problems or to prove or disprove a mathematical idea. They may be asked to represent a number or calculation in different ways.


Year 4 | Autumn Term | Week 1 to 4 – Number: Place Value

1,000s, 100s, 10s and 1s

Notes and Guidance

Children represent numbers to 9,999 using concrete resources on a place value grid. They understand that a four-digit number is made up of 1,000s, 100s, 10s and 1s.

Moving on from Base 10 blocks, children start to partition by using place value counters and digits.

Mathematical Talk

Can you represent the number on a place value grid? How many thousands/hundreds/tens/ones are there?

How do you know you have formed the number correctly? What could you use to help you?

How is the value of zero represented on a place value grid or in a number?

Varied Fluency

Complete the sentences.

There are _____ thousands, _____ hundreds, _____ tens and _____ ones.

The number is _____.

___ + ___ + ___ + ___ = ___

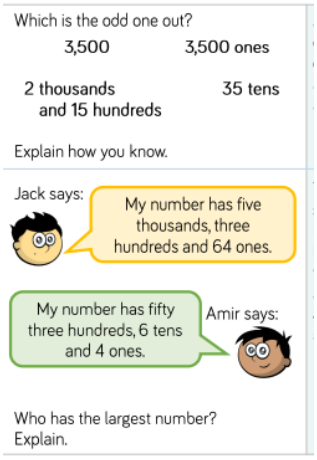
Complete the part-whole model for the number represented.

What is the value of the underlined digit in each number?

6,983 | 9,021 | 789 | 6,570

Represent each of the numbers on a place value grid.

13


Which is the odd one out?

3,500 | 3,500 ones

2 thousands and 15 hundreds | 35 tens

Explain how you know.

Jack says: My number has five thousands, three hundreds and 64 ones.

My number has fifty three hundreds, 6 tens and 4 ones. Amir says:

Who has the largest number? Explain.

Fluency, reasoning and problem solving are at the heart what children cover in Maths. While some lessons may feature all three aspects, others may be entirely dedicated to just one of the three.

Assessment

We will assess children's learning in Maths by asking children to:

- describe it in their own words
- represent it in a variety of ways e.g. make it (concrete), draw it (pictorial) and solve it (abstract)
- explain it to someone else
- make up their own example of it
- make links between it and other facts or ideas
- recognise it in new situations and contexts

Teachers will use their professional judgement to assess each child's attainment based on these factors throughout the year. Children in Year Two and Year Six will undertake Key Stage One and Key Stage Statutory Tests (SATs) in May. As of 2020, Year Four children will undertake a times tables test in the summer term.