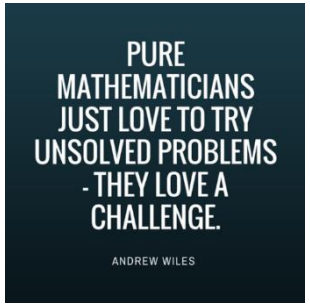

Pinewood Infant School and Foundation Unit

Together we give children the roots to grow and the wings to fly

Responsibility Resilience Independence Curiosity Respect Kindness Honesty Self-belief

Mathematics at Pinewood

Mathematics is essential in everything we count or calculate and in problems which we have to solve in our daily lives. Children's knowledge, skills and understanding in mathematics develop as they use it in practical activities, to solve relevant and meaningful problems and explore the patterns and relationships between numbers.

Our vision for Maths at Pinewood is that our children:

- Become **fluent** in the basic skills of mathematics such as number bonds, times tables and mental calculations.
- Can **talk about** maths; numbers, patterns and methods and use mathematical vocabulary to do so
- Have good **number sense** and are able to understand and use a range of strategies to solve different calculations
- Can **reason** about maths – looking for patterns and relationships between numbers and calculations and explain their thinking
- Can **solve problems** by applying their mathematics to a variety of problems with increasing confidence, including breaking down problems into a series of simpler steps and persevering to find solutions.
- Have positive attitudes towards Maths and a bank of strategies to use and help them work with confidence, including using practical resources and drawing pictures.

What does Maths at Pinewood look like?

- We teach maths through a mastery approach where all children are taught through whole-class interactive teaching, with the aim for all pupils to work together on the same lesson at the same time.
- Maths lessons start with counting, retrieval practice and mental maths activities, essential for developing fluency skills
- Children then have daily maths talk activities to develop their ability to explain and reason about their thinking and understanding. This ties in with the work we are doing on improving children's working memory with retrieval practice and worked examples.
- Through carefully sequenced lessons children progress from modelled concepts to guided practice, then working independently.
- Greater depth questions challenge children who are ready to develop their thinking and apply their knowledge and reasoning skills to more complex problems.
- Resources and drawings are encouraged to support children's understanding and ability to solve calculations and problems with independence, confidence and resilience.

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Mathematics at Pinewood

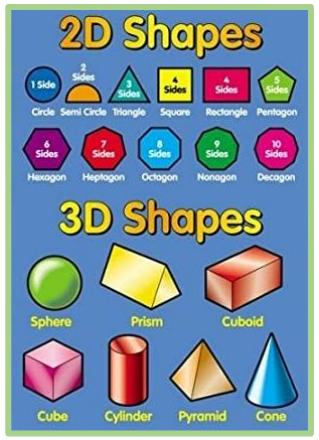
Maths topics throughout school

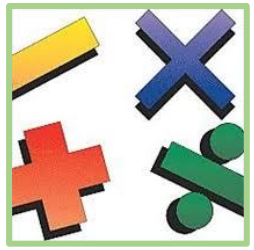
KS1

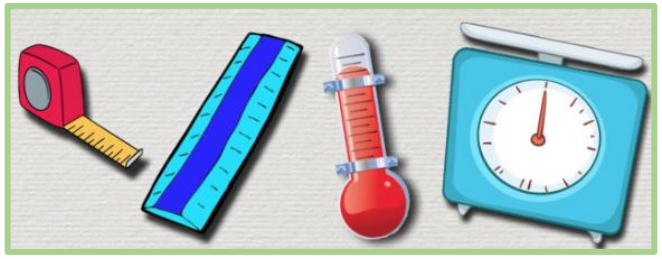
- Number – number and place value
- Number – addition and subtraction
- Number – multiplication and division
- Number – fractions
- Measurement
- Geometry – properties of shape
- Geometry – position and direction
- Statistics

EYFS

- Numbers
- Numerical patterns







Lesson design

KS1 EYFS

- Fluency (Fluency Bee – White Rose)
- Flashback 4
- Daily counting
- Maths talk
- Guided practice and modelling
- Independent practice (Fluency/Variation/Depth)
- Plenary

In nursery our children learn through their play in continuous provision both inside and outdoors. They also have a 'dollop a day' Maths session as a whole class, following our school mastery approach.

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Mathematics at Pinewood

Maths Interventions at Pinewood

- Pre-teaching and further support during inputs for children lacking confidence
- Y1 and Y2 -Afternoon intervention groups/feedback sessions for children needing recap or support on current maths unit
- F2 small groups within/following maths sessions and follow up activities with adult
- Frequent discussions about children and target groups reviewed
- TA support on the carpet and at tables.

Rewards/Celebrations

- Friday '**Golden Star**' – can be linked to any area of the curriculum including Maths, where children have worked hard
- '**Pinewood Value**' person – award linked to school values (e.g. showing 'resilience' in Maths)
- **Showing work to Ms Otter** – Children are often asked to share their Maths work and receive a 'Headteacher Sticker'

Staff Continuing Professional Development

- Staff meetings to cascade training from coordinator network meetings and involvement in 'Teaching for Mastery'
- Regular monitoring of Maths through learning works, book looks, planning scrutiny, pupil voice
- Whole school calculation policy to demonstrate the concrete-pictorial-abstract approach for different calculations working step by step through the four number operations
- Marking policy refresher every September or for new staff

Communication with parents

- Termly newsletters outline Maths learning
- Maths page on school website
- Calculation Policy shared
- Links to useful Maths resources/websites shared by teachers on Class Dojo

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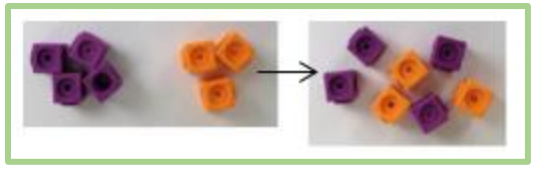
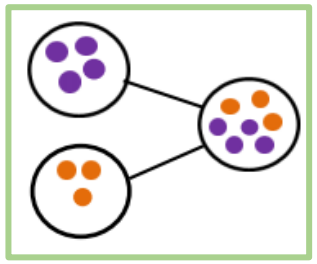
Mathematics at Pinewood





<u>Resources to help children</u>

100 squares, number tracks, number lines, number formation sheets

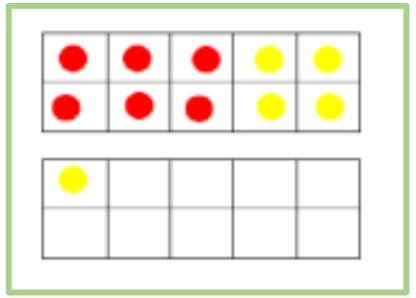
Numicon – manipulatives to develop children's understanding of number and different maths concepts. Numicon guides children through concrete- pictorial-abstract approach

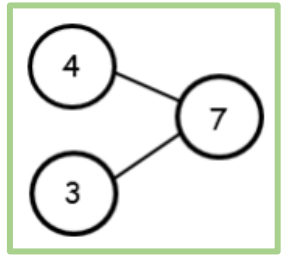
Tens frames (and stamps) – supports children's visualisation of numbers to 10 then 20. Also used for addition and subtraction. (Concrete and pictorial)

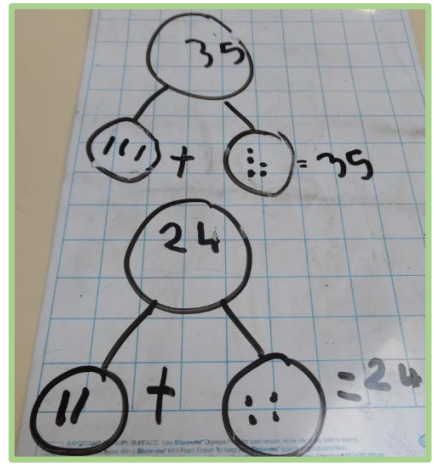
Counting resources – such as cubes, counters, sorting animals etc. used for counting and in conjunction with tens frames and part-part-whole models for composition of numbers. Also use to support calculations using the 4 number operations (+, -, x, ÷)

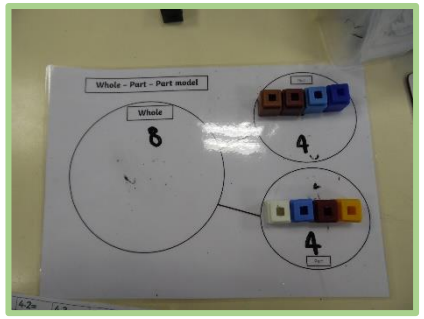
Part-part-whole models – Supports composition of numbers, place value, addition and subtraction and missing number problems. (Concrete and pictorial)

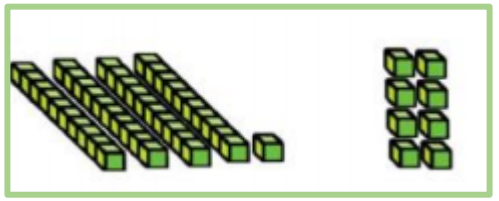
Dienes – invaluable resources to support place value, addition and subtraction using concrete resources. Children progress to pictorial approach by drawing their own tens and ones.











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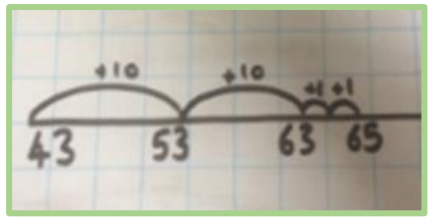
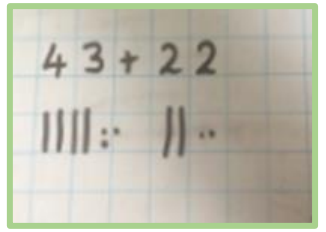


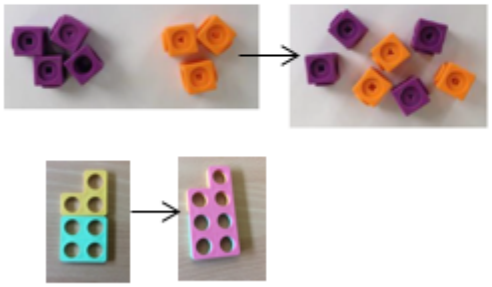
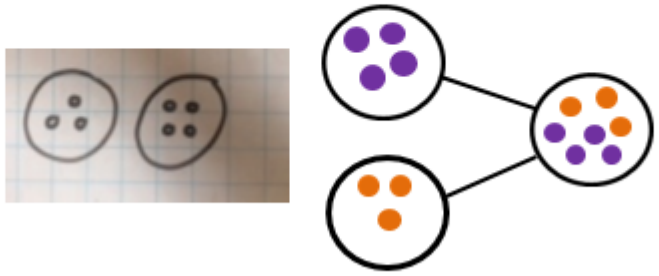
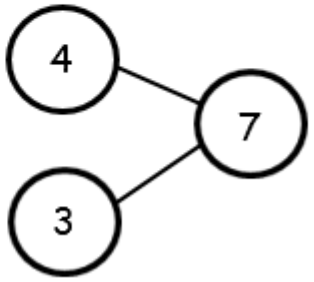


Pinewood Calculation Policy

This policy demonstrates through worked examples how we teach each of the four number operations using the concrete- pictorial – abstract approach.

We recommend using a wide variety of manipulatives, drawings and jottings to build and develop understanding and skills.

Eg. addition:

Concrete	Pictorial	Abstract
Combining two parts to make a whole Use a range of resources e.g. counters, shells, teddies, **numicon** etc 	Children to represent the cubes using dots or crosses. They could put each part on a part whole model too. 	4 + 3 = 7 four is a part, three is a part and the whole is seven 

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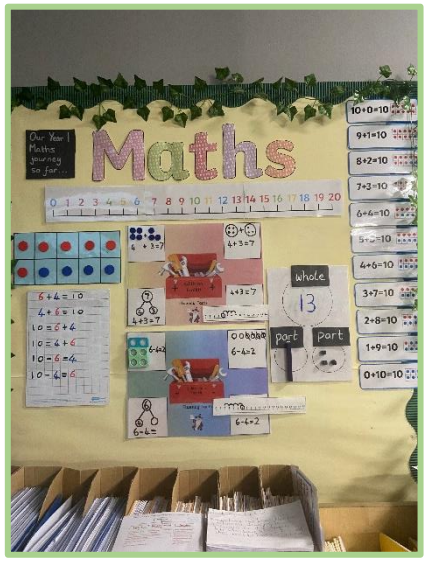
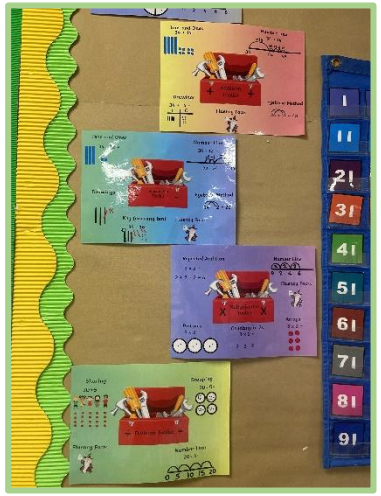
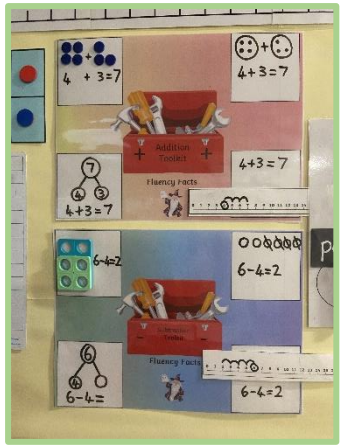
Displays:

- **EYFS** – Number rhyme display, weekly working wall with focus activity, Maths area in continuous provision
- **KS1** – Working Wall with topic focus, vocabulary, strategies, worked examples
  - Record of learning including toolkits of strategies learnt for different operations
- **Learning Pit** – To encourage growth and positive mindset and resilience.







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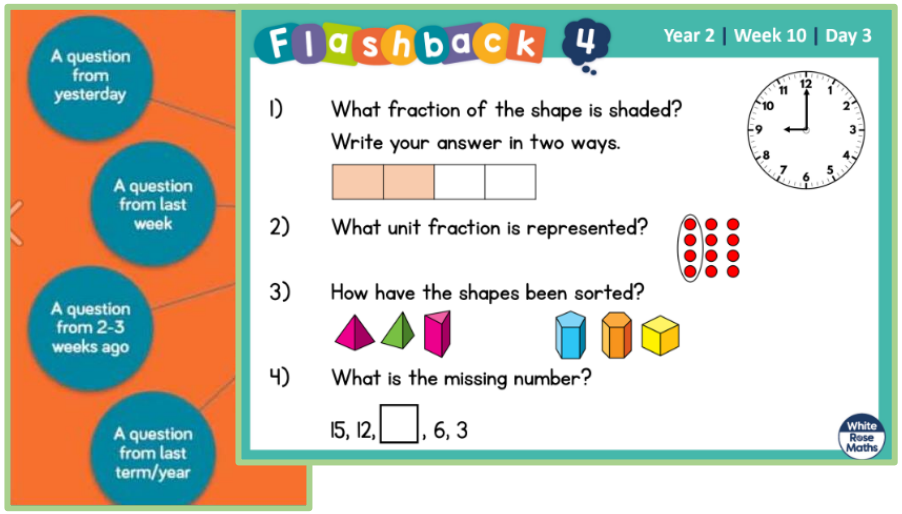
Memory in Maths

Retrieval Practice

- **Flashback 4**

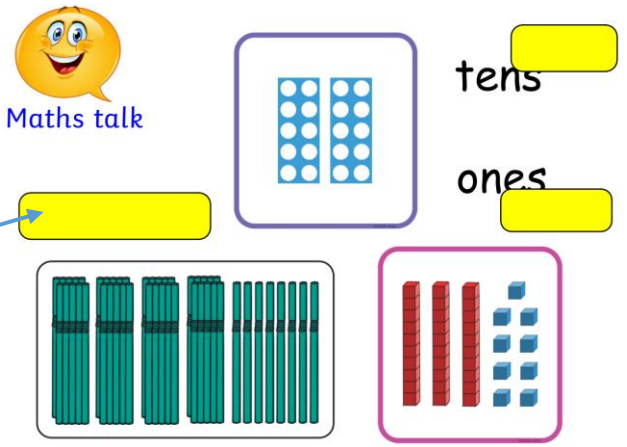
In F2 and KS1, children complete daily 'Flashback 4' style activities (retrieval questions to recall from different stages of children's prior learning)



- **Maths Talk**

In F2 and KS1, daily Maths Talk sessions aim to encourage discussion between children, retrieving prior knowledge required to move forward in the current lesson. Children are encouraged to use and apply existing knowledge of mathematical language in their discussions.

Vocabulary to be used in lesson is revealed after children have shared a summary of their discussion



Updated September '25