What is Abstract?

Only once a child has demonstrated that they have a solid understanding of the 'concrete' and 'pictorial' representations of a problem, can they access more abstract representations involving mathematical symbols. The stages ensure clear progression and extension in learning.



We all learn together

When teaching maths for mastery, the whole class moves through concepts at broadly the same pace. Each concept is studied in depth and do not move to the next stage until all children demonstrate that they have a secure understanding of mathematical concepts. Though there is still plenty of opportunity for challenge and differentiation.

Pupils who grasp concepts quickly apply their learning to solve rich and sophisticated problems involving the concept. Those children who are not sufficiently fluent are provided additional support and resources to consolidate their understanding before moving on. How can I support my child in Maths?

Encouraging a love of numbers throughout childhood helps children to develop strong foundation of understanding, which is often referred to as having good **Number Sense.** Children with a strong number sense understand the relationships between numbers and can be more creative, systematic and reflective mathematical thinkers.

- Engage with the maths around you look for shapes (road signs) and numbers (number plates) and discuss what you see – and don't see.
- Play card and board games with your child look for patterns and discuss strategies with each other.
- Shop together and allow your child to compare and calculate costs of items in your shopping basket.
- Cook together look at recipes and compare the measures of items, weigh ingredients and look for opportunities to adjust portions in recipes.
- Take the bus somewhere and ask your child to help to read the timetable and to plan your journey.
- Ask your child to tell you the time whenever possible allowing them to familiarise themselves with clocks.

Visit our webpage for more information www.grouville.sch.je/maths



Maths at Grouville Primary School



Well-being and achievement are at the heart of Grouville School so that we can all develop as Life Long Learners and take responsibility for ourselves and the community.



Our School Vision

We aim for all children:



- to *reason* mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- to be able to *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.

What is our approach?

Our teaching of Maths is based on the Singapore approach, a highly effective and evidence based method to teaching Maths. In line with the Jersey Curriculum (KS1 & KS2), Development Matters & EExAT (EYFS), our lessons focus on a *mastery* approach that assumes <u>all children</u>, with varying levels of support, are capable of developing a deep and secure knowledge and understanding of Maths at each stage of their learning. When taught to master maths, children develop their mathematical fluency without resorting to rote learning and are able to solve non-routine maths problems without having to memorise procedures.

What does Maths look like at Grouville?

The Singapore approach encompasses a concrete, pictorial, abstract method that is key to establishing and embedding a deeper understanding of Mathematics.

Concrete manipulatives (counters etc.) are used to enable pupils to visualise mathematical concepts. Once children are able to access a problem using concrete apparatus, pictorial representations are used to facilitate learning, followed by being able to complete problems using more abstract mathematical methods.

Children are given time to think deeply about concepts and understand them at a relational level rather than as a set of rules or procedures. Children explain their thinking and prove their methods through clear reasoning and justification.

Throughout lessons, children work alongside learning partners to discuss concepts and consider multiple ways to solve problems. This process ensures that children understand the process, but more importantly, why they are doing it.

What is Concrete?

Concrete is the 'doing' stage, using concrete objects to model problems and to bring concepts to life by allowing children to experience and handle physical objects themselves. All new concepts are learnt first with a 'concrete' or physical experience.

For example, if a problem is about adding up pieces of fruit, the children might first handle actual fruit before progressing to handling counters or cubes which are used to represent the fruit.



What is Pictorial?

Pictorial is the 'seeing' stage, using representations of the objects to model problems. This stage encourages children to make mental connections between the physical object and abstract levels of understanding by drawing or looking at pictures, diagrams or models which represent the objects in the problem.



Building or drawing a model makes it easier for children to grasp concepts as it helps them to visualise the problem and makes it more accessible.