The Essence of a Teach for Mastery Approach at Coleridge

A **mastery approach to teaching mathematics** is a phrase that has become familiar to educationalists and teachers today, and a huge amount of time and money has been invested by our government to ensure it is something that all schools aspire to. We are very lucky at Coleridge that one of our Assistant Heads, Louise Foulkes, has been trained as a maths mastery specialist. She, along with her dedicated maths team, are working to embed this initiative at Coleridge, taking only elements and strategies that will benefit our children, and keeping in mind what is important to us as a school. You will find below the key principles that we are aiming to adopt in all of our maths lessons.

Longer units of work:

Children no longer revisit maths topics each term. Instead, units of work are extended over several weeks, giving children plenty of time to grasp and rehearse every concept. Each topic is broken down into key skills which are then carefully mapped out into a coherent, logical sequence. These longer units of work allow children time to master each skill before they move onto the next.

Lesson structure:

Lessons will commonly be taught using a 'ping pong' style approach, so called because the teacher orchestrates a continual back-and-forth dialogue with the children, using questions, short tasks, explanations, demonstrations, and discussions. This enables the teacher to vary the pace and direction of the lesson if necessary, and to continuously monitor the progress of the class.

Differentiation:

Children are taught as a whole class, and each child is given access to the same lesson content. Appropriate support is available for any child who might need it, and there are opportunities to deepen learning even further through the provision of more challenging activities. No assumptions are made before the lesson about which children might need more support, nor which ones will likely move on to the more difficult tasks.

Developing conceptual fluency:

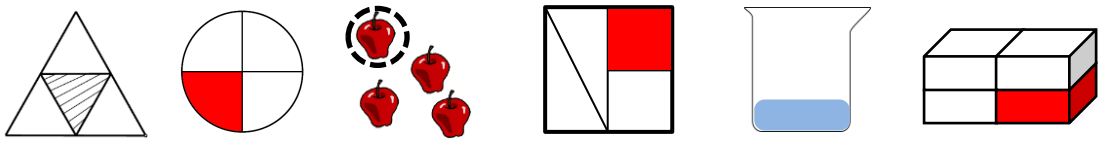
A great deal of emphasis is placed on developing children's conceptual understanding. The majority of ideas in maths are entirely abstract, generally characterised by a string of symbols that, without an understanding of what they signify, are simply meaningless. In order for children to attach meaning to these abstract ideas, we need to expose them to their structure. This is done through the use of physical and visual resources, which help children construct a mental image of the maths.

Developing procedural fluency:

Equal attention, however, is given to improving children's procedural fluency; that is their ability to recall number facts (multiplication and division facts, as well as simple addition and subtraction ones) quickly and efficiently. Children are expected to learn some facts off by heart, whilst they are taught mental strategies to quickly derive others. Much more time, particularly in the first few years of school, is now dedicated to developing these basic number skills.

Variation:

To ensure that children gain a comprehensive understanding of each concept, teachers provide sufficient variation in the representations and examples that they give. The examples below, for instance, highlight the many ways in which the fraction ¼ can be presented.



Furthermore, teachers pay careful attention to the order in which they present questions to the children so that important features of a concept or strategy are emphasised. For example:

120 – 90 = 30, so 122 – 92 = ? and 119 – 89 = ?

Intervention:

Any children who struggle with a concept are identified in the lesson and immediate intervention or extra support is put in place so that they are able to keep up with the rest of the class in the next lesson.