



Flowery Principle number 3

The Teaching of Mathematics

Mastery approach - see NCETM appendix

We follow the White Rose Maths scheme. Children are taught in a mixed-ability setting, which exposes all children to high expectations and doesn't put a ceiling on their learning. Maths is taught daily in separate maths and arithmetic sessions.

The aim of our maths teaching is to create learners that are:

Efficient: Children choosing a suitable and efficient method (both mental and written) to be able to tackle a calculation. Key knowledge of timetables and number bonds will underpin this.

Accurate: Children will be accurate with their calculations and will use number facts, estimation and inverse operations to ensure they are plausible and correct.

Flexible: Children will have a knowledge of more than one approach to solving a particular kind of problem. Students will be flexible in order to select an appropriate strategy for the problem at hand. Learners will also be able to use one method to solve a problem and another method to double-check the results.

In every Maths lesson, there is Fluency and Challenge.

Fluency (including daily counting) = "The point of being fluent is to free up the working memory when tackling a more interesting and engaging piece of mathematics." At Flowery Field, we use varied fluency to give the children the opportunity to develop a secure understanding of number. We believe that good number knowledge and quick recall of key facts is essential to children's success.

Challenge = the application of the practised skill. Children are given the opportunity to practise and apply their learning through exposure to progressive reasoning and problem solving activities. Doing less but in more detail is key to securing depth of understanding. Mistakes are used as learning opportunities.

Concrete (make it)/ Pictorial (draw it) / Abstract (calculate it)

Make it/Concrete - children begin their learning with manipulation of concrete materials. This is then used as an aid to learning as they progress through each area of learning.

Draw it/Pictorial - children use pictorial representations to show their understanding and to explain their reasoning. Bar modelling is a key component of this.

Calculate it/Abstract - children progress onto abstract concepts once they have developed understanding using concrete and pictorial methods.

At any point during their learning journey, children may need to move back along this continuum.

In Early Years there is an emphasis on concrete to ensure pupils experience mathematical skills used in 'real life' situations. Practitioners challenge pupils with pictorial and abstract to extend understanding as and when appropriate to their needs.

Learning environments

- All working walls reflect our CPA (Concrete, Pictorial, Abstract) approach.
- Key mathematical vocabulary is displayed, including reasoning (APE - Answer it, Prove it, Explain it) sentence stems
- Working Walls can have a small element of permanence if the resources are referred to, useful and used regularly.