

Understanding Maths at Ravens Academy

Background

At Ravens Academy we believe that every child should have the opportunity to maximise their full potential in maths. To achieve this, we believe that all our pupils should develop sound foundational knowledge from using concrete materials and teaching which is delivered with enthusiasm, confidence and flair. We want our children to view Maths in a positive and enjoyable way, while also maximising their attainment. Our belief is that we have the major role in building mathematicians for life.

Previously the introduction of The National Numeracy Strategy, and later the Primary Maths Framework, led to a growth in mental maths skills, but there has been less growth in enhancing mathematical skills and understanding. The 2014 National Curriculum was designed to raise expectations and attainment levels in the subject. The program of study that we follow, Rising Stars Maths, was designed to address these issues. Rising Stars Mathematics is a high-quality primary mathematics programme developed to help all children master the new curriculum. The programme offers a complete solution to primary maths, adapting the best teaching and learning approaches from the UK, Shanghai and Singapore to develop maths mastery in every classroom.

Rising Stars Maths aims are that:

- All children are able to achieve in mathematics given the right support.
- Mathematical understanding is developed through using concrete, pictorial and abstract representations.

Rising Stars Mathematics is based on the following key beliefs:

- Children will only fully master concepts through step-by-step teaching and lots of appropriate practice.
- Mathematics is an interconnected subject in which children need to be able to make connections across ideas.
- Rich talk between teachers and children using mathematical terminology is essential in the ongoing assessment of conceptual understanding.
- High-quality textbooks used effectively support teachers encourage investigative thinking.

What the scheme encourages through its approach to maths teaching and learning is

- Putting the interaction between teacher and pupils as the main focus for learning
- Encouraging correct, precise, orderly spoken and written maths
- A bigger emphasis on whole class interactive teaching with a different approach to differentiation through providing extra activities

Like other schemes it also comes with lesson ideas, interactive resources and textbook work sheets and practice sheets

Teaching and Learning features of MEP

- There is a Spiral Curriculum approach with continual revision, learning by heart, and progression in small logical steps. Consolidated learning, with a deeper conceptual understanding before moving on, is at the absolute heart of the program
- The teaching is fast paced and varied. The activities relate to the concept being taught. Explanation and whole class discussion is encouraged.
- Whole class interactive teaching predominates with planned episodes of paired and individual work. All pupils have a task to do and the opportunity to demonstrate, answer, explain, suggest, criticise. Etc
- There is a friendly atmosphere in which children have fun and support each other. Mistakes are used as teaching points. Pupils are encouraged to share their own good work.
- Kinaesthetic and visual resourced approaches are used throughout.
- Reviewing and marking is interactive with the pupils expected to provide the solutions and agree/disagree upon their validity and also to suggest alternative solutions and methods. The Teacher provides hints only if the whole class are stuck. The pupils also cross out any wrong answer and write the correct one in using purple pens.
- There is an extra challenge or extension activity for the more able pupils ensuring that no one should be inactive.
- Modelling is used constantly when demonstrating new methods or concepts or adding clarity to a pupil's work.

Advantages of the Rising Stars scheme.

To achieve good maths teaching and learning you need a culture of discussion, questioning and challenge. Our scheme provides all three of these. Where it has been adopted schools have seen achievement levels rise, often dramatically. Pupils are also more able to show that they can transfer their knowledge and understanding more readily to new situations.

We want to develop mathematical thinkers, believing that this will make their learning much more sustainable and we feel that what we offer is currently the best route available towards achieving this.

Conclusion

We are already seeing many pupils making rapid progress in a subject that they are beginning to have a much better understanding of. Increasingly, as the children go through

Understanding Maths At Ravens Academy

the full program, we expect our levels of maths achievement to grow to a point where they will be consistently excellent, because our children will have a greatly enhanced understanding of maths.