

Teaching for Mastery at St Joseph's

Together we love – Together we hope – Together we learn

At St Joseph's, we believe that mathematics is for everyone and that no one should be allowed to believe that they 'can't do maths'. All pupils are entitled to access the essential set of rich mathematical concepts and big ideas that will allow them to flourish and become successful and numerate adults. **We understand that learning maths is like building tower; children must have firm foundations and acquire specific building blocks in certain order. If any of these blocks of understanding are missing (due to too rapid acceleration or insufficient depth), then the tower is shaky and can be toppled at any time**

We are therefore lucky to be one of the schools doing 'Teaching for Mastery' and have invested heavily in staff training and are developing our resources as we recognise the transformation in children's learning that this approach can produce. Mrs Matravers and Mr Donovan are part of Primary Mathematics Teaching for Mastery Work Groups which is a two year programme. We are committed to developing a teaching for mastery approach. Our two teachers attend events outside of the school and then lead the development across the whole school. Our Foundation Stage are already immersed in mastery teaching and did the first training with the Boolean maths hub.

'Mastering mathematics' means children acquiring a deep, long term, secure and adaptable understanding of the subject. At any one point in a pupil's journey through school, achieving mastery is taken to mean acquiring a solid enough understanding of the maths that has been taught to enable him/her move on to more advanced material. We use the phrase 'teaching for mastery' to describe the range of elements of classroom practice and school organisation that combine to give pupils the best chances of mastering mathematics.

'Mastery' involves the development of three forms of knowledge:

- Factual 'I know that.... 7 multiplied by 8 is 56'
- Procedural 'I know how.... to use an efficient strategy to multiply 7 by 256'
- Conceptual 'I know why.... I use multiplication to calculate area'

In order to develop these, you will see the following in a typical St Joseph's maths lesson:

- The vast majority of children work together on the same, tightly focussed curriculum objective
- Steps within a lesson are carefully planned to incrementally build up children's understanding
- Teacher led learning ('ping pong') predominates, with time also given for children to practise in pairs and independently
- Children and staff talk about their maths using clear vocabulary and in full sentences
- 'Stem sentences' are used to expose mathematical generalisations and to aid recall and application

- Any mistakes are happily shared and unpicked by children and staff as we all recognise that this strengthens everyone's conceptual understanding
- A range of manipulatives (equipment such as dienes, tens frames and numicon) and pictorial representations (such as the bar model) are used to support and deepen understanding of the key concepts for **all** children (not just for younger pupils or those who are struggling)
- Essential number facts such as number bonds and times tables are practised weekly to enable children to become fluent; knowing number facts frees the mind to think more deeply about the mathematical concept(s) involved
- Planned assessment takes place during the input to immediately assess the class's understanding.
- Children often mark their own work to provide immediate feedback that can be acted upon; teachers assess and then tick the LO to show if it is met and comments made if not met

How do we challenge children who grasp a concept rapidly?

- The next step is to apply their learning to a question which goes more deeply into the concept
- Children who have completed the short independent task accurately are extended through a task which again probes more deeply into the current learning objective. It gives the children chance to apply their learning or explain their understanding.

How do we support children who are struggling to grasp a concept?

- Teachers react rapidly during the lesson using AfL strategies; for example, a teacher may work with an identified guided group of children who have found the carpet work challenging.
- Children who have not met the day's objective receive an intervention (precision teaching PT) to enable them to be ready for the new learning tomorrow. If it is many children, the lesson is revisited.
- Children with SEND who are working more than a year below their year group work on individually targeted learning which follows all of the 'Teaching for Mastery' principles