St Joseph's Maths Statement

The Teaching of Mathematics at St Joseph's

Teachers at St Joseph's have just begun to implement a maths mastery approach this academic year. Working alongside North West 1 Maths Hub and independent expert trainers in teaching for mastery, we have developed and embedded an evidence informed pedagogical approach alongside the use of one of the DfE's approved textbook schemes Maths No Problem. The use of the textbook has enabled practitioners to develop their subject knowledge alongside their classroom practice. We use an instructional model to support teacher development and collaborative planning/reflection is at the heart of our CPD model.

In classrooms you can expect to see high levels of pupil engagement and involvement. Lessons begin with an interesting and engaging problem to solve and the teacher's role is to make this accessible to all. Concrete materials (usually in the form of representations or manipulatives) should be used (in virtually every lesson) to support the children's thinking as they explore. Pupil talk should be encouraged at every opportunity, enabling peer support, challenge and/or refinement of ideas. Through these, learning should be highly visible. Teachers use pupils' ideas to create a series of class discussions in which all are encouraged to participate, often attempting to see into the minds of those offering the ideas. Different ideas are embraced and discussed. The class will spend a significant length of time reflecting on their own and others ideas: they do this through journaling and exploring the thinking of others as presented in the textbook. Towards the end of each lesson, the children practise what they have learned, usually through a number of examples guided by the teacher and ultimately, independently. The sequence of examples presented in the textbook is usually adhered to, the inbuilt variation enabling the children to practise the same kind of problem in a number of different ways.

Adaptive teaching is precise and robust. Struggling learners are mainly supported through concrete materials, peer dialogue and problems that are in real life situations. Gifted learners are challenged from the outset, being asked to prove or justify their ideas, create real-life authentic problems of their own or seek patterns within the problem/concept being explored.

Journals and workbooks are used in every lessons. Journals are used to record children's thought processes (conceptual understanding). Once children have had the opportunity to refine their thinking, they are invited to record this using diagrams/drawings, writing and abstract mathematical notation. Teachers' expectations of independent journal writing is high. Additional expectations of gifted mathematicians should be overt. Workbooks should be used to record children's independent practice. You may find teachers asking children to annotate their work, explore further or write similar problems of their own.

Lesson planning is different from lesson design. The textbook has lessons that have been designed by experts. The teachers' role is to bring the lesson to life for the children. As such, mathematics planning should demonstrate that the teacher has understood the lesson, identifying the key learning outcome(s), any particular barriers and opportunities to stretch the gifted mathematicians.

The **impact** of a mastery session should be visible – the teachers' planning should identify what the children's thinking and learning should look like (what you expect to hear and see in the room) hence making it straight-forward to evaluate the quality of learning (AFL). If for some reason the teacher is unable to progress in the lesson (eg because of a misconception), s/he will take time to address this before moving on. Feedback 'in the moment' should help children to address misconceptions. Feedback in lessons is mainly oral, though you may see teachers marking journals and workbooks whilst the children are writing in them. Marking after the lesson is in line with the NCETM guidance – if everything is going as it should, a simple acknowledgement will suffice (eg a tick). If something is wrong, the teacher may recognise it and show the pupil the correct way. An intervention may be necessary. If the whole class (or significant part of it) has a misconception the teacher's planning of tomorrow's lesson will demonstrate how remediation is to take place and there may be no reference to it in individuals' books.