

Wellfield Junior School

Mathematics Policy

Update - Implementing a Mastery Pedagogy in Maths

Wellfield Junior School has recently embarked on a mastery programme with one of our local maths hubs as part of the government's roll out of a South Asian pedagogy amongst UK schools. As part of this maths project, we are being mentored by a school which has recently undergone the same process in order to help us embed a mastery approach in our school.

Naturally, a move to a different pedagogy cannot be completed quickly or in one move. Any difficulty in this process has also been exacerbated by the fact that schools are awaiting an approved list of text books so they can select a scheme of work or bank of materials.

As such, during this period of transition, we will expect to see maths looking different in each class while teachers find their way with the new approach. In this interim period, we will be introducing staff to the White Rose overview of lessons and materials. Naturally, we cannot adopt its long term plan completely as we are part way through the year. However, when staff embark on a new unit of work and the corresponding materials have been released by White Rose, staff will be trained in how to start using them.

We will also be asking staff to start trying to incorporate elements of mastery (e.g. variation, fluency, reasoning and coherence) into lessons and units of work but again, we do not yet expect to see all elements in all lessons. As the year progresses, we will expect more elements to be evident more regularly and we will also settle on a more agreed lesson structure. For the short – term though, this too will be flexible.

We will update this policy as necessary during the course of our transition to a mastery approach. October 2017.

Why Teach Mathematics?

Children's chances of succeeding in education and life will be maximised if they develop deep and lasting procedural and conceptual mathematical understanding. (National Centre for the Excellence of Teaching in Mathematics).

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. (National Curriculum, 2014).

At Wellfield Junior School, we believe that children deserve to have access to high quality mathematics teaching to further their life chances as it underpins so much of our lives.

In addition, we believe that mathematics has a fascination of its own for some people – including our staff. The discovery of the mathematically generated ideas, working systematically, spotting patterns, finding all possibilities and making links gives pleasure to many children and adults and we seek to foster this where we can. Appreciating maths in this way can bring another dimension to understanding and marvelling at the world in which we live.

Aims

Our aims for the teaching and learning of mathematics are founded on a belief that all children should enjoy an equality of access to the provision of a high-quality curriculum that will:

- extend each child to his or her fullest potential, building on previous experiences and recognising individual capabilities;
- enable children to achieve a high standard in Numeracy and a range of other mathematical skills and apply these skills with confidence and understanding when solving problems;
- foster an interest, confidence and enjoyment in Mathematics and inspire children to appreciate mathematics for its own sake;
- provide opportunities to apply mathematics learning in everyday situations and enable children to use and apply their knowledge in the world outside;
- enable children to have a sense of the size of a number and where it fits in the number system and know by heart number facts such as number bonds, multiplication facts, doubles and halves which they will need in solving problems in everyday life.

Delivery

Mathematics teaching will be in line with the national curriculum. The highest priority will be given to the teaching of the subject and maths lessons are to be considered as sacrosanct as possible.

- Teachers will take every opportunity to ask open questions;
- Marking will follow the marking policy;
- They will probe and challenge answers and where appropriate ask for alternative strategies or explanations;
- They will seek to ensure that every child has the opportunity to use and apply their mathematical knowledge on a regular basis;
- Teachers will respond to individual needs by carefully targeted questioning;
- Areas which children struggle with should form the basis of work set during registration so children who are struggling can have daily practice;

- Teachers will devise work, which although may be differentiated, will seek to include every child in the class (including SEN pupils) through support and scaffolding;
- Written methods of calculation will be taught principally in accordance with our calculation policy for the new national curriculum;
- If the skills system is used, it is to be used as the basis of a taught lesson –not an independent test;
- Teachers should use the times tables scheme and reward progress with certificates;
- Teachers will also seek to embed a problem solving culture by using a range of more oblique problems including: trial and improvement; working systematically; finding all possibilities; working logically and working backwards; and
- Teachers are also encouraged to use materials from the NCETM and Nrich to support and enrich their teaching.

Time Allocation

Mathematics will be taught for approximately one hour each day and opportunities to link mathematics with other areas of the curriculum are also encouraged.

Staff are also encouraged to build in extra time in the timetable for mental strategy revision, arithmetic, boosters and similar.

Planning

Staff are to use the commercial scheme as a base for their planning although they are not expected to adhere it to rigidly. However, its long-term plan and resources should ensure that each year achieves full coverage of the curriculum.

Staff can supplement the scheme with external resources and materials from (for example), Nrich and the NCETM.

Staff are expected to use the given planning proforma but if a sufficiently detailed powerpoint has been prepared, staff are not expected to duplicate this by restating the content of the powerpoint in a word document.

Assessment, Recording and Reporting

Children's knowledge and understanding is informally assessed in class and group question and answer sessions and through observation during lessons as well as in marking written work.

Staff will also formally assess at 3 assessment points during the year: Autumn, Spring and Summer using NFER tests.

In order to support teacher's judgments and planning, teachers can also supplement this with PUMA assessments in between the NFER assessments.

Teachers are also expected to record their judgements regularly in itrack.

Targets will be given to parents in parents' evening and an end of year report will be given to parents too. If a child is struggling to make progress more generally, teachers are expected to speak to parents or carers before parents' evenings.