**Draft Mathematics Policy**

*Jane Liddle and Nathan Crook, two independent maths consultants, have drafted this policy with the intention that schools will personalise it. It is intended to link with the latest Education Inspection Framework (EIF) and sit alongside the consultants’ draft calculation policy, which was updated in July, 2018.*

School:

Date:

Review date:

The policy is intrinsically linked with and is informed by other school policies, including:

* Calculation policy
* Teaching and Learning policy
* Marking and Feedback policy
* Early Years policy
* Special Educational Needs policy

**Intent:**

At \_\_\_\_\_\_\_\_\_\_, we are adopting/have adopted (delete as appropriate) a mastery approach in the learning and teaching of mathematics. As things stand, this is developing/being embedded (delete as appropriate) across the school. The main aim of such an approach and development of a curriculum model that values ‘going deeper’ is to ensure that our children develop a secure knowledge of mathematical concepts, so that those pupils beginning their education at school are able to access age-appropriate ideas and do not see gaps open in their learning over time. Integral to this is the school’s vision for mathematics which, ‘…rejects the idea that a large proportion of people ‘just can’t do maths,’’ [and aligns with the] ‘belief that by working hard at maths they can succeed.’ *NCETM –* [‘*The Essence of Maths Teaching for Mastery’*](https://www.ncetm.org.uk/files/37086535/The%2BEssence%2Bof%2BMaths%2BTeaching%2Bfor%2BMastery%2Bjune%2B2016.pdf) (2016)

Despite starting to develop/having developed (delete as appropriate) a mastery approach in the learning and teaching of mathematics, we are aware that some children will have gaps in their pre-requisite knowledge. Consequently, our medium-term planning has been designed to take into account cases where ‘catch-up’ is still required. Medium term planning also shows longer being spent on each topic as mastery is an integral part of the system, so that a broadening of knowledge and skills can take place as part of pupils’ learning experiences.

As a result of this approach being taken, it is likely that those undertaking learning walks and/or monitoring lessons will see more whole-class teaching than may have been evident before the implementation of the 2014 National Curriculum. Pupils progress through curriculum content at broadly the same rate, although support/intervention and broader opportunities are provided to move groups of children on so that they are able to:

* Grasp concepts and methods, e.g. through more varied use of practical equipment – in the case of lower attainers
* Be challenged through exposure to greater depth in their learning, e.g. through tackling more complex problems in different contexts - in the case of higher attainers/rapid graspers

As a result, differentiation is sometimes likely to appear to be more subtle than before. Practise and consolidation play a central role in pupils’ learning experiences. Although the ‘pace’ in lessons may appear to be slow, this could mask development of deep understanding of mathematical concepts through use of small-steps. Further challenge is provided to all children through use of problem solving, which may or may not be linked with a real-life context.

**Implementation:**

All of the above decisions taken in terms of curriculum design and learning/teaching are inextricably linked to necessary Continuing Professional Development (CPD) for teaching staff. School leaders ensure a range of CPD is made available for staff, which means that increasing consistency is gained across Years 1-6, whilst colleagues in Early Years are aware about the mastery agenda and adopt relevant teaching strategies to support the development of practice.

In terms of assessment, and in order for the mastery approach to work, we understand the particular need for children to achieve key objectives for their current stage of learning. Such assessment links with day-to-day Assessment for Learning, which informs teachers about the elements of learning pupils need to develop further. In lessons, teachers use precise questioning to check conceptual and procedural knowledge. They formatively assess how misconceptions can be used as growth points in learning, whilst also diagnosing who requires intervention, meaning that all children are expected to ‘keep up’ rather than ‘catch-up.’ Assessment gathering is kept meaningful and is viewed as a diagnostic tool whereby collated information is used purposefully when planning pupils’ next-steps.

Through their lessons, teachers aim to promote connections within and across National Curriculum domains, so that children are taken deeper with their learning over time and recognise the interconnectedness of concepts. It is also intended that pupils revisit concepts, for example, multiplication within area when presented as an array model, which means that pupils absorb learning within their long-term memory.

It should be noted that varied use of practical resources, structures and representations, plus questioning that requires deeper reasoning is used to ensure all children are supported/challenged appropriately. A progression in key representations and structures, leading to understanding of sometimes complex and abstract concepts, has been defined and is exemplified in the school’s calculation policy. This in turn supports the delivery of consistent approaches and equity of access for learners.

**Impact:**

The attainment and progress of pupils’ learning is tracked by class teachers and senior leaders, so that swift interventions can be put into place, including for children who have not always experienced a mastery approach in mathematics over time, and may include the use of pre-teaching (delete as appropriate).

In cases where children’s learning is most effectively being deepened, the following descriptors can be seen in their learning:

Depth: Greater depth:


*NCETM –* [*‘Teaching for Mastery: Questions, tasks and activities to support assessment’*](https://www.ncetm.org.uk/resources/46689) *(2015)*

The school’s Marking and Feedback policy allows children’s levels of independence to be evident, as instances where pupils have the most secure knowledge and skills can most easily be recognised when they’ve applied learning independently and in a range of ways, including across different areas of the curriculum. On occasions when such extended depth has yet to be developed, an expected core impact of our curriculum is that pupils are at least ready to move on to the next key stage of learning.

Taking into account ACME’s, [‘Professional learning for all teachers of mathematics’](http://www.acme-uk.org/media/36491/professional%20learning%20for%20all%20teachers%20of%20mathematics%20-%20final.pdf) (2016) report, whereby it is stated, ‘highly-effective teachers of mathematics have a positive disposition towards the subject and are comfortable in exploring mathematical ideas with their learners,’ the most effective CPD experiences result in this being a key impact on our teaching staff.

Last reviewed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date of next review: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Chair of Governors)