

ATM/MA response to the Ofsted Aide Memoire, Guidance and Training Materials for a Deep Dive in Mathematics by Ofsted Inspectors

We acknowledge that these documents are essentially an unreferenced summary of the Ofsted Research Review for mathematics published in May 2021:

<https://www.gov.uk/government/publications/research-review-series-mathematics>.

Consequently, this 'aide memoire' for inspectors has the same issues as that review in terms of often inaccurate interpretation of research, conflicts with the statutory mathematical entitlement of children, as well as focusing on a limited view of mathematics.

Although these 'aide memories' are widely available, they are not officially released. We would direct anyone involved in an Ofsted 'deep dive' in mathematics to our earlier document, which offers practical support for school leaders in articulating and building their approach to mathematics and is based on rigorous research. This is available on both the Mathematical Association, and Association of Teachers of Mathematics websites:

<https://www.atm.org.uk/Maths-Book-Reviews/Page-6/atm-ma-responding-to-the-2021-mathematics-ofsted-research-review> or <https://www.m-a.org.uk/resources/JoinPrimaryResponse.pdf>

As a primary group representing the two professional associations, we remain concerned about many aspects of this 'aide memoire', which run counter to research, for example:

Curriculum: the categorisation of declarative-procedural-conditional knowledge does not match research literature which suggests iterative development of procedural knowledge and conceptual understanding.

There are references to 'plans' throughout the aide memoire which conflicts with the Education Inspection Framework (EIF). This states there is no recommended way of teaching or expectation of any particular planning. The EIF does not require planning to be shared or discussed. (Inspection handbook, 11/07/22. paragraph 22; 22. *'We will not advocate a particular method of planning (including lesson planning), teaching or assessment, or expect curriculum planning to be in any specific format.'*)

Pedagogy: Minimising the use of materials conflicts with mastery approaches, which are built on confident use of models and images to build secure understanding of connections in mathematics.

There is no statutory requirement for schools to have a calculation policy, nor to share one at inspection.

Assessment: There is no research evidence that indicates that regular testing improves fluency. The EIF states (Inspection handbook, 11/07/22. paragraph 22; 22): *'We will not advocate a particular method of planning (including lesson planning), teaching or assessment...'*

Culture: There is no research evidence to support the recommendation that learning occurs more readily in silent classrooms, in fact, the opposite is true, and discussion is well documented as being important in building understanding. This is reflected in the government's commitment to mastery approaches in mathematics learning. There is a grave concern that compliance and quiet in a classroom can be misinterpreted as engagement.

We acknowledge that the 'aide memoire' recognises the scope of the 'deep dive' is to ensure that the curriculum meets the minimum expectations set out in the EYFS and the National Curriculum, and that this should be increasingly demanding, broadening and deepening pupils' mathematical knowledge. However there seem to be some major omissions in relation to this. For example:

- Only one of the three parallel aims (fluency, problem solving and reasoning) of the National Curriculum is represented. There is no reference to developing children's reasoning and mathematical thinking.
- There is no reference to mental methods of calculation, which are the primary option for all calculation.
- The documents mention Early Years with no attention paid to the statutory requirements for this age group. Moreover, it makes reference to the 2017 Early Years Framework, when this is out of date and has been superseded.
- The hierarchical expectation of automaticity before the solving of mathematical problems is not supported by research.
- Encouraging children to make links between common words and phrases and a particular calculation is very misleading. It is a common error in teaching that individual words indicate a specific operation (see Gareth Metcalf, numberless problems: <https://www.youtube.com/watch?v=fBtRUwG6LNM>)

The stated aim of this 'aide memoire' is to support inspectors undertaking a 'deep dive' in mathematics, to enable them to ensure that the entitlement identified in the National Curriculum is delivered in a way that is appropriate to the given context. The EIF acknowledges that the delivery of the aims and content of the National Curriculum will necessarily be adapted to suit the needs of the children in a school, and is unlikely to look the same in any two schools. As such, it is important that school leaders articulate well their vision for mathematics in their school and how they are implementing this.