Dear Justine Greening

Re: Welcome from the ATM/MA Primary Group

I am writing on behalf of the joint primary expert group of the Association of Teachers of Mathematics (ATM) and the Mathematical Association (MA) to welcome you to your new role and alert you to concerns about national assessment of primary mathematics.

We are surprised that the new ‘expected’ standard at the end of Key Stage 2 has been set so that this year 30% of children entering secondary school this September will not meet the expected standard this year. This is an increase of 130% compared to 2015, when 87% met or exceeded the level 4 threshold. We were led to believe that the new standard would be consistent with level 4b. In 2015, 77% achieved that standard. It seems remarkable that more children will not meet the standard this year, particularly given the massive effort by teachers and children to work with the new curriculum. It is worrying that no attempt has been made at least to maintain the proportion achieving the ‘expected standard’ albeit a new ‘higher’ one that is not well defined. It is worth noting that government has put in place guarantees that the new grading of GCSEs in summer 2017 will ensure that the proportions achieving grade 4 and above, and grade 7 and above, will be the same as those who currently get grade C and grade A respectively.

We are concerned that the new, more demanding Key Stage 2 tests are not fit for purpose. They are not consistent with the aims of the new curriculum: fluency and conceptual understanding, reasoning and problem solving. Over half of the written mathematics test (40 marks) would be better done mentally but the curriculum no longer includes ‘mental methods as a first resort’ and the squared grid (which is actually smaller than the numerals used in the questions) encourages children to set out a formal algorithm. We estimate that 25% of the ‘reasoning’ papers (total 70 marks) comprise items that require mathematical thinking (i.e. problem solving and reasoning). Items on the reasoning papers often require a number of steps for solution, yet there are usually just two marks, meaning that a partially correct solution is unlikely to receive any credit at all. The approach to marking these tests needs re-thinking so evidence of understanding is rewarded. The design of the tests also needs to move to better reflect the aims of the curriculum, with the balance between ‘fluency’ (i.e. arithmetic and 75% of the reasoning papers) and problem solving and reasoning. It may be worth considering awarding two marks for mathematics – one for fluency and one for problem solving and reasoning. The Key Stage 1 tests are even less appropriate as they rely primarily on recall of facts and techniques that is inconsistent with the curriculum aims. They reflect the increased content in the Key Stage 1 curriculum that is largely age-inappropriate.

The exemplification of interim standards published in January 2016 were inconsistent with the curriculum aims and contained many mathematical errors. These materials were not subject to the same rigorous quality assurance as National Curriculum Test items. We were surprised to see the same ‘interim standards’ recently re-issued (July 2016) without revision despite the concerns raised about them.
We believe that the proposed Year 7 ‘progress check’ will distort learners’ early secondary mathematics experience, as teachers will feel pressured, as Year 6 teachers do, to ‘teach to the test’. Ofsted (2012) is clear that such teaching leads to superficial learning rather than building deep foundations that secure future progress. MMSA has written independently to draw attention to the concerns of the mathematics education community about the proposed Year 7 ‘progress check’. We wholly endorse MMSA’s concerns.

As members of the mathematics subject associations, committed to the best mathematics education for all learners, we would welcome the opportunity to discuss our concerns with you.

Yours Sincerely

Dr Alison Borthwick
Chair of the Association of Teachers of Mathematics and Mathematical Association Primary Expert Group