

## End-of-KS1 Statements for “working at greater depth within the expected standard”.

*Developing mastery with greater depth is characterised by pupils’ ability to:*

- *solve problems of greater complexity (i.e. where the approach is not immediately obvious), demonstrating creativity and imagination;*
- *independently explore and investigate mathematical contexts and structures, communicate results clearly and systematically explain and generalise the mathematics.*

(NCETM “Mastery” books)

**The pupil can reason about addition (e.g. pupil can reason that the sum of 3 odd numbers will always be odd).**

The pupil’s understanding is such that they can now generalize, and also use their knowledge and understanding of number and addition to formulate a proof.

**The pupil can use multiplication facts to make deductions outside known multiplication facts (e.g. a pupil knows that multiples of 5 have one digit of 0 or 5 and uses this to reason that  $18 \times 5$  cannot be 92 as it is not a multiple of 5).**

Their understanding of multiplication, and their recall and knowledge of the 2, 5 and 10 times tables is secure, enabling them to apply this to related facts. Again, generalisation and reasoning supports their problem solving.

**The pupil can work out mental calculations where regrouping is required (e.g.  $52 - 27$ ;  $91 - 73$ ).**

Mental fluency with bridging through ten or re-grouping now extends to subtracting a two digit number from another two digit number.

**The pupil can solve more complex missing number problems (e.g.  $14 + \Delta - 3 = 17$ ;  $14 + \Delta = 15 + 27$ ).**

**The pupil can determine remainders given known facts (e.g.  $15 \div 5 = 3$  and has a remainder of 0, pupil recognises that  $16 \div 5$  will have a remainder of 1; knowing that  $2 \times 7 = 14$  and  $2 \times 8 = 16$ , pupil explains that making pairs of socks from 15 identical socks will give 7 pairs and one sock will be left).**

Understanding of multiplication is confident, with known facts being now used to reason about and explain solutions to calculations or problems. Pupils use known facts to solve division problems with reminders.

**The pupil can solve word problems that involve more than one step (e.g. which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet?).**

Pupil’s calculation strategies are secure and fluent and can be confidently applied to solving problems requiring them to work accurately through two steps.

**The pupil can recognise the relationships between addition and subtraction and can rewrite addition statements as simplified multiplication statements (e.g.  $10 + 10 + 10 + 5 + 5 = 3 \times 10 + 2 \times 5 = 4 \times 10$ ).**

Pupils show that they understand the relationship between addition and subtraction, and also use their understanding of the relationship between all four operations to simplify statements.

**The pupil can find and compare fractions of amounts (e.g.  $1/4$  of £20 = £5 and  $1/2$  of £8 = £4 so  $1/4$  of £20 is greater than  $1/2$  of £8).**

Pupils have secure understanding of fractions and can now apply this to more complex problems.

**The pupil can read the time on the clock to the nearest 5 minutes.**

Notice, as previously, the statement refers to pupils being able to able to **read** the time on an (analogue) clock to the nearest five minutes. (Digital clocks are encountered in year 3.)

**The pupil can read scales in divisions of ones, twos, fives and tens in a practical situation where not all numbers on the scale are given.**

This is slightly more complex than “working towards” where **all** of the divisions on a scale are numbered.

**The pupil can describe similarities and differences of shape properties (e.g. finds 2 different 2-D shapes that only have one line of symmetry; that a cube and a cuboid have the same number of edges, faces and vertices but can describe what is different about them).**

Secure knowledge of 2D and 3D shapes and their properties can now be confidently used to explain similarities and differences when comparing shapes.