

## Mathematics

### Working towards the expected standard

The pupil can:

- demonstrate an understanding of place value, though may still need to use apparatus to support them (e.g. by stating the difference in the tens and ones between 2 numbers i.e. 77 and 33 has a difference of 40 for the tens and a difference of 4 for the ones; by writing number statements such as  $35 < 53$  and  $42 > 36$ )
- count in twos, fives and tens from 0 and use counting strategies to solve problems (e.g. count the number of chairs in a diagram when the chairs are organised in 7 rows of 5 by counting in fives)
- read and write numbers correctly in numerals up to 100 (e.g. can write the numbers 14 and 41 correctly)
- use number bonds and related subtraction facts within 20 (e.g.  $18 = 9 + ?$ ;  $15 = 6 + ?$ )
- add and subtract a two-digit number and ones and a two-digit number and tens where no regrouping is required (e.g.  $23 + 5$ ;  $46 + 20$ ), they can demonstrate their method using concrete apparatus or pictorial representations
- recall doubles and halves to 20 (e.g. pupil knows that double 2 is 4, double 5 is 10 and half of 18 is 9)
- recognise and name triangles, rectangles, squares, circles, cuboids, cubes, pyramids and spheres from a group of shapes or from pictures of the shapes.

### Working at the expected standard

The pupil can:

- partition two-digit numbers into different combinations of tens and ones. This may include using apparatus (e.g. 23 is the same as 2 tens and 3 ones, which is the same as 1 ten and 13 ones)
- add 2 two-digit numbers within 100 (e.g.  $48 + 35$ ) and can demonstrate their method using concrete apparatus or pictorial representations
- use estimation to check that their answers to a calculation are reasonable (e.g. knowing that  $48 + 35$  will be less than 100)
- subtract mentally a two-digit number from another two-digit number when there is no regrouping required (e.g.  $74 - 33$ )

*Continued on the next page*

- recognise the inverse relationships between addition and subtraction and use this to check calculations and work out missing number problems (e.g.  $\Delta - 14 = 28$ )
- recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables to solve simple problems, demonstrating an understanding of commutativity as necessary (e.g. knowing they can make 7 groups of 5 from 35 blocks and writing  $35 \div 5 = 7$ ; sharing 40 cherries between 10 people and writing  $40 \div 10 = 4$ ; stating the total value of six 5p coins)
- identify  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{2}{4}$ ,  $\frac{3}{4}$  and knows that all parts must be equal parts of the whole.
- use different coins to make the same amount (e.g. use coins to make 50p in different ways; work out how many £2 coins are needed to exchange for a £20 note)
- read scales in divisions of ones, twos, fives and tens in a practical situation where all numbers on the scale are given (e.g. pupil reads the temperature on a thermometer or measures capacities using a measuring jug)
- read the time on the clock to the nearest 15 minutes
- describe properties of 2-D and 3-D shapes (e.g. the pupil describes a triangle: it has 3 sides, 3 vertices and 1 line of symmetry; the pupil describes a pyramid: it has 8 edges, 5 faces, 4 of which are triangles and one is a square).

#### Working at greater depth

The pupil can:

- reason about addition (e.g. that the sum of 3 odd numbers will always be odd)
- 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)
- work out mental calculations where regrouping is required (e.g.  $52 - 27$ ;  $91 - 73$ )
- solve more complex missing number problems (e.g.  $14 + \square - 3 = 17$ ;  $14 + \Delta = 15 + 27$ )
- determine remainders given known facts (e.g. given  $15 \div 5 = 3$  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)
- 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?")
- recognise the relationships between addition and subtraction and can rewrite addition statements as simplified multiplication statements (e.g.  $10 + 10 + 10 + 5 + 5 = 3 \times 10 + 2 \times 5 = 4 \times 10$ )
- find and compare fractions of amounts (e.g.  $\frac{1}{4}$  of £20 = £5 and  $\frac{1}{2}$  of £8 = £4, so  $\frac{1}{4}$  of £20 is greater than  $\frac{1}{2}$  of £8)
- read the time on the clock to the nearest 5 minutes
- read scales in divisions of ones, twos, fives and tens in a practical situation where not all numbers on the scale are given.
- 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).