

## Stage 3

### N Number

#### Nn Numbers and the number system

- **3Nn1** Recite numbers 100 to 200 and beyond
- **3Nn2** Read and write numbers to at least 1000
- **3Nn3** Count on and back in ones, tens and hundreds from two- and three-digit numbers
- **3Nn4** Count on and back in steps of 2, 3, 4 and 5 to at least 50
- **3Nn5** Understand what each digit represents in three-digit numbers and partition into hundreds, tens and units
- **3Nn6** Find 1, 10, 100 more/less than two- and three-digit numbers
- **3Nn7** Multiply two-digit numbers by 10 and understand the effect
- **3Nn8** Round two-digit numbers to the nearest 10 and round three-digit numbers to the nearest 100
- **3Nn9** Place a three-digit number on a number line marked off in multiples of 100
- **3Nn10** Place a three-digit number on a number line marked off in multiples of 10
- **3Nn11** Compare three-digit numbers, use < and > signs, and find a number in between
- **3Nn12** Order two- and three-digit numbers
- **3Nn13** Give a sensible estimate of a number as a range (e.g. 30 to 50) by grouping in tens
- **3Nn14** Find half of odd and even numbers to 40, using notation such as  $13\frac{1}{2}$
- **3Nn15** Understand and use fraction notation recognising that fractions are several parts of one whole, e.g.  $\frac{3}{4}$  is three quarters and  $\frac{2}{3}$  is two thirds
- **3Nn16** Recognise equivalence between  $\frac{1}{2}$ ,  $\frac{2}{4}$ ,  $\frac{4}{8}$  and  $\frac{5}{10}$  using diagrams
- **3Nn17** Recognise simple mixed fractions, e.g.  $1\frac{1}{2}$  and  $2\frac{1}{4}$
- **3Nn18** Order simple or mixed fractions on a number line, e.g. using the knowledge that  $\frac{1}{2}$  comes half way between  $\frac{1}{4}$  and  $\frac{3}{4}$ , and that  $1\frac{1}{2}$  comes half way between 1 and 2
- **3Nn19** Begin to relate finding fractions to division
- **3Nn20** Find halves, thirds, quarters and tenths of shapes and numbers (whole number answers)

#### Nc Calculation

##### *Mental strategies*

- **3Nc1** Know addition and subtraction facts for all numbers to 20
- **3Nc2** Know the following addition and subtraction facts:
  - multiples of 100 with a total of 1000
  - multiples of 5 with a total of 100
- **3Nc3** Know multiplication/division facts for 2×, 3×, 5× and 10× tables
- **3Nc4** Begin to know 4× table
- **3Nc5** Recognise two- and three-digit multiples of 2, 5 and 10
- **3Nc6** Work out quickly the doubles of numbers 1 to 20 and derive the related halves
- **3Nc7** Work out quickly the doubles of multiples of 5 (< 100) and derive the related halves
- **3Nc8** Work out quickly the doubles of multiples of 50 to 500

*Addition and subtraction*

- **3Nc9** Add and subtract 10 and multiples of 10 to and from two- and three-digit numbers
- **3Nc10** Add 100 and multiples of 100 to three-digit numbers
- **3Nc11** Use the = sign to represent equality, e.g.  $75 + 25 = 95 + 5$
- **3Nc12** Add several small numbers
- **3Nc13** Find complements to 100, solving number equations such as  $78 + \square = 100$
- **3Nc14** Add and subtract pairs of two-digit numbers
- **3Nc15** Add three-digit and two-digit numbers using notes to support
- **3Nc16** Re-order an addition to help with the calculation, e.g.  $41 + 54$ , by adding 40 to 54, then 1
- **3Nc17** Add/subtract single-digit numbers to/from three-digit numbers
- **3Nc18** Find 20, 30, ... 90, 100, 200, 300 more/less than three-digit numbers

*Multiplication and division*

- **3Nc19** Understand the relationship between halving and doubling
- **3Nc20** Understand the effect of multiplying two-digit numbers by 10
- **3Nc21** Multiply single-digit numbers and divide two-digit numbers by 2, 3, 4, 5, 6, 9 and 10
- **3Nc22** Multiply teens numbers by 3 and 5
- **3Nc23** Begin to divide two-digit numbers just beyond  $10\times$  tables, e.g.  $60 \div 5$ ,  $33 \div 3$
- **3Nc24** Understand that division can leave a remainder (initially as 'some left over')
- **3Nc25** Understand and apply the idea that multiplication is commutative
- **3Nc26** Understand the relationship between multiplication and division and write connected facts

**G Geometry****Gs Shapes and geometric reasoning**

- **3Gs1** Identify, describe and draw regular and irregular 2D shapes including pentagons, hexagons, octagons and semi-circles
- **3Gs2** Classify 2D shapes according to the number of sides, vertices and right angles
- **3Gs3** Identify, describe and make 3D shapes including pyramids and prisms; investigate which nets will make a cube
- **3Gs4** Classify 3D shapes according to the number and shape of faces, number of vertices and edges
- **3Gs5** Draw and complete 2D shapes with reflective symmetry and draw reflections of shapes (mirror line along one side)
- **3Gs6** Relate 2D shapes and 3D solids to drawings of them
- **3Gs7** Identify 2D and 3D shapes, lines of symmetry and right angles in the environment
- **3Gs8** Identify right angles in 2D shapes

**Gp Position and movement**

- **3Gp1** Use the language of position, direction and movement, including clockwise and anti-clockwise
- **3Gp2** Find and describe the position of a square on a grid of squares where the rows and columns are labelled
- **3Gp3** Use a set square to draw right angles
- **3Gp4** Compare angles with a right angle and recognise that a straight line is equivalent to two right angles

## G Measure

### Gm Money

- 3Gm1** • **3Mm1** Consolidate using money notation
- 3Gm2** • **3Mm2** Use addition and subtraction facts with a total of 100 to find change

### Gl Length, mass and capacity

- 3Gl1** • **3Ml1** Choose and use appropriate units and equipment to estimate, measure and record measurements
- 3Gl2** • **3Ml2** Know the relationship between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres
- 3Gl3** • **3Ml3** Read to the nearest division or half division, use scales that are numbered or partially numbered
- 3Gl4** • **3Ml4** Use a ruler to draw and measure lines to the nearest centimetre
- 3Gl5** • **3Ml5** Solve word problems involving measures

### Gt Time

- 3Gt1** • **3Mt1** Suggest and use suitable units to measure time and know the relationships between them (second, minute, hour, day, week, month, year)
- 3Gt2** • **3Mt2** Read the time on analogue and digital clocks, to the nearest 5 minutes on an analogue clock and to the nearest minute on a digital clock
- 3Gt3** • **3Mt3** Begin to calculate simple time intervals in hours and minutes
- 3Gt4** • **3Mt4** Read a calendar and calculate time intervals in weeks or days

## D Handling data

### Dh Organising, categorising and representing data

- **3Dh1** Answer a real-life question by collecting, organising and interpreting data, e.g. investigating the population of mini-beasts in different environments
- **3Dh2** Use tally charts, frequency tables, pictograms (symbol representing one or two units) and bar charts (intervals labelled in ones or twos)
- **3Dh3** Use Venn or Carroll diagrams to sort data and objects using two criteria

## Problem solving

### Using techniques and skills in solving mathematical problems

- **3Pt1** Choose appropriate mental strategies to carry out calculations
- **3Pt2** Begin to understand everyday systems of measurement in length, weight, capacity and time and use these to make measurements as appropriate
- **3Pt3** Make sense of and solve word problems, single (all four operations) and two-step (addition and subtraction), and begin to represent them, e.g. with drawings or on a number line
- **3Pt4** Check the results of adding two numbers using subtraction, and several numbers by adding in a different order
- **3Pt5** Check subtraction by adding the answer to the smaller number in the original calculation
- **3Pt6** Check multiplication by reversing the order, e.g. checking that  $6 \times 4 = 24$  by doing  $4 \times 6$

- **3Pt7** Check a division using multiplication, e.g. check  $12 \div 4 = 3$  by doing  $4 \times 3$
- **3Pt8** Recognise the relationships between different 2D shapes
- **3Pt9** Identify the differences and similarities between different 3D shapes
- **3Pt10** Estimate and approximate when calculating, and check working
- **3Pt11** Make a sensible estimate for the answer to a calculation, e.g. using rounding
- **3Pt12** Consider whether an answer is reasonable

#### **Using understanding and strategies in solving problems**

- **3Ps1** Make up a number story to go with a calculation, including in the context of money
- **3Ps2** Explain a choice of calculation strategy and show how the answer was worked out
- **3Ps3** Explore and solve number problems and puzzles, e.g. logic problems
- **3Ps4** Use ordered lists and tables to help to solve problems systematically
- **3Ps5** Describe and continue patterns which count on or back in steps of 2, 3, 4, 5, 10, or 100
- **3Ps6** Identify simple relationships between numbers, e.g. each number is three more than the number before it
- **3Ps7** Identify simple relationships between shapes, e.g. these shapes all have the same number of lines of symmetry
- **3Ps8** Investigate a simple general statement by finding examples which do or do not satisfy it, e.g. when adding 10 to a number, the first digit remains the same
- **3Ps9** Explain methods and reasoning orally, including initial thoughts about possible answers to a problem