

Securing Level 4

For children to attain a secure level 4, they need to:

Securing Mental Skills

- understand and use language associated with the four operations, for example, difference, sum, total, product, multiple, share equally, factor, remainder
- build on what they know, for example, as $624 \div 6 = 600 \div 6 + 24 \div 6 = 100 + 4 = 104$
- recognise cases where particular strategies will be effective, for example, using rounding to work out that $\text{£}1.99 \times 3 = \text{£}6.00 - 3\text{p}$
- answer simple decimal calculations, using their relationship to number facts, for example, $0.7 \times 3 = 2.1$ as 7 tenths $\times 3 = 21$ tenths or 2.1; $5.4 \div 9 = 0.6$ as $9 \times 6 = 54$ and $9 \times 0.6 = 5.4$
- use number lines and other jottings to record working clearly
- build up speed with practice for calculations that can be done mentally
- answer questions mentally involving units, for example, find the ml in $\frac{1}{5}$ of a litre

Understanding and Using Place Value

- find the value of each digit in large numbers and decimals
- order a set of numbers by identifying significant digits
- position numbers on a number line
- round whole numbers to the nearest 10, 100 or 1000
- round decimal numbers to the nearest whole number
- use rounding to find an approximate answer before tackling tricky calculations
- multiply and divide whole numbers by 10, 100 or 1000
- use a known fact to answer linked decimal facts
- create and continue number sequences involving decimal numbers
- interpret decimal numbers in the context of measures such as money and length
- add and subtract numbers with up to two decimal places
- explain their steps in calculation methods referring to the value of digits.

Calculating with Money and Time

- read and write the same time, using alternative notations, for example, digital, 12- or 24-hour clock
- locate required information in a timetable or a calendar
- convert between units of time, for example, recognise that 140 secs = 2 mins 20 secs
- add times and find time differences, converting between units of time as necessary
- draw time lines to support accurate calculation involving time
- break money problems into steps and identify each calculation required
- record working for each stage of multi-step problems involving money
- use calculators to solve money problems, recording each calculation that is done
- interpret calculator displays in the context of money, recognising, for example, that 4.2 in pounds represents $\text{£}4.20$ or that 10.6666667 would round up to $\text{£}10.67$.

Reading Scales

- work out the size of each interval, count along the scale to check and label marks
- recognise how the value of each interval changes when the start or end label changes
- identify points between two marks and estimate their value
- read values from scales that are horizontal, vertical or circular as on a clock face
- interpret scales on graphs and charts, annotating the scale to support accuracy
- use measuring equipment accurately in the context of length, weight and capacity
- use their readings to calculate differences and solve problems involving scales
- use the relationship between units of measure to convert units, where appropriate

Interpreting Tables and Graphs

- recognise different types of graphs and charts and understand their key features
- use all of the relevant information, including titles, headings and labels, in order to understand what information a graph is presenting
- work out the value of each interval on the scale, annotating the axis for accuracy
- estimate the value of points between two marks on the scale of an axis
- locate the required information to answer a question
- draw lines onto line graphs to read required information accurately
- identify the calculation(s) that need to be carried out, using the data collected in order to answer questions and problems
- describe and record the steps involved in solving a problem using data

Naming and Transforming Shapes

- describe 2-D shapes using a wide range of properties including number of sides, equal sides, number of right angles, equal angles and number of lines of symmetry
- describe 3-D shapes using number and shape of faces, number of edges and vertices, equal edges
- recognise parallel and perpendicular lines, including in 2-D shapes
- classify a set of shapes using various criteria and record using diagrams including Venn diagrams, Carroll diagrams and tree diagrams
- draw 2-D shapes accurately using different grids or using rulers and protractors
- build 3-D shapes using construction kits or by drawing nets
- visualise the result of reflecting, rotating or translating a 2-D shape and test their ideas
- recognise that the length of each side and the size of each angle do not change when a shape is reflected, rotated or translated