

Grade 2 checklist

23 skills. Tick each one when you can do it. For grade 2 you need the skills for the grades below it too.

Number

- ☐ **Calculate with negative numbers** Add, subtract, multiply and divide with negatives, e.g. $-3 - (-8) = 5$ and $-4 \times -6 = 24$. (Place value, ordering and order of operations)
- ☐ **Use the inequality symbols correctly** Use $=$, $\neq$, $<$, $>$, $\leq$ and $\geq$ to compare numbers, e.g. $-7 < -2$. (Place value, ordering and order of operations)
- ☐ **Recognise prime numbers** A prime has exactly two factors, 1 and itself: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, ... (Primes, factors, HCF and LCM)
- ☐ **Find a fraction of an amount** Divide by the denominator, then multiply by the numerator: $\frac{3}{5}$ of 40 = $40 \div 5 \times 3 = 24$. (Fractions and mixed numbers)
- ☐ **Recall cube numbers and cube roots** Know 1, 8, 27, 64, 125 and 1000, e.g. $\sqrt[3]{64} = 4$. (Indices and roots)
- ☐ **Round to a number of decimal places** Count digits after the decimal point: 6.4851 is 6.49 to 2 decimal places. (Rounding, estimation and error intervals)
- ☐ **List outcomes in a systematic order** E.g. the two-digit numbers made from 3, 5 and 8 without repeats: 35, 38, 53, 58, 83, 85. (Listing and the product rule)

Algebra

- ☐ **Write products in algebraic notation** Write $a \times b$ as ab , $y \times y$ as y^2 and $3 \times a \times a \times b$ as $3a^2b$. (Algebraic notation, substitution and identities)
- ☐ **Solve one-step equations** Use the inverse operation, e.g. $x + 8 = 15$ gives $x = 7$, and $4x = 28$ gives $x = 7$. (Linear equations)
- ☐ **Continue a sequence using a term-to-term rule** e.g. 'add 4' starting at 3 gives 3, 7, 11, 15, ...; 'multiply by 2' starting at 5 gives 5, 10, 20, 40, ... (Sequences and the nth term)

Ratio, proportion and rates of change

- ☐ **Simplify a ratio using the HCF** Divide every part by the highest common factor, e.g. $12 : 18 = 2 : 3$. (Ratio)
- ☐ **Find percentages of amounts without a calculator** Build up from 10%, 5% and 1%, e.g. 35% of £60 = £18 + £3 = £21. (Percentages and reverse percentages)
- ☐ **Convert metric units of length, mass and capacity** Multiply or divide by 10, 100 or 1000, e.g. 3.4 km = 3400 m. (Converting units)
- ☐ **Convert between units of time** Use 60 seconds in a minute and 60 minutes in an hour, e.g. 2.5 hours = 2 hours 30 minutes. (Converting units)

Geometry and measures

- ☐ **Use angles on a line and around a point** Angles on a straight line add up to 180° and angles around a point add up to 360° . (Angles, parallel lines and polygons)

- ☐ **Find the area of rectangles and triangles** Rectangle = length $\times$ width; triangle = $\frac{1}{2} \times$ base $\times$ perpendicular height. (Area and perimeter)

 - ☐ **Count faces, edges and vertices** e.g. a cuboid has 6 faces, 12 edges and 8 vertices. (Volume and surface area)

 - ☐ **Draw and recognise nets of 3D shapes** Know which arrangements of faces fold up into cubes, cuboids, prisms and pyramids. (Plans and elevations)
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Probability

- ☐ **Find a probability for equally likely outcomes** Divide the number of ways the event can happen by the total number of outcomes, e.g. P(5 on a fair six-sided dice) = $\frac{1}{6}$. (Probability and relative frequency)
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Statistics

- ☐ **Draw a bar chart or vertical line chart** Label both axes, start the frequency scale at 0 and make the bars the same width with equal gaps. (Charts, diagrams and time series)

 - ☐ **Find the median of a list** Put the values in order and find the middle one, or halfway between the middle two. (Averages and spread)

 - ☐ **Plot points on a scatter graph** Plot each pair of values as a cross, reading both scales carefully. (Scatter graphs and correlation)

 - ☐ **Know the words population, sample and census** The population is the whole group; a sample is part of it; a census collects data from every member. (Sampling and capture–recapture)
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