| Mathematics | Term 1 Cycle 1 | Term 2 Cycle 1 | Term 3 Cycle 1 | Term 1 Cycle 2 | Term 2 Cycle 2 | Term 3 Cycle 2 |
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| Year 6 Maths |  |  |  |  |  |  |
| Number \& Place Value |  |  |  |  |  |  |
| - read, write, order and compare numbers up to 10000000 and determine the value of each digit |  |  |  |  |  |  |
| - round any whole number to a required degree of accuracy |  |  |  |  |  |  |
| - use negative numbers in context, and calculate intervals across zero |  |  |  |  |  |  |
| - solve number and practical problems that involve all of the above. |  |  |  |  |  |  |
| Number Addition, Subtraction, Multiplication and Division |  |  |  |  |  |  |
| - multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication |  |  |  |  |  |  |
| - divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context |  |  |  |  |  |  |
| - divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context |  |  |  |  |  |  |
| - perform mental calculations, including with mixed operations and large numbers |  |  |  |  |  |  |
| - identify common factors, common multiples and prime numbers |  |  |  |  |  |  |
| - use their knowledge of the order of operations to carry out calculations involving the four operations |  |  |  |  |  |  |
| - solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why |  |  |  |  |  |  |
| - solve problems involving addition, subtraction, multiplication and division |  |  |  |  |  |  |

- use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.


## Fractions

- use common factors to simplify fractions; use common multiples to express fractions in the same denomination
- compare and order fractions, including fractions $>1$
- add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
- multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2}=\frac{1}{8}$ ]
- divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2=\frac{1}{6}$ ]
- associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$ ]
- identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places
- multiply one-digit numbers with up to two decimal places by whole numbers
- use written division methods in cases where the answer has up to two decima places
- solve problems which require answers to be rounded to specified degrees of accuracy
- recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.


## Ratio and Proportion

- solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
- solve problems involving the calculation of percentages [for example, of measures, and such as $15 \%$ of 360] and the use of percentages for comparison

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| - solve problems involving similar shapes where the scale factor is known or can be found |  |  |  |  |  |
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| - solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. |  |  |  |  |  |
| Algebra |  |  |  |  |  |
| - use simple formulae |  |  |  |  |  |
| - generate and describe linear number sequences |  |  |  |  |  |
| - express missing number problems algebraically |  |  |  |  |  |
| - find pairs of numbers that satisfy an equation with two unknowns |  |  |  |  |  |
| - enumerate possibilities of combinations of two variables. |  |  |  |  |  |
| Measurement |  |  |  |  |  |
| - solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate |  |  |  |  |  |
| - use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places |  |  |  |  |  |
| - convert between miles and kilometres |  |  |  |  |  |
| - recognise that shapes with the same areas can have different perimeters and vice versa |  |  |  |  |  |
| - recognise when it is possible to use formulae for area and volume of shapes |  |  |  |  |  |
| - calculate the area of parallelograms and triangles |  |  |  |  |  |
| - calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres ( $\mathrm{cm}^{3}$ ) and cubic metres $\left(\mathrm{m}^{3}\right)$, and extending to other units [for example, $\mathrm{mm}^{3}$ and $\mathrm{km}^{3}$ ]. |  |  |  |  |  |
| Geometry |  |  |  |  |  |
| - draw 2-D shapes using given dimensions and angles |  |  |  |  |  |

- recognise, describe and build simple 3-D shapes, including making nets
- compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
- illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
- recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
- describe positions on the full coordinate grid (all four quadrants)
- draw and translate simple shapes on the coordinate plane, and reflect them in the axes.


## Statistics

- calculate and interpret the mean as an average.

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> - interpret and construct pie charts and line graphs and use these to solve problems

