| Mathematics | Term 1 Cycle 1 | Term 2 <br> Cycle 1 | Term 3 <br> Cycle 1 | Term 1 Cycle 2 | $\begin{aligned} & \text { Term } 2 \\ & \text { Cycle } 2 \end{aligned}$ | Term 3 Cycle 2 |
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| Year 5 Maths |  |  |  |  |  |  |
| Number \& Place Value |  |  |  |  |  |  |
| - read, write, order and compare numbers to at least 1000000 and determine the value of each digit |  |  |  |  |  |  |
| - count forwards or backwards in steps of powers of 10 for any given number up to 1 000000 |  |  |  |  |  |  |
| - interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero |  |  |  |  |  |  |
| - round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 |  |  |  |  |  |  |
| - solve number problems and practical problems that involve all of the above |  |  |  |  |  |  |
| - read Roman numerals to 1000 (M) and recognise years written in Roman numerals. |  |  |  |  |  |  |
| Addition \& Subtraction |  |  |  |  |  |  |
| - add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) |  |  |  |  |  |  |
| - add and subtract numbers mentally with increasingly large numbers |  |  |  |  |  |  |
| - use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy |  |  |  |  |  |  |
| - solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. |  |  |  |  |  |  |
| Multiplication \& Division |  |  |  |  |  |  |
| - identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers |  |  |  |  |  |  |
| - know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers |  |  |  |  |  |  |
| - establish whether a number up to 100 is prime and recall prime numbers up to 19 |  |  |  |  |  |  |
| - multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers |  |  |  |  |  |  |

- multiply and divide numbers mentally drawing upon known facts
- divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
- recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)
- solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes
- solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
- solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.


## Fractions

- compare and order fractions whose denominators are all multiples of the same number
- identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
- recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number
- add and subtract fractions with the same denominator and denominators that are multiples of the same number
- multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- read and write decimal numbers as fractions
- recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- round decimals with two decimal places to the nearest whole number and to one decimal place
- read, write, order and compare numbers with up to three decimal places
- solve problems involving number up to three decimal places
- recognise the per cent symbol (\%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal
- solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}$, $\frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.


## Measurement

- convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
- understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
- measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
- calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes
- estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]
- solve problems involving converting between units of time
- use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.


## Properties of Shapes

- identify 3-D shapes, including cubes and other cuboids, from 2-D representations
- know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
- draw given angles, and measure them in degrees (o)
- identify:
- angles at a point and one whole turn (total 360o)
- angles at a point on a straight line and a turn (total 180o)
- other multiples of 900
- use the properties of rectangles to deduce related facts and find missing lengths and angles
- distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
- identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.
Statistics
- solve comparison, sum and difference problems using information presented in a line graph
- complete, read and interpret information in tables, including timetables.

