|  |  |  |  |
| --- | --- | --- | --- |
| Term | Week | Topic | Objectives |
| 1 | 1 |  |  |
| 2 | Place value | * read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit * count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 * interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero * round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 * 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. |
| 3 | CAMP |
| 4 | Place value |
| 5 |
| 6 | Number – 4 operations (addition and 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. |
| 7 |
| 8 |
| 2 | 1 | Number – 4 operations  (multiplication and 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 (non-prime) 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 * multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 * 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. |
| 2 |
| 3 | Number – fractions, decimals, percentages | * 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 [for example, 2/5 + 4/5 = 6/5 = 1 1/5] * 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 [for example, 0.71 = 71/100] * 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 1/2, 1/4, 1/5, 2/5, 4/5, and those fractions with a denominator of a multiple of 10 or 25. |
| 4 |
| 5 |
| 6 | Geometry - shape | * identify 3-D shapes, including cubes and other cuboids, from 2-D representations * 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. * know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles * draw given angles, and measure them in degrees (°) * identify angles at a point and one whole turn (total 360°) * identify angles at a point on a straight line and half a turn (total 180°) * identify other multiples of 90°. |
| 7 | Christmas |  |
| 3 | 1 | Number – fractions, decimals, percentages | * 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 [for example, 2/5 + 4/5 = 6/5 = 1 1/5] * 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 [for example, 0.71 = 71/100] * 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 1/2, 1/4, 1/5, 2/5, 4/5, and those fractions with a denominator of a multiple of 10 or 25. |
| 2 |
| 3 |
| 4 | Measures – converting units | * 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 * solve problems involving converting between units of time |
| 5 | Measures – perimeter, area and volume | * 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] |
| 6 |
| 4 | 1 | Statistics | * solve comparison, sum and difference problems using information presented in a line graph   complete, read and interpret information in tables, including timetables. |
| 2 | Booster groups/ SATs revision | Revision of topics already covered plus algebra, ratio, shape, statistics  Shape   * identify 3-D shapes, including cubes and other cuboids, from 2-D representations * 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. * know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles * draw given angles, and measure them in degrees (°) * identify angles at a point and one whole turn (total 360°) * identify angles at a point on a straight line and half a turn (total 180°) * identify other multiples of 90°.   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.   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 * solve problems involving similar shapes where the scale factor is known or can be found * solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.   Statistics   * solve comparison, sum and difference problems using information presented in a line graph * complete, read and interpret information in tables, including timetables. |
| 3 |
| 4 |
| 5 |
| 6 |
| 5 | 1 | Booster groups/ SATs revision | Revision of topics already covered plus algebra, ratio, shape, statistics  See above |
| 2 |
| 3 |
| 4 |
| 5 | Consolidation | Multi-facetted projects, consolidation as required |
| 6 | 1 | Consolidation | Multi-facetted projects, consolidation as required |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |