| Wk | Maths Aspect | Y5 Non-Negotiable | Y6 Non- Negotiable | Resources | Y5 NC obj | Y6 NC obj |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | All four operations:mental methods. | Addition and subtraction:mental and written methods | Knows how to use mental calculations with increasingly large numbers and more complex calculations. |  | ●To add and subtract numbers mentally with increasingly large numbers● To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction). ● To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.  | ● To perform mental calculations, including with mixed operations and large numbers. ● To solve addition and subtraction multi-step problems in contexts, deciding which operations to use and why. ● To use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. |
| 2 | All four operations:written methods | Knows efficient methods for multiplication and division. | Knows addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division. |  | ● To multiply and divide numbers mentally drawing upon known facts. ● To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers. ● To divide numbers up to 4 digits by a one-digit number using the efficient written method of short division and interpret remainders appropriately for the context. | ● To solve problems involving addition, subtraction, multiplication and division.● To use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. ● ● To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. ● To solve problems involving numbers up to three decimal places. |
| 3 | Fractions:calculating | Knows how to multiply proper fractions and mixed numbers using the rule of dividing by 1 to represent the whole number as a fraction. | Knows how to calculate with FDP with accuracy. |  | ● To multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams | ● To solve problems which require answers to be rounded to specified degrees of accuracy. ● To recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. |
| 4 | Geometry: properties of shape,Y5 diagonalsY6 including circles | Knows the term diagonal and can make conjectures about the angles formed between sides, and between diagonals and parallel sides, and other properties of quadrilaterals. | Knows how to describe the properties of shapes and explain how unknown angles and lengths can be derived from known measurements. |  | ● To know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles ● To draw given angles and measure them in degrees (º). ● To identify: angles at a point and one whole turn (total 360º) ● angles at a point on a straight line and 1/2 a turn (total 180º) ● other multiples of 90º.● To use the properties of a rectangle to deduce related facts and find missing lengths and angles. ● To distinguish between regular and irregular polygons based on reasoning about equal sides and angles. | ● To compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons● To illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius |
| 4 |  |  |  |  |  |  |
| 5 | Ratio and proportion:solving problems  |  | Knows ratios compares quantities. Knows the notation *a:b* to record a ratio.Knows how to use multiplication/division to find a scale factor.Knows how to solve problems with ratio and proportion. |  |  | ● To solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts● To solve problems involving similar shapes where the scale factor is known or can be found.● To solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.  |
| 6 | Algebra:finding unknowns and variables |  | Knows how to use the arithmetic relationships to find unknowns or variables. |  |  | ● To find pairs of numbers that satisfy number sentences involving two unknowns. ● To enumerate all possibilities of combinations of two variables.  |
| 7 | Statistics:mean average |  | Knows the arithmetic for finding the mean average. |  |  | ● To calculate and interpret the mean as an average. |
| 8 | Statistics:line graphs |  | Knows how to interpret and draw graphs relating two variables, arising from their own enquiry and in other subjects. |  |  | ● To interpret and construct pie charts and line graphs and use these to solve problems.  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |