| Wk | Maths Aspect | Y5 Non-Negotiable | Y6 Non- Negotiable | Resources | Y5 NC obj | Y6 NC obj |
| --- | --- | --- | --- | --- | --- | --- |
| 1 & 2 | Number and place value:  properties of place value  LOGIC | Knows how to read and write numbers with up to 7 digits using the comma separator. | Knows how to read and write numbers with up to 8 digits using the comma separator. | NCETM  Y5 +- 1.26 TP all  Y6 +- 1.30 TP1-5  White Rose  Y56 Aut Block 1  Themes 2-5  PS: <https://mathsbot.com/starters/numberSquare> | ●To read, write, order and compare numbers at least to 1,000,000 and determine the value of each digit.  ● To count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000. | ●Knows how to read and write numbers with up to 7 digits using the comma separator.  ● To read, write, order and compare numbers at least to 10,000,000 and determine the value of each digit.  ● To round any whole number to a required degree of accuracy. |
| 3 | All four operations:  mental methods  LOGIC | Knows efficient mental methods for addition and subtraction. | Knows efficient mental methods applying knowledge of properties of number. | NCETM  Y5 +- 1.28 TP all  Y6 +- 1.31 TP all  Third space bar modelling  PS: Mathematical challenges for Y5 and 6, Joins; Maze | ● To add and subtract numbers mentally with increasingly large numbers.  ● 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 and methods to use and why. |
| 4 | Multiplication and division:  Mental methods  LOGIC | Knows how to find factor pairs. Knows the definition of prime numbers and composite numbers. | Knows efficient mental methods applying knowledge of properties of number. | NCETM  Y5 x/ 2.18 TP all  Y5 x/2.21 TP all  White Rose Y56 Aut Block 2  Theme 2, 5, 7 (primes only)  PS: Nrich <https://nrich.maths.org/dozens> | ● To identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.  ● To know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.  ● To establish whether a number up to 100 is prime and recall prime numbers up to 19. | ● To identify common factors, common multiples and prime numbers. |
| 5 | Multiplication and division:  Mental methods  LOGIC | Knows efficient mental methods for multiplication and division. | Knows efficient mental methods applying knowledge of properties of number. | NCETM  Y5x/ 2.19 TP 1-3  Y6 x/ 2.23 TP 1- 3, 5  Y6 x/ 2.25 TP all  Y6 x/ 2.29 TP1  White Rose Y56 Aut Block 2  Theme 3  PS: Mathematical challenges Y5 and 6 – A bit fishy | ●To multiply and divide numbers mentally drawing upon known facts.  ● To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.  ● To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.  ● To solve problems involving multiplication and division where larger numbers are used by decomposing them into factors.  ● To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. | ● To perform mental calculations, including with mixed operations and large numbers.  ● To solve problems involving addition, subtraction, multiplication and division.  operations and methods to use and why. |
| 6 & 7 | Multiplication and division:  long multiplication and long division  LOGIC | Knows the efficient written algorithms for long multiplication and short division. | Knows the long algorithms for long multiplication and division. | NCETM  Y6 X/ 2.23 TP all  Y6 x/ 2.24 TP all  White Rose  Y56 Aut Block 2 Theme 4  Theme 6  PS: Logic problems – Tea for two, Nicknames | ● 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 multiply multi-digit numbers up to 4 digits by a two-digit whole number using the efficient written method of long multiplication.  ● To divide numbers up to 4 digits by a two-digit whole number using the efficient written method of long division, and interpret remainders as whole number remainders, fractions or by rounding, as appropriate 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. |
| 8 | Geometry:  Angles  LOGIC | Knows that angles are measured using a protractor.  Knows right, acute, obtuse, straight and reflex angles.  Knows how to use angle sum facts and other properties to make deductions about missing angles and lengths. | Knows how unknown angles and lengths can be derived from known measurements. | White Rose  Y56 Summer Block 1 Theme 1, 2 & 3  PS:  <https://nrich.maths.org/14042>  <https://nrich.maths.org/5655> | ●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 rectangles to deduce related facts and find missing lengths and angles. | To recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. |
| 9 & 10 | Fractions:  proper fractions, improper fractions and mixed numbers  PATTERNS and GENERALISING | Knows that when the numerator is larger than the denominator it is an improper fraction.  Knows that an improper fraction is converted to a mixed number. | Knows how to add and subtract fractions with different denominators.  Knows how to convert improper fractions and mixed numbers. | NCETM  Y4 F 3.4 &  Y5 F 3.7 &3.8 TP all  White Rose Y56 Theme 2 Theme 4, 5  PS: write general rules for converting | ● To compare and order fractions whose denominators are all multiples of the same number.  ● To identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.  ● To recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number |  |
| 11 | Fractions:  Decimals  PATTERNS and GENERALISING | Knows decimal notation and the language associated with it for up to three decimal places. | Knows how to round decimals and use the correct notation for recurring decimal places.  Knows how to multiply and divide numbers with up to two decimal places by one-digit and two-digit whole numbers.  Knows how to divide decimal numbers by one-digit. | White Rose Y56  Spr Block 2 Theme 1 & 2  PS: <https://nrich.maths.org/make37> | ●To read, write, order and compare numbers with up to three decimal places.  ● To round decimals with two decimal places to the nearest whole numbers and to one decimal place.  ● To recognise and use thousandths and relate them to tenths, hundredths and decimals equivalents.  ● To solve problems involving number up to three decimal places. | ● To identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100, 1000 where the answers are up to three decimal places.  ● To solve problems which require answers to be rounded to specified degrees of accuracy.  To multiply one-digit numbers with up to two decimal places by whole numbers.  ● To use written division methods in cases where the answer has up to two decimal places.  ● To solve problems which require answers to be rounded to specified degrees of accuracy. |
| 12 | Measurement:  conversion of units  PATTERNS and GENERALISING | Knows how to use place value, multiplication and division to convert between standard units. | Knows that approximately 5 miles = 8 kilometres.  Knows the approximate conversions and are able to tell if an answer is sensible. | White Rose Y56 Spring Block 4 Themes All  PS: <https://nrich.maths.org/12670> | ●To convert between different units of measure (for example, kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre). | ● To solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate.  ● To 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 three decimal places.  ● To convert between miles and kilometres. |
| 13 | Geometry:  properties of shape, 2D and 3D  PATTERNS and GENERALISING | Knows the conventional markings for parallel lines and right angles. | Knows the conventional markings for parallel lines, sides of equal length, angles and right angles.  Knows how to visualise 3D shapes from nets. | White Rose Y56  Summer Block 1 Theme 4 & 6  Twinkl  PS: Finding rules and patterns: sequence of models | ● To distinguish between regular and irregular polygons based on reasoning about equal sides and angles.  ● To use the properties of rectangles to deduce related facts and find missing lengths and angles.  ● To identify 3D shapes including cubes and cuboids from 2D representations. | ● To compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons  ● To recognise, describe and build simple 3-D shapes, including making nets |
| 14 & 15 | Measurement:  area and perimeter  PATTERNS and GENERALISING | Knows how to calculate the perimeter of rectangles and related composite shapes, including using the relations of perimeter or area to find unknown lengths. | Knows how to recognise that shapes with the same area can have different perimeters and vice versa. | White Rose Y56 Spring Block 5  Theme 1-4  Twinkl for additional practise  PS: <https://nrich.maths.org/7280> | ● To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.  ● To calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes. | ● To recognise that shapes with the same area can have different perimeters and vice versa.  ● To calculate the area of parallelograms and triangles.  ● To recognise when it is necessary to use the formulae for area of shapes. |