**WHITE ROSE HUB SMALL STEPS FOR EACH NC OBJECTIVE (year 1 & 2)**

**Each set of small steps links to where the areas are within the WHITE ROSE HUB materials to help with FLUENCY, REASONING & PROBLEM-SOLVING.**

**It is only a guide to be used with your own teaching assessment of the class. It is not necessarily split into terms, it is where the WRH material is for those steps.**

**PLEASE ENSURE: FLUENCY, REASONING & PROBLEM-SOLVING is being included in lessons, whether it be at a whole class level or opportunities for activities to ensure that learning is being deepened. Where there are only objectives for one term, please follow the outline for the year and split the objectives accordingly.**

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| **YEAR 1: PLACE VALUE** | | | **YEAR 2: PLACE VALUE** | | |
|  | | | 1. count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward 2. recognise the place value of each digit in a two-digit number (tens, ones), including partitioning and finding one more/less (1a-e) 3. identify, represent and estimate numbers using different representations, including the number line (1f-g) 4. compare and order numbers (at least 3 numbers increasing and decreasing) from 0 up to 100; use <, > and = signs (1i) 5. read and write numbers to at least 100 in numerals and in words (1h) 6. use place value and number facts to solve missing number problems (1j) 7. Recognise odd and even numbers up to 100. 8. describe and extend number sequences 9. explain what each digit in a two-digit number represents, including numbers where 0 is a place holder 10. partition two-digit numbers in different ways, including into multiples of 10 and 1 11. Estimate a number of objects; round two-digit numbers to the nearest 10   compare two given numbers, say which is more or less, and give a number lying between them | | |
| **Within 10 (AUT):**  -Sort objects  -Count objects  -Count objects from a larger group  -Represent objects  -Count, read and write forwards and backwards from any number 0-10  -Count, read and write backwards from any number 0-10  -Count one more  -Count one less  -Compare groups by matching.  -Fewer, more, same  -Introduce = < > symbols  -Compare numbers  -Order groups of objects and numbers  -The number line | **Within 20:**  -Count within 20.  -Understand 10  -Understand 11, 12, 13  -Understand 14, 15, 16  Understand 17, 18, 19  Understand 20.  -Count one more, one less  -Number line to 20.  -Use a number line to 20.  -Compare numbers to 20.  -Order numbers to 20.  **Within 50 (SPR):**  -Count from 20 to 50.  -20, 30, 40 and 50.  -Count by making groups of tens  -Partition into Tens and ones  -Represent numbers to 50 (numberline)  -Estimate on a number line to 50.  -One more, one less | **Within 100 (SUM):**  -Counting from 50 to 100  -Tens to 100.  -Partitioning numbers into tens and ones  -The numberline to 100.  -One more, one less.  -Compare numbers with the same number of tens.  -Compare any two numbers. | **(AUT):**  -Numbers to 20.  Count objects to 100 by making 10’s.  -Recognise tens and ones.  -Use a place value chart.  -Partition numbers to 100  -Write numbers to 100 in words.  -Flexibly partition to 100.  -10s on the number line to 100.  -10s and 1s on the number line to 100.  -Estimate numbers on a number line.  -Compare objects  -Compare numbers.  -Order objects and numbers  -Count in 2s, 5s and 10s.  -Count in 3s. | SPRING: Reinforcement and/or applying more reasoning/problem solving (teacher assessment) | SUMMER: Reinforcement and/or applying more reasoning/problem solving (teacher assessment) |

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| **YEAR 1: ADDITION & SUBTRACTION** | | | **YEAR 2: ADDITION & SUBTRACTION ( sessions)** | | |
| ,Continue to develop mathematical language e.g. add, total, sum, find the difference etc. Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs (2e)   1. Learn, represent and use number bonds and related subtraction facts within 20 (2a-d) - 2. add and subtract one-digit and two-digit numbers to 20, including zero (+2 single-digits, +single digit and a 2-digit, +3 single-digits). (2f-m) 3. solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 =  – 9. (2n-o)   5. add and subtract numbers using concrete objects, pictorial representations and mentally including: a two-digit number and ones; a two-digit number and teens; two two-digit numbers; adding three one-digit numbers | | | Solve simple word problems with addition and subtraction   1. using concrete objects and pictorial representations, including those involving numbers, quantities and measures (2l-m) 2. applying their increasing knowledge of mental and written methods (2l-m) 3. recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 (2a-d)   Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:   1. a two-digit number and ones (2e-f) 2. a two-digit number and tens (2g-h) 3. two two-digit numbers (2i-k) 4. adding three one-digit numbers, up to 100. 5. show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot 6. recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems 7. Use knowledge of number facts and operations to estimate and check answers to calculations 8. Use the symbols +, –, ×, ÷ and = to record and interpret number sentences involving all four operations; calculate the value of an unknown in a number sentence 9. Add or subtract mentally a one-digit number or a multiple of 10 to or from any two-digit number   Understand that more than two number can be added together | | |
| **Within 10 (AUT):**  -Introduce parts and wholes.  -Part-whole model  -Write number sentences  -Fact families – addition  -Find number bonds to 10  -Systematic ways for number bonds within 10  -Number bonds to 10  -Addition: adding together  -Addition: adding more  -Addition problems  -Finding a part  -Subtraction: Finding a part, breaking apart  -Fact families: the 8 facts  -Subtraction: take away/cross out (how many left?)  -Subtraction: take away (how many left?)  -Add or subtract on a number line. | **Within 20 (SPR):**  -Add by counting on within 20.  -Add ones using number bonds.  -Find and make bonds to 20.  -Doubles.  -Near doubles.  -Subtract using number bonds.  -Subtraction: counting back.  -Subtraction: finding the difference.  -Related facts  -Missing number problems. | SUMMER: Reinforcement and/or applying more reasoning/problem solving (teacher assessment) | **(AUT):**  -Bonds to 10.  Fact families – addition and subtraction bonds to 20  -Related facts  -Bonds to 100 (tens)  -Add/subtract 1’s  -Add by making 10.  -Add three 1-digit numbers.  -Add to the next 10.  -Add across a 10.  -Subtract across 10  -Subtract from a 10.  -Subtract a 1-digit number from a 2-digit number (across a 10).  -10 more, 10 less  -Add and subtract 10’s  -Add two 2-digit numbers (not across a 10).  -Add two 2-digit numbers (across a 10).  -Subtract two 2-digit numbers (not across a 10).  -Subtract two 2-digit numbers (across a 10).  -Mixed addition and subtraction.  -Compare number sentences  -Missing number problems. | SPRING: Reinforcement and/or applying more reasoning/problem solving (teacher assessment) | SUMMER: Reinforcement and/or applying more reasoning/problem solving (teacher assessment) |

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| **YEAR 1: MULTIPLICATION & DIVISION** | | | **YEAR 2: MULTIPLICATION & DIVISION (sessions)** | | |
| 1. solve one-step problems involving multiplication and division, up to 20, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. (3g) 2. Understand the x and division sign and revise doubling and halving. (3a-b) 3. grouping and sharing small quantities 4. count in multiples of twos, fives and tens. (3c-e) 5. working with arrays helps pupils to become aware of the commutative property of multiplication, that 2 × 5 is equivalent to 5 × 2.   recognising that multiplication and division are linked | | | 1. recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers (3a-h) 2. calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs (3i-j) 3. show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot 4. solve 1-step problems involving multiplication and division, up to 100, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. (3k-l) 5. Understand that halving is the inverse of doubling and derive and recall doubles of all numbers to 20, and the corresponding halves 6. recognise multiples of 2, 5 and 10 7. Use knowledge of number facts and operations to estimate and check answers to calculations 8. use practical and informal written methods and related vocabulary to support multiplication and division, including calculations with remainders 9. Use the symbols +, –, ×, ÷ and = to record and interpret number sentences involving all four operations; calculate the value of an unknown in a number sentence   Shift the digits of a number one place to the left/right to multiply/divide by 10 - | | |
|  |  | **(SUM):**  -Count in 2s.  -Count in 10s.  -Count in 5s.  -Recognise equal groups.  -Add equal groups  -Make arrays  -Make doubles  -Make equal groups: grouping  -Make equal groups: sharing | **(AUT):**  - | **(SPR):**  Recognise equal groups  -Make equal groups  -Add equal groups  -Introduce the multiplication symbol.  -Multiplication sentences  -Use arrays  -Make equal groups: sharing  -Make equal groups: grouping  -2 x-tables.  -Divide by 2  -Doubling and halving.  -10 x-tables.  -Divide by 10.  -5 x-tables.  -Divide by 5.  -The 5 and 10 x-tables. | SUMMER: Reinforcement and/or applying more reasoning/problem solving (teacher assessment) |

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| **YEAR 1: FRACTIONS** | | | **YEAR 2: FRACTIONS** | | |
| 1. recognise, find and name a half as one of two equal parts of an object, shape or quantity (4a-d) 2. recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. (4e-g) 3. pupils are taught half and quarters as ‘fractions of’ discrete and continuous quantities by solving problems using shape, objects and quantities. For example, they could recognise and find half a length, quantity, set of objects or shape.   Pupils connect halves and quarters to the equal sharing and grouping of sets of objects and to measures, as well as recognising and combining halves and quarters as parts of a whole. | | | 1. recognise, find, name and write fractions 1/3, ¼, 2/4 and ¾ of a length, shape, set of objects or quantity (up to 100) (4a-j, l-m) 2. write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of 2/4 and ½ (4k, n-o) 3. compare two simple fractions in practical contexts | | |
| AUT:  Look at SUMMER obj to see what could be covered in this term first. | SPR:  Look at SUMMER obj to see what could be covered in this term or use opp to cover other areas or apply more reasoning/P-S | **(SUM):**  -Recognise a half of an object or shape.  -Find a half of an object or shape  -Recognise half of a quantity  -Find half of a quantity  -Recognise a quarter of an object or shape  -Find a quarter of an object or shape  -Recognise a quarter of a quantity.  -Find a quarter of a quantity. | AUT:  Look at Spring obj to see what could be covered in this term first. | **(SPR):**  - | SUMMER:  -Introduce to parts and wholes.  -Equal and unequal parts  -Recognise a half  -Find a half  -Recognise a quarter  -Find a quarter  -Recognise a third  -Find a third  -Find the whole.  -Unit fractions  -Non-unit fractions  -Recognise equivalence of ½ and 2/4  -Recognise three quarters  -Find three-quarters  -Count in fractions up to a whole. |

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| **YEAR 1: GEOMETRY (PROPERTIES OF SHAPE)** | | | **YEAR 2: GEOMETRY (PROPERTIES OF SHAPE)** | | |
| Describe position, direction and movement, including whole, half, quarter and three-quarter turns  recognise and name common 2-D and 3-D shapes, including:   1. 2-D shapes [for example, rectangles (including squares), circles and triangles] (6a) 2. 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]. (6b) 3. recognise shapes in different orientations and sizes, patterns. (6c) 4. know that rectangles, triangles, cuboids and pyramids are not always similar to each other   use everyday language to describe features of familiar 3D and 2D shapes, referring to properties such as number of faces and number of corners. | | | 1. identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line (6a-b) 2. identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces (6c) 3. identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] 4. compare and sort common 2-D and 3-D shapes and everyday objects (6d-e) 5. Visualise common 2-D shapes and 3-D solids; 6. identify shapes from pictures of them in different positions and orientations 7. sort, make and describe shapes, referring to their properties | | |
| **(AUT):**  -Recognise and name 3D shapes  -Sort 3D shapes  -Recognise and name 2D shapes  -Sort 2D shapes  -Patterns with 2D and 3D shapes | SPRING: Reinforcement and/or applying more reasoning/problem solving (teacher assessment) | SUMMER: Look at direction? | **AUT:**  -Recognise 2D and 3D shapes  -Count sides on 2D shapes  -Count vertices on 2D shapes  -Draw 2D shapes  -Lines of symmetry on shapes  -Use lines of symmetry to complete shapes.  -Sort 2D shapes  -Count faces on 3D shapes  -Count edges on 3D shapes  -Count vertices on 3D shapes  -Sort 3D shapes  -Make patterns with2D and 3D shapes. | **(SPR):**  - | **(SUM):** |

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| **YEAR 1: GEOMETRY (DIRECTION)** | | | **YEAR 2: GEOMETRY (DIRECTION)** | | |
| 1. describe position, direction and movement, including whole, half, quarter and three-quarter turns. 2. ordinal numbers, ie first, second, third etc. | | | 1. order and arrange combinations of mathematical objects in patterns and sequences 2. use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). 3. identify shapes from pictures of them in different positions and orientations 4. Identify reflective symmetry in patterns and 2-D shapes and draw lines of symmetry in shapes 5. Follow and give instructions involving position, direction and movement 6. Recognise and use whole, half and quarter turns, both clockwise and anticlockwise 7. know that a right angle represents a quarter turn 8. Not covered objectives in red. | | |
|  |  | **(SUM):**  -Describe turns  -Describe position: left and right.  -Describe position: forwards and backwards.  -Describe position: above and below.  -Ordinal numbers. | AUT: Look at Spring obj to see what could be covered in this term. |  | **(SUM):**  -Language of position.  Describing movement  -Describing turns  -Describing movement and turns  -Shape patterns with turns. |

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| **YEAR 1: MEASUREMENT** | | | **YEAR 2: MEASUREMENT** | | |
| Compare, describe and solve practical problems for:   1. lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] (5a, e) 2. mass/weight [for example, heavy/light, heavier than, lighter than] (5b, e) 3. capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] (5c, e) 4. time [for example, quicker, slower, earlier, later] (5d, e)   Measure and begin to record the following:   1. lengths and heights (5f) 2. mass/weight (5g) 3. capacity and volume (5h) 4. time (hours, minutes, seconds) 5. recognise and know the value of different denominations of coins and notes (5i) 6. sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] 7. recognise and use language relating to dates, including days of the week, weeks, months and years 8. tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. (5j) 9. the pairs of terms: mass and weight, volume and capacity, are used interchangeably 10. able to make a reasonable estimation before measuring 11. find totals and change for amounts up to 20p | | | 1. choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels (5a-d) 2. compare and order lengths, mass, volume/capacity and record the results using >, < and = (5e) 3. recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value (+/-)(5f-g) 4. find different combinations of coins that equal the same amounts of money (5f-g) 5. solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change (5h-j) 6. compare and sequence intervals of time 7. tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times (5k-l) 8. know the number of minutes in an hour and the number of hours in a day. 9. Read the numbered divisions on a scale, and interpret the divisions between them (e.g. on a scale from 0 to 25 with intervals of 1 shown but only the divisions 0, 5, 10, 15 and 20 numbered); use a ruler to draw and measure lines to the nearest centimetre 10. Use units of time (seconds, minutes, hours, days) and know the relationships between them; read the time to the quarter hour; identify time intervals, including those that cross the hour 11. tell and write the time to five minutes, - | | |
| AUT: Look at Spring obj to see what could be covered in this term. | **Length & height (SPR):**  -Compare lengths and heights  -Measure length using objects  -Measure length in cm  **Weight & volume:**  -Heavier and lighter  -Measure mass  -Compare mass  -Full and empty  -Compare volume  -Measure capacity  -Compare capacity | **Money (SUM):**  -Unitising  -Recognising coins  -Recognising notes  -Counting in coins  **Time:**  -Before and after  -Days of the week  -Months of the year  -Hours, minutes and seconds  -Time to the hour  -Time to the half hour | **Money (AUT):**  -Count money – pence  -Count money – pounds (notes and coins)  -Count money – pounds and pence  -Choose notes and coins  -Make the same amount  -Compare money  -Calculate with money  -Make a pound  -Find change  -2-step problems  **Length & height:**  -Measure length (cm)  -Measure length (m)  -Compare lengths and heights  -Order lengths and heights  -4 operations with lengths  **Mass, capacity, temp:**  -Compare mass  -Measure mass in grams  -Measure mass in KG  -4 operations with mass.  -Compare volume and capacity  -Measure in Millilitres  -Measure in Litres  -4 operations with volume and capacity  -Temperature |  | **Time (SUM):**  -O’clock and half past  -Quarter past and quarter to  -Tell the time past the hour  -Tell the time to the hour  -Telling time to 5 minutes  -Minutes in an hour  -Hours in a day |

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| **YEAR 1: STATISTICS** | **YEAR 2: STATISTICS** | | |
| \*No mandatory statements | 1. interpret and construct simple pictograms, tally charts, block diagrams and simple tables (8a-d) 2. ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity (8e-g) 3. ask and answer questions about totalling and comparing categorical data (8e-g) 4. use ICT to organise and present data. 5. Use lists, tables and diagrams to sort objects; explain choices using appropriate language, including ‘not’ | | |
|  | AUT: Look at Spring obj to see what could be covered in this term. | **(SPR):**  - | SUMMER:  -Make tally charts  -Tables  -Block diagrams  -Draw pictograms (1-1)  -Interpret pictograms (1-1)  -Draw pictograms (2, 5 and 10)  -Interpret pictograms (2, 5 and 10) |