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| **Year 2 Autumn Term Maths Planning**  |
| **White Rose Maths Units** |  **Exploring Numbers to 20, counting****(1/2 Weeks)**  | **Place Value (4 Weeks)** | **Addition and Subtraction (5 Weeks)** | **Shape (3 Weeks)** |
| **White Rose Small Steps****(Steps in BOLD are statutory objectives from the NC)** | Recapping Year 1Composition of numbers to 10 and recalling these bondsSubitising numbers to 7Recognise Odd and Even NumbersCompare quantities – using greater than / less than, least, most, more than, fewerDoubling FactsSimple one step problems for the four operations. | Numbers to 20Count objects to 100 by making 10s**Recognise tens and ones**Use a place value chartPartition numbers to 100**Write numbers to 100 in words**Flexibly partition numbers to 100**Write numbers to 100 in expanded form**10s on the number line to 10019s 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 | **Bonds to 10Fact families – addition and subtraction bonds within 20Related factsBonds to 100 (tens)****Add and subtract 1s****Add by making 10****Add three 1-digit numbers**Add to the next 10Add across a10Subtract from a 10Subtract a 1-digit number from a 2-digit number (across a 10) 10 more, 10 less**Add and Subtract 10s****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** | **Recognise 2-D and 3-D shapes****Count sides on 2-D shapes****Count vertices on 2-D shapes****Draw 2-D shapes**Lines of symmetry on shapesUse lines of symmetry to complete shapes**Sort 2-D shapes****Count faces on 3-D shapes****Count edges on 3-D shapes****Count vertices on 3-D shapes****Sort 3-D shapes**Make patterns with 2-D and 3-D shapes |
| **National Curriculum Objectives****(Statutory Guidance)** |  | * count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
* recognise the place value of each digit in a two-digit number (tens, ones)
* identify, represent and estimate numbers using different representations, including the number line
* compare and order numbers from 0 up to 100; use <, > and = signs
* read and write numbers to at least 100 in numerals and in words
* use place value and number facts to solve problems.
 | * use place value and number facts to solve problems.
* solve problems with addition and subtraction:
* using concrete objects and pictorial representations, including those involving numbers, quantities and measures
* applying their increasing knowledge of mental and written methods
* recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
* add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
* a two-digit number and ones
* a two-digit number and tens
* two two-digit numbers
* adding three one-digit numbers
* show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
* recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
 | * identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
* identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
* identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]
* compare and sort common 2-D and 3-D shapes and everyday objects.
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| **Mastering Number Sessions** | **Subitising** | **Cardinality, ordinality and counting** | **Composition** | **Comparison** | **Addition and Subtraction / Number Facts** | **Subitising** | **Cardinality, ordinality and counting** | **Composition** | **Comparison** | **Addition and Subtraction / Number Facts** |
|  | • develop conceptual subitising skills as they become more familiar with patterns made by numbers within 10 and understand their composition• use perceptual and conceptual subitising when using a rekenrek. | • explore the linear number system within 10, looking at a range of representations• compare number tracks and number lines and explore the use of ‘midpoints’ to enable them to identify the location of other numbers. | • focus on the composition of numbers within 10, with a particular emphasis on the composition of numbers 6, 7, 8 and 9 as ‘5 and a bit’, as well as exploring the composition of numbers 5 and 6 in-depth• explore the composition of odd and even numbers, identifying that even numbers are made of 2s and odd numbers have ‘an extra 1’ – they will link this to the ‘shape’ of these numbers. |  | • link their growing understanding of the composition of numbers within 10 to the related additive facts, including adding 2 to an odd or even number• practise recalling facts in a variety of ways, including through solving simple picture problems and completing equations with a missing sum or addend, | * continue to practise conceptually subitising numbers they have already explored the composition of.
 | * review the linear number system as they compare numbers.
 | • continue to explore the composition of the numbers 7–9 in-depth, linking this to their understanding of odd and even numbers  | • compare numbers within 10, linking this to their understanding of the linear number system• use the inequality symbols to create expressions, e.g. 7 > 2, and use the language of ‘greater than’ and ‘less than’• draw on their knowledge of number bonds to answer questions in the form: True or false? 5 + 3 > 7 | • continue to practise recalling additive facts for numbers within 10, using a range of equations, games and picture problems. |
| Expectations for Year 1 | Working Towards ARE | Read and write numbers in numerals up to 100.Partition a two-digit number into tens and ones to demonstrate an understanding of place value, though they may use structured resources to support themAdd and subtract two-digit numbers and ones, and two-digit numbers and tens, where no regrouping is required, explaining their method verbally, in pictures or using apparatus (e.g. 23 + 5; 46 + 20; 16 – 5; 88 – 30)Recall at least four of the six2 number bonds for 10 and reason about associated facts (e.g. 6 + 4 = 10 , therefore 4 + 6 = 10 and 10 – 6 = 4)Name some common 2-D and 3-D shapes from a group of shapes or from pictures of the shapes and describe some of their properties (e.g. triangles, rectangles, squares, circles, cuboids, cubes, pyramids and spheres). |
| Working At ARE | Read scales in divisions of ones, twos, fives and tensPartition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatusAdd and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. 48 + 35; 72 – 17) Recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If 7 + 3 = 10, then 17 + 3 = 20; if 7 – 3 = 4, then 17 – 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 – 14 = 3 and 17 – 3 = 14)Identify ½ of a shape, and know that parts must be equal parts of the wholeName and describe properties of 2-D and 3-D shapes, including number of sides, vertices, edges, faces and lines of symmetry. |
| Greater Depth | Read scales where not all numbers on the scale are given and estimate points in betweenUse reasoning about numbers and relationships to solve more complex problems and explain their thinking (e.g. 29 + 17 = 15 + 4 + ; ‘together Jack and Sam have £14. Jack has £2 more than Sam. How much money does Sam have?’ etc.)Solve unfamiliar word problems that involve more than one step (e.g. ‘which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet?’)Describe similarities and differences of 2-D and 3-D shapes, using their properties (e.g. that two different 2-D shapes both have only one line of symmetry; that a cube and a cuboid have the same number of edges, faces and vertices, but different dimensions). |

\* Small steps from White Rose that are in **bold** are steps that link directly to the National Curriculum.

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| **Year 2 Spring Term Maths Planning**  |
| **White Rose Maths Units** | **Money(2 Weeks)** | **Multiplication and Division(5 Weeks)** | **Length and Height (2 Weeks)** | **Mass, Capacity and Temperature(3 Weeks)** |
| **This will be updated in November 2022** | Count money – penceCount money – pounds (notes and coins) Choose notes and coinsMake the same amountCompare amounts of moneyCalculate with moneyMake a poundFind changeTwo step problems  | Recognise equal groupsMake equal groupsAdd equal groupsIntroduce the multiplication symbol Multiplication sentences Use arrays Make equal groups – groupingMake equal groups – sharing The 2 times-tableDivide by 2Doubling and HalvingOdd and Even numbersThe 10 times-tablesDivide by 1`0The 5 times tables Divide by 5The 5 and 10 times tables | Measure in centimetresMeasure in metresCompare length and heightsOrder length and heightsFour operations with lengths and heights | Compare massMeasure in gramsMeasure in kilogramsFour operations with massCompare volume and capacity Measure in millilitresMeasure in litresFound operations with volume and capacityTemperature |
| **National Curriculum Objectives****(Statutory Guidance)** | * recognise the place value of each digit in a two-digit number (tens, ones)
* recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
* find different combinations of coins that equal the same amounts of money
* solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
 | * count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
* recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
* calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs
* show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
* solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.
 | * choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); to the nearest appropriate unit, using rulers and metre sticks.
* compare and order lengths and record the results using <, > and =
 | * choose and use appropriate standard units to estimate and measure mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using scales, thermometers and measuring vessels
* compare and order mass, volume/capacity and record the results using <, > and =
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| **Mastering Number Sessions** | **Subitising** | **Cardinality, ordinality and counting** | **Composition** | **Comparison** | **Subitising** | **Cardinality, ordinality and counting** | **Composition** | **Comparison** |
|  | * increase confidence in subitising by continuing to explore patterns within 5, including structured and random arrangements
* explore a range of patterns made by some numbers greater than 5, including structured patterns in which 5 is a clear part
* experience patterns which show a small group and ‘1 more’
* continue to match arrangements to finger patterns.
 | * continue to develop verbal counting to 20 and beyond
* continue to develop object counting skills, using a range of strategies to develop accuracy
* continue to link counting to cardinality, including using their fingers to represent quantities between 5 and 10
* order numbers, linking cardinal and ordinal representations of number.
 | * continue to explore the composition of 5 and practise recalling ‘missing’ or ‘hidden’ parts for 5
* explore the composition of 6, linking this to familiar patterns, including symmetrical patterns
* begin to see that numbers within 10 can be composed of ‘5 and a bit’.
 | * continue to compare sets using the language of comparison, and play games which involve comparing sets
* continue to compare sets by matching, identifying when sets are equal
* explore ways of making unequal sets equal.
 | * explore symmetrical patterns, in which each side is a familiar pattern, linking this to ‘doubles’.
 | * continue to consolidate their understanding of cardinality, working with larger numbers within 10
* become more familiar with the counting pattern beyond 20.
 | * explore the composition of odd and even numbers, looking at the ‘shape’ of these numbers
* begin to link even numbers to doubles
* begin to explore the composition of numbers within 10.
 | * compare numbers, reasoning about which is more, using both an understanding of the ‘howmanyness’ of a number, and its position in the number system.
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| Expectations for Year 2 | Working Towards ARE | Read and write numbers in numerals up to 100Partition a two-digit number into tens and ones to demonstrate an understanding of place value, though they may use structured resources1 to support themAdd and subtract two-digit numbers and ones, and two-digit numbers and tens, where no regrouping is required, explaining their method verbally, in pictures or using apparatus (e.g. 23 + 5; 46 + 20; 16 – 5; 88 – 30)Recall at least four of the six number bonds for 10 and reason about associated facts (e.g. 6 + 4 = 10 , therefore 4 + 6 = 10 and 10 – 6 = 4)Count in twos, fives and tens from 0 and use this to solve problemsKnow the value of different coins |
| Working At ARE | Read scales in divisions of ones, twos, fives and tenspartition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatusadd and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. 48 + 35; 72 – 17)Recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If 7 + 3 = 10, then 17 + 3 = 20; if 7 – 3 = 4, then 17 – 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 – 14 = 3 and 17 – 3 = 14)Recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary Identify 1 4,13,12,24,34, of a number or shape, and know that all parts must be equal partsof the whole• use different coins to make the same amount• read the time on a clock to the nearest 15 minutes• name and describe properties of 2-D and 3-D shapes, including number of sides,vertices, edges, faces and lines of symmetry. |
| Greater Depth | Read scales where not all numbers on the scale are given and estimate points in betweenRecall and use multiplication and division facts for 2, 5 and 10 and make deductions outside known multiplication factsUse reasoning about numbers and relationships to solve more complex problems and explain their thinking (e.g. 29 + 17 = 15 + 4 + ; ‘together Jack and Sam have £14. Jack has £2 more than Sam. How much money does Sam have?’ etc.)Solve unfamiliar word problems that involve more than one step (e.g. ‘which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet?’) |

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| **Reception Summer Term Maths Planning**  |
| **White Rose Maths Units** | **Fractions****(3 Weeks)** | **Time** **(3 Weeks)** | **Statistics****(2 Weeks)** | **Position and Direction(2 Weeks)** |
| **This will be updated in March 2023** | Introduction to parts and wholeEqual and unequal partsRecognise a halfFind a halfRecognise a quarterFind a quarterRecognise a thirdFind a thirdFind the wholeUnit FractionsNon-Unit FractionsRecognise the equivalence of a half and two quartersRecognise three-quarters Find three-quartersCount in fractions up to a whole | O’Clock and half pastQuarter past and quarter toTell time past the hourTell the time to the hourTell the time to 5 minutesMinutes in an hourHours in a daySome elements of this learning to be taught throughout the whole year through wider curriculum or classroom opportunities (SATs Support)Visual Timetables – Key parts of the school day – Lunchtimes – durations – Discussions about routines | Make tally charts TablesBlock diagramsDraw pictograms (1-1)Interpret pictograms (1-1) Draw pictograms (2,5 and 10)Interpret pictograms (2,5 and 10)Some elements of this learning to be taught throughout the whole year through wider curriculum or classroom opportunities (SATs Support)Collecting data in Science – Collecting lunch data (bar charts) – Discussions about how many in comparison/how many more/reading and changing the scales.  | Language of positionDescribe movementDescribe turnsDescribe movements and turnsShape patterns with turns |
| **National Curriculum Objectives****(Statutory Guidance)** | * recognise, find, name and write fractions 1/3, ¼, 2/4 and 3/4 of a length, shape, set of objects or quantity.
* write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of 2/4 and ½.
 | * compare and sequence intervals of time
* 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
* know the number of minutes in an hour and the number of hours in a day.
 | * interpret and construct simple pictograms, tally charts, block diagrams and simple tables
* ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
* ask and answer questions about totalling and comparing categorical data.
 | * order and arrange combinations of mathematical objects in patterns and sequences
* 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 anticlockwise).
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| **Mastering Number Sessions** | **Subitising** | **Cardinality, ordinality and counting** | **Composition** | **Comparison** | **Subitising** | **Cardinality, ordinality and counting** | **Composition** | **Comparison** |
|  | * continue to practise increasingly familiar subitising arrangements, including those which expose ‘1 more’ or ‘doubles’ patterns
* use subitising skills to enable them to identify when patterns show the same number but in a different arrangement, or when patterns are similar but have a different number
* subitise structured and unstructured patterns, including those which show numbers within 10, in relation to 5 and 10
* be encouraged to identify when it is appropriate to count and when groups can be subitised.
 | * continue to develop verbal counting to 20 and beyond, including counting from different starting numbers
* continue to develop confidence and accuracy in both verbal and object counting.
 | * explore the composition of 10.
 | * order sets of objects, linking this to their understanding of the ordinal number system.
 | There is more time within this half term to revisit misconceptions, address weaknesses and revisit prior learning in preparation for moving to Year 1. Children can be exploring problem solving and deepen the moment challenges in this time to help secure their number knowledge. |
| Expectations for Year 2 | Working Towards ARE | Read and write numbers in numerals up to 100.Partition a two-digit number into tens and ones to demonstrate an understanding of place value, though they may use structured resources1 to support them.Add and subtract two-digit numbers and ones, and two-digit numbers and tens, where no regrouping is required, explaining their method verbally, in pictures or using apparatus (e.g. 23 + 5; 46 + 20; 16 – 5; 88 – 30)Recall at least four of the six2 number bonds for 10 and reason about associated facts (e.g. 6 + 4 = 10 , therefore 4 + 6 = 10 and 10 – 6 = 4)Count in twos, fives and tens from 0 and use this to solve problems.Know the value of different coins.Name some common 2-D and 3-D shapes from a group of shapes or from pictures of the shapes and describe some of their properties (e.g. triangles, rectangles, squares, circles, cuboids, cubes, pyramids and spheres). |
| Working At ARE | Read scales in divisions of ones, twos, fives and tens.Partition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus.Add and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. 48 + 35; 72 – 17)Recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If 7 + 3 = 10, then 17 + 3 = 20; if 7 – 3 = 4, then 17 – 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 – 14 = 3 and 17 – 3 = 14)Recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary.Identify ¼, 1/3, ½, 2/4, 3/4, of a number or shape, and know that all parts must be equal parts of the whole.Use different coins to make the same amount.Read the time on a clock to the nearest 15 minutes.Name and describe properties of 2-D and 3-D shapes, including number of sides, vertices, edges, faces and lines of symmetry. |
| Greater Depth | Read scales\* where not all numbers on the scale are given and estimate points in between.Recall and use multiplication and division facts for 2, 5 and 10 and make deductions outside known multiplication facts.Use reasoning about numbers and relationships to solve more complex problems and explain their thinking (e.g. 29 + 17 = 15 + 4 + ; ‘together Jack and Sam have £14. Jack has £2 more than Sam. How much money does Sam have?’ etc.)Solve unfamiliar word problems that involve more than one step (e.g. ‘which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet?’)Read the time on a clock to the nearest 5 minutes.Describe similarities and differences of 2-D and 3-D shapes, using their properties (e.g. that two different 2-D shapes both have only one line of symmetry; that a cube and a cuboid have the same number of edges, faces and vertices, but differentdimensions). |