

# Year 1 – Autumn



**Rucstall**  
PRIMARY SCHOOL



## Place Value

- count to and across 100, forwards and backwards from any number
- identify 1 more or 1 less than a number
- identify and represent numbers using objects, pictures and on a number line
- Begin to use a number line to order whole numbers
- use the language: more than, less than, equal to, most and least
- read and write numbers from 1-20 in numerals and words
- count in steps of 2 from 0 and in tens from any number, forwards and backwards
- recognise the place value of each digit in a 2-digit number
- identify, represent and estimate numbers using different representations, including the number line

## Addition and Subtraction

- Read, write and interpret statements using +, -, and = symbols
- Add and subtract 1-digit numbers
- Solve 1-step problems that involve addition and subtraction using concrete objects and pictorial representations, including missing number problems
- Add and subtract with one digit numbers Know or derive number bonds to 20 using patterning and concrete objects.

## Fractions

- To recognise, find and name a half as one of two equal parts of an object, shape or quantity
- Know that halving is partitioning into two equal parts.

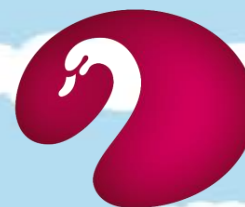
## Multiplication and Division

- Use a number line to count in twos
- Use counting objects to double and half amounts to 20 Share objects equally by counting how many in each group

## Measurement/Geometry

- Compare, describe and solve practical problems for: time (quicker, slower, earlier or later), lengths and heights (long/short, tall/short, double/half)
- Measure and begin to record lengths, heights and time in hours
- Recognise different coins and notes
- Sequence events in time order using before, after, next, first, today, yesterday, tomorrow, morning, afternoon and evening
- Recognise language relating to dates (days of the week, months and years)
- Tell the time to the hour
- Recognise common 2D shapes including circles and squares

# Year 1 – Spring



**Rucstall**  
PRIMARY SCHOOL



## Place Value

- Count in multiples of 2 and 10
- Count to and across 100 from any given number (forwards and backwards)
- Identify one more and one less from any whole number and ten more, ten less (using a number line and hundred square)
- Use a number line to order whole numbers
- Read and write whole numbers from 1 to 20 in numbers and words
- Use a number line to count on and back with whole numbers in equal steps.
- Begin to read and write whole numbers to 100 in numerals.

## Addition and Subtraction

- Represent and use number bonds and related subtraction facts within 20
- Add and subtract 2-digit numbers to 20, including 0
- Solve one step problems using addition and subtraction, including missing number problems, using concrete objects and pictorial representations

## Fractions

- Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity

## Multiplication and Division

- Solve one step problems involving multiplication, by using concrete objects, pictorial representations and arrays with support from an adult
- Begin to construct arrays for multiplication using concrete objects and pictorial representations. Use arrays to show commutativity ( $5 \times 2 = 2 \times 5$ )

## Measurement/Geometry

- Compare, describe and solve practical problems for: mass or weight (heavy/light, heavier than, lighter than)
- Measure and begin to record minutes
- Tell the time to half past and draw the hands on a clock face to show these times
- Recognise and name common 2D and 3D shapes including rectangles, squares, circles and triangles
- Sequence events in chronological order (times in a day to the hour/yesterday/today)
- Recognise and name common 3-D shapes such as cubes and cuboids
- Describe position, directions and movements as half, quarter and three quarter turns
- Measure and record lengths and heights using nonstandard units
- Compare and describe time on hours, minutes and seconds.

## Statistics

- Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity

# Year 1 – Summer



ROUTE 66

## Place Value

- count read and write numbers to 100 in numerals
- count in multiples of 5
- Use the number line and comparative language to order whole numbers (more than/less than)
- Identify one more and one less (ten more and ten less) from any given whole number
- Independently read, write and say numbers from 1 to 20 (to 100, with support) in numerals and words
- Construct models and images to show an emerging understanding of the multiples of 2s,5s and 10s (e.g.arrays)

## Addition and Subtraction

- Represent and use number bonds and related subtraction facts with 20, exploring patterning and systems to support a developing sense of number and the embedding of number facts. Solve empty box problems.
- Add and subtract one and two digit numbers to 20, including zero. Be able to represent the calculations using manipulatives including Diennes , Numicon and Cuisenaire; pictorially using a supported structured number line and their own jottings and pictures; as an abstract 'number sentence'. Solve empty box problems and begin to use the inverse to check.

## Fractions

- Use a range of representations, including such things as a bar made from multi-link, to double, half and quarter quantities. Use comparative language such as half as long, twice as long.
- Begin to explore representations for one, two, three and four quarters (objects and shapes with lines of symmetry)

## Multiplication and Division

- Solve one step multiplication and division problems in context, calculating the answer using concrete, pictorial representations and supported arrays

## Statistics

- interpret and construct simple pictograms, tally charts, block diagrams and simple tables
- ask and answer questions about totalling and comparing categorical data

## Measurement/Geometry

- Explore common 3-D shapes and their properties, using knowledge of 2-D shapes to describe the faces. Include cuboids, pyramids and spheres
- Compare, describe and record lengths and heights. Extend this beyond the classroom to very long/short and very tall/ short (steps around the playground, multi-link towers to find heights or the length of the giant's footprint)
- Describe position, direction and movements for  $\frac{1}{2}$ ,  $\frac{1}{4}$  and  $\frac{3}{4}$  turns ~ use a clock to link this with time and a compass to begin to describe direction. Link this to maps using a Beebot.
- Compare, describe and record mass/ weight; capacity and volume.

# Year 2 – Autumn



## Place Value

- Recall and use number bonds to 20 fluently Recognise the place value of each digit in a two-digit number (tens and ones)
- Read and write numbers to at least 100 in numerals
- Compare and order numbers from 0 up to 100
- Estimate numbers using a number line
- Count in steps of 2 from any given whole number.
- Use place value and known number facts to solve problems
- Count in steps of 5 from 0 forward and backward Read and write numbers to at least 100 in numerals and words

## Addition and Subtraction

- Use and apply known number facts to 20 Add and subtract whole numbers using concrete and pictorial representations, including:
  - >a two-digit number and ones (27+3)
  - > a two digit number and tens (27+30)
- Add and subtract whole numbers using concrete and pictorial representations, including: three one-digit numbers ( 9 + 7 + 1 = 10 + 7 ; 10 = 7 = 17)
- Solve addition and subtraction problems using concrete and pictorial representations alongside number recordings, including in the context of money and measure of the same unit.

## Fractions

- to recognise , find and name a half as one of two equal parts of an object, shape or quantity
- recognise, find, name and write fractions  $\frac{1}{3}$  and  $\frac{1}{4}$

## Multiplication and Division

- Recall and use multiplication and division facts for the 2 and 10 times tables Recognise odd and even numbers (using Numicon to see the even and odd shape) Know that multiplication of two numbers can be done in any order (commutative) using an array and practical materials. (2 rows of 5 is equivalent to 5 rows of 2)
- Recall and use multiplication and division facts for the 5x table. Calculate and record multiplication statements using x and = signs (demonstrating understanding using an array, concrete or pictorial)

## Measurement/Geometry

- Identify and describe the properties of 2-D shapes including the number of sides and symmetry in a vertical line.
- Identify 2-D shapes on the surface of 3-D shapes (circle on a cylinder, triangle on a pyramid)
- Tell and write the time to quarter to and past the hour Draw the hands on a clock face to show these times Know the number of minutes in an hour and hours in a day
- Identify and describe properties of 3-D shapes, including the number of faces, edges and vertices
- Find different combinations of coins that equal the same amount of money Compare and sequence intervals of time
- Compare and order lengths, record the results using >, < and =
- Choose and use appropriate standard units to estimate and measure length/height in m/cm. Use a ruler to measure
- Recognise and use symbols for £ and p Combine amounts to make a particular value

## Statistics

- Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity

# Year 2 – Spring



## Place Value

- Generate new number facts from known facts, using 'nearly' numbers. (If  $15 - 5 = 10$ ; then  $15 - 6 = 9$ )
- Count in steps of 3 from zero
- Count in steps of 3 from zero, forwards or backward.

## Addition and Subtraction

- Add and subtract whole numbers using concrete and pictorial representations, including: - two two-digit numbers with support
- Show that the addition of two numbers can be done in any order (commutative) using groups of objects and jumps on a number line
- Recall and use facts to 20 fluently. Derive and use related facts to 100. ( $3 + 6 = 9$  ;  $30 + 60 = 90$  and  $31 + 59 = 90$  (one more, one less))
- Add and subtract two two-digit numbers with informal jottings and concrete and visual resources.
- Recognise and use the inverse relationship between + and - to check and solve missing number problems

## Fractions

- Calculate simple fractions of amounts such as  $\frac{1}{2}$  of  $6 = 3$  by using concrete sharing and pictorial representations

## Multiplication and Division

- Recall and use multiplication and division facts for the 5x table. Recognise odds and evens Calculate and record multiplication statements using x and = signs (compare with repeated addition)
- Solve problems involving multiplication and division using materials, arrays and repeated addition

## Measurement/Geometry

- Use mathematical vocabulary to describe position, direction and movement
- Tell and write the time to quarter to and past the hour
- Draw the hands on a clock face to show these times
- Know the number of minutes in an hour and hours in a day.
- Compare and sort common 2-D and 3-D shapes
- Know that rotation is a turn and know that a quarter, half and three quarter turn represent a right angle (clockwise and anti-cws)
- Write and tell the time to 5 minutes
- Compare and order mass and volume/capacity , introducing standard units and recording the results using  $>$ ,  $<$  and  $=$
- Choose and use appropriate standard units to estimate and measure mass (kg/g); temperature ( $^{\circ}\text{C}$ ); capacity (l/ml), using scales, thermometers and measuring vessels

## Statistics

- Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. Answer questions about totals and comparison of discrete data.

# Year 2 – Summer



ROUTE 66

## Place Value

- Know that the position (place) of a digit in a number determines its value. Show understanding by partitioning into hundreds, tens and ones.
- Recall (or derive) and use addition and subtraction facts to 20 and 100
- Count in steps of 2,3 and 5 from 0 and in 10s from any number (fwd and back)
- Compare and order numbers using  $<$ ,  $>$  and  $=$
- Know that the position (place) of a digit in a number determines its value. Show understanding by partitioning into hundreds, tens and ones.
- Doubling and halving. Using steps of 2 to see steps of 4

## Addition and Subtraction

- Calculate with two digit numbers, showing an understanding of the commutative law and use of the inverse as an alternative representation using the idea of whole and part (bar models and other representations)
- When adding three or more numbers, look for pairs that are easy to add ( $8+5+2$  is better organised as  $8+2+5$  to give 15 as the bond to 10 is clear
- Using known facts to derived related facts using patterning:  
 $90=100-10$   $80=100-20$  Continue Start with a different number and make a similar pattern
- Use place value and number facts to solve problems involving measure and in other real life contexts, using multiple representations

## Fractions

- Recognise and find fractions of a length, shapes or quantity ( $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{2}{4}$ ,  $\frac{3}{4}$ ) Describe  $\frac{1}{4}$ ,  $\frac{1}{2}$  and  $\frac{3}{4}$  turns in terms of right angles in a practical situation such as a clock.
- Count in fractions up to 10 using a number line ~ use the  $\frac{1}{2}$  and  $\frac{2}{4}$  equivalence to help.

## Multiplication and Division

- Explore patterns in multiples to develop an understanding of links and relationships to generate new facts from known. (e.g.  $5x$  is half of  $10x$ ) Use the inverse as an alternative representation ( $x/\div$ )
- Explore the similarities and difference between sharing and grouping. Use counting in 2s to identify odds (1,3,5..) and evens (2,4,6...)
- Solve contextual problems involving multiplication and division facts, using materials, arrays, repeated addition and known facts.

## Measurement/Geometry

- Compare and sort common 2D and 3D shapes. Explain choices about sorting
- Add and subtract money of the same unit, including giving change.
- Accurately draw two lines and compare the lengths using cm ( draw a line that is twice as long, half as long)
- Use position and direction on a grid to give a set of instructions to a pirate to find his treasure

## Statistics

- Interpret and construct simple pictograms, tally charts, block diagrams and simple tables
- Ask and answer questions about totalling and comparing categorical data