Whole School Maths Curriculum Overview: Year 1

#TheSmawthorneExperience

Year 1	Summer Term					
Topic	Multiplciation and Division	Fractions	Position and Direction	Place Value (within 100)	Money	Time
The Big Ideas	Counting in steps of equal sizes is based on the big idea of 'unitising' ; treating a group of, say, five objects as one unit of five. Working with arrays helps pupils to become aware of the commutative property of multiplication, that 2 × 5 is equivalent to 5 × 2.	Fractions express a relationship between a whole and equal parts of the whole. Ensure children express this relationship when talking about fractions. For example, 'If the circle (where the circle is divided into four equal parts with one part shaded) is the whole, one part is one quarter of the whole circle.' Halving involves partitioning an object, shape or quantity into two equal parts. The two parts need to be equivalent in, for example, area, mass or quantity.	An emphasis should be placed upon identifying and describing the properties of shapes. It is important that pupils develop the correct mathematical language to do so. The development of precise language to describe position and movement is important.	The position a digit is placed in a number determines its value. The language used to name numbers does not always expose the place value, for example the word 'twelve' does not make it transparent that the value of this number is ten and two. It is important that children develop secure understanding of the value of each digit. Place value is based on unitising: treating a group of things as one 'unit'. In mathematics, units can be any size, for example units of 1, 2, 5 and 10 are used in money. In place value units of 1, 10 and 100 are used.	Measurement is about comparison, for example measuring to find out which rope is the longest. Measurement is about equivalence, for example how many cubes are equivalent to the length of the table or the mass of the teddy? Standard units can initially be introduced through using a unit that is greater than the things being compared, for example comparing the capacity of a cup and a carton by filling each and pouring into matching bottles to compare the two. Measuring is a practical activity and the activities below should be conducted in practical contexts, using real materials.	

Key Knowledge and Skills	• Step 1 Count in 2s • Step 2 Count in 10s • Step 3 Count in 5s • Step 4 Recognise equal groups • Step 5 Add equal groups • Step 6 Make arrays • Step 7 Make doubles • Step 8 Make equal groups - grouping • Step 9 Make equal groups – sharing	• Step 1 Count in 2s • Step 2 Count in 10s • Step 3 Count in 5s • Step 4 Recognise equal groups • Step 5 Add equal groups • Step 6 Make arrays • Step 7 Make doubles • Step 8 Make equal groups - grouping • Step 9 Make equal groups - sharing	• **Step 1** Describe turns • **Step 2** Describe position - left and right • **Step 3** Describe position - forwards and backwards • **Step 4** Describe position - above and below • **Step 5** Ordinal numbers	• Step 1 Count from 50 to 100 • Step 2 Tens to 100 • Step 3 Partition into tens and ones • Step 4 The number line to 100 • Step 5 1 more, 1 less • Step 6 Compare numbers with the same number of tens • Step 7 Compare any two numbers •	• Step 1 Unitising • Step 2 Recognise coins • Step 3 Recognise notes • Step 4 Count in coins •	• Step 1 Before and after • Step 2 Days of the week • Step 3 Months of the year • Step 4 Hours, minutes and seconds • Step 5 Tell the time to the hour • Step 6 Tell the time to the half hour

National Curriculum Statements	• solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	• recognise, find and name a half as one of two equal parts of an object, shape or quantity recognise • find and name a quarter as one of four equal parts of an object, shape or quantity.	• describe position, direction and movement, including whole, half, quarter and threequarter turns.	• count to and across 100 • forwards and backwards, beginning with 0 or 1, or from any given number count • read and write numbers to 100 in numerals • count in multiples of twos, fives and tens giiven a number • identify one more and one less identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least • read and write numbers from 1 to 20 in numerals and words.	Pupils should be taught to: • recognise and know the value of different denominations of coins and notes	• compare, describe and solve practical problems for: time (for example, quicker, slower, earlier, later) • measure and begin to record the following: time (hours, minutes, seconds) • sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] recognise and use language relating to dates, including days of the week, weeks, months and years • tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
Misconceptions	• Children may count the number of pairs, rather than count in 2s. • Make sure children understand that a pair is two objects, and those objects do not need to look exactly the same. • Children may count each object in a group, rather than counting in 2s. • Children may confuse teen numbers and multiples of 10, for example 13 and 30 • Children may still rely on counting individual objects, for example counters, rather than using representations such as full ten frames to count in 10s.	• Children may talk about a "bigger" or "smaller" half due to prior experiences of sharing, so it is important to reinforce that a half is one of two equal parts. • Children may struggle to recognise halves when they are shown in non-standard ways. • Children may think that if they split something into two parts,	• Children may forget where they began the turn. • Children may naturally always turn in one direction and should be encouraged to explore both ways. • Children may confuse left and right. • Children may become confused when an object is looked at from a different perspective from their own. When you are facing someone, the position of their left hand does not appear to match yours. • Children may confuse facing forwards with moving forwards. • Children may have difficulty with	• Children may struggle to count when crossing a tens boundary, for example 59, 60, 61 • Children may confuse the pronunciation of the "teen" numbers with the "ty" numbers, for example fifteen and fifty. • Children may not see the equivalence between 10 ones and 1 ten. • Children may partition the number into its digits, rather than considering the value of each digit,	A pre-money counter with 5 dots has the same value as five pre-money counters with 1 dot • Children may confuse pounds with pence, for example identifying a £2 coin as 2 pence because "two" is written on the face. • When there are multiple notes, for example, three £5 notes compared to one £10 note, children may believe that the £10 note has a higher value, because it is larger in size than	Children may confuse "before" and "after". • Children may confuse "morning", "afternoon" and "evening". • Events that may occur in both the morning and afternoon/evening, for example reading a book, could add confusion when ordering events • Some children may struggle to remember the correct order for the days of the week, especially those that begin with the same initial sound or letter. • Children may struggle to name which day was

	• Children may confuse 15 and 50, because they sound very similar. • Children may not recognise the relationship between two 5s making a 10. The use of five and ten frames can help children to understand that a full row makes 5 and two 5s make 10	they have split it in half. They may not remember that the two parts must be equal. • Children may not recognise that they can split some shapes/objects in half in a number of ways, instead only using horizontal or vertical divisions.	combining various instructions, for example "Move 3 squares forwards, then 2 squares left, then 1 square backwards."	for example stating that 64 is made up of 6 and 4 • Children may find it confusing if the parts are shown in a non-standard order and may write that, for example, 2 and 80 are equal to 280 or 28 rather than 82	the £5 notes. • Children may confuse pounds with pence.	"yesterday", due to the fact that they often learn the days in a specific order going forwards.

Stem sentences	Equal groups/ unequal groups There are (number) groups/lots/sets of (number/ item). • There are 3 groups of 5 cars. This is not (number) groups/lots/sets of (number/ item) as they are not equal groups. • This is not 2 groups of 10 sweets, as they are not equal groups. Arrays In this array, there is/ are (number/ item) in each row. There is/ are (number) rows of (number/ items). • In this array, there are 5 oranges in each row. There are 6 rows of 5 oranges. In this array, there is/ are (number/ item) in each column. There is/ are (number) columns of (number/ item). • In this array, there are 10 cookies in each column. There are 3 columns of 10 cookies. Double Double (number) is (number). • Double 5 is 10.	"This shape has been divided into ______ equal parts." "This is ______ part of the whole." "I have ______ equal groups." Recognizing halves: "A half is one of ______ equal parts." "This is ______ half of the shape." "I have ______ half of the biscuits." "The whole is divided into two halves." "Half of ______ is ______." Recognizing quarters: "A quarter is one of ______ equal parts." "This is ______ quarter of the shape." "I have ______ quarter of the sweets." "The whole is divided into four quarters." "A quarter of ______ is ______."	"The [shape] is above the [shape]." "The [object] is below the [table]." "The [toy] is on the [shelf]." "The [book] is under the [chair]." "The [car] is in front of the [house]." "The [ball] is behind the [tree]." "The [flower] is near the [fence]." "The [bird] is far away from the [window]." "The [cat] is between the [door] and the [window	There are (number/items). There are (number/items). There are (number/ item) altogether. • There are 3 blue blocks. There are 2 yellow blocks. There are 5 blocks altogether. The number before a number is one less. The number after a number is one more. One more than (number) is (number). OR (number) is one more than (number). • One more than 5 is 6. 5 is one more than 5. One less than (number) is (number). OR (number) is one less than (number). • One less than 5 is 4. 4 is one less than 5. Zero is a place holder. It is used when a place has no value.	Identifying coins: "This is a (1p, 2p, 5p, 10p, 20p, 50p, £1, or £2) coin." Coin value: "It has a value of (1p, 2p, 5p, 10p, 20p, 50p, £1, or £2)." Counting coins: "There are (number) (1p, 2p, 5p, 10p) coins." Total value: "The total value is (total) pence/pounds." Equivalence: "Five 1ps are equivalent to 5p." Counting in multiples: "I can count 2ps in 2s." Making amounts: "I can make 20p using two 10ps." Comparing amounts: "£2 and 50p is more than 50p." Finding change: "50p - 20p = 30p."	Days of the week: "Today is Tuesday, yesterday was [Monday]." "Tomorrow is Wednesday, today is [Tuesday]." "The day before Friday is [Thursday]." "The day after Sunday is [Monday]." Months of the year: "My birthday is in [June]." "Summer is in the months of [June, July, August]." "The first month of the year is [January]." Sequencing events: "First, we [eat breakfast], then we [go to school]." "Before I go to bed, I [brush my teeth]." "After school, I [play with my toys]."

Progression	Year 2: • 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 themultiplication (×), 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.	Year 2: • recognise, find, name and write fractions 1/3 , 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity • write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2 .	EYFS: • See, explore and discuss models of common 2D and 3D shapes with varied dimensions and presented in different orientations (for example, triangles not always presented on their base). • Select, rotate and manipulate shapes for a particular purpose, for example: • rotating a cylinder so it can be used to build a tower • rotating a puzzle piece to fit in its place. Year 2: • Describe properties of shape. Categorise shapes. Identify similar shapes. • Find the area or volume of a compound shape by decomposing into constituent shapes. Rotate, translate and reflect 2D shapes. Identify congruent shapes.	EYFS: • Begin to develop a sense of the number system by verbally counting forward to and beyond 20, pausing at each multiple of 10. • Play games that involve moving along a numbered track, and understand that larger numbers are further along the track. • Distribute items fairly, for example, put 3 marbles in each bag. Recognise when items are distributed unfairly. Year 2: • Count through the number system. Place value within 100. Compare and order numbers. Add and subtract within 100 • Reason about the location of larger numbers within the linear number system. Compare and order numbers. Read scales. Begin to experience partitioning and combining numbers within 10. 1NF–1 Develop fluency in addition and subtraction facts within 10. • Add and subtract across 10. All future additive calculation. Add within a column during	Year 2: • 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. • 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

				columnar addition when the column sums to less than 10 (no regrouping). Subtract within a column during columnar subtraction when the minuend of the column is larger than the subtrahend (no exchanging). • Recall the 2, 5 and 10 multiplication tables. Carry out repeated addition and multiplication of 2, 5, and 10, and divide by 2, 5 and 10. Identify multiples of 2, 5 and 10. Unitise in tens. Identify odd and even numbers.		
Key Vocabulary	Lots of Sets of Groups of Equal groups Array Row Column Patterns Double Doubling Twice as much as… Twos Fives Tens Skip counting	half quarter fraction equal whole parts shape object quantity	cube cylinder cuboid pyramid 2d 3d orientation face triangles squares rectangles circles surface	equal to more than less than (fewer) most least greatest smallest same different sort groups digit value	pence coin pound note value	before after next hours/minutes/se conds first today yesterday/tomorr ow