

Mathematics (Number and Number Value)

Number (Number and Number Value) – KS1 -KS5			
By the end of KS5 our pupils should know:	Redway Pre-Formal Pathway Encounter —————> Foundation	Redway Semi-formal Pathway Core —————> Development	Redway Formal Pathway Enrichment —————> Enhancement
	The pupil can:	The pupil can:	The pupil can:
Counting			
Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number [NC YR1]	- Recognises familiar places/people e.g. looks up at lights in sensory room or towards a familiar voice - Anticipates stimuli that occur over and over again e.g. smiles before being pushed on a swing after several pushes) - Anticipates routine events e.g. being hoisted - Take turns in repetitive games where adult stops to wait for a response (e.g. Intensive Interaction, action songs) - Explores objects that are used in familiar routines - Responds to object cues - Puts object in container or uses objects one at a time e.g. click clack cars - Assists in putting away resources used in a familiar routine	- Makes a comparison between one and lots e.g. selecting a bowl with lots of crisps - Distinguish between one and lots when shown an example of a single object and a group of objects [standard 1] - Sequencing one, few, lots (e.g. bowls of objects) - Lines up groups of objects - Uses number names with inconsistencies in play - Uses number names accurately in play - Demonstrates an understanding of the concept of 1:1 correspondence [standard 1] - know the names of the numbers but not necessarily in the right order e.g. song bags etc... (could start experiencing Numicon and or resource alongside song bag)	- Count from 1 to a given number. - Count from 0 to a given number. - Count to 100. - Count to 100 from a given number. - Can count across 100. - Count backwards from 100. - Count backwards from a given number.

	- Operates toys that require more than one actions to complete e.g. bubble tube controlled by latch switch - Uses objects that require two or more actions to complete - Attends to a rhythmic stimulus e.g. rhythm of a resonance board or beat of a drum Responds to a difference between one and lots e.g. dropping one leaf over them or a whole bag over them - Select appropriate resources for familiar routine (eg, spoon for eating, ball for game, shoe after soft play)	- Say the number names to 5 in the correct order forwards e.g. in a song or by joining in with the teacher [Standard 2] - Say the number names to 5 in the correct order backwards e.g. in a song or by joining in with the teacher - Understand that numbers can be represented differently as concrete objects e.g. Numicon pieces, dice face, number of fingers - Demonstrate an understanding of the concept of numbers up to 5 by putting together the right number of objects when asked - Demonstrate an understanding of the concept of numbers up to 20 by putting together the right number of objects when asked - Demonstrates an understanding that the number of objects remains the same when they are re-arranged, providing nothing has been added or taken away (conservation of number) [standard 4] - Can count out actions e.g. number of claps - Understands cardinality (demonstrates an understanding that	
--	---	---	--

		the last number counted represents the total number of the count) [standard 3] - Identify how many objects there are in a group of up to 10 objects, recognising smaller groups on sight and counting the objects in larger groups up to 10. [standard 3] - Count forwards to 10 - Counts backwards from 10 - Can count to a given number up to 10 - Counts forwards to 20 - Counts backwards from 20 - Can count to a given number up to 20 - Uses the word zero to show that nothing is there	
Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens [NC YR1]		- Begins to recognise numerals 0-10 - Confidently reads numbers 0-10 - Gives an answer by choosing the correct numeral e.g. from number strip - Matching amounts to the written numeral up to 10 Begins to recognise numerals 11-20 - Confidently reads numbers 11-20 - Matching amounts to the written numeral up to 20 - Draw straight lines - Draw circles and semi circles - Overwrite/Trace numbers to 9 accurately	- Write the numbers 1 to 5 and 7 – starting in the upper left corner - Write the numerals 8 and 6 – starting in the upper middle - Write the numeral 9 – starting in the upper right corner - Read and write numbers on numerals from 0-9 [standard 4] - Read numerals to 100 - Write numerals to 100 - Can count in multiples of 2 e.g. 2, 4, 6, 8 not $2 \times 4 = 8$ - Can count in multiples of 5 e.g. 5, 10, 15, 20, 25, not $5 \times 5 = 25$

		- Can count out groups of objects in multiples of 2 e.g. straws, blocks - Can count out groups of objects in multiples of 5 .g. straws, blocks - Can count out groups of objects in multiples of 5 .g. straws, blocks	- Can count in multiples of 10 e.g. 10, 20, 30, 40, 50, not $4 \times 10 = 40$ - Can identify odd numbers - Can identify even numbers
Given a number, identify one more and one less [NC YR1]		- In practical situations add one more - In practical situation take one away e.g. 5 Little Speckled Frog - Demonstrate an understanding of the concepts of 'more' and 'less' (fewer) - Identify one more than a given number by choosing between two answers - Identify one less than a given number by choosing between two answers	- Identify one less than a given number - Identify one more than a given number - Counts to 20, demonstrating that the next number in the count is one more and the previous number is one less [standard 4]
Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward [NC YR2]		2, 3, 5 covered previously - Can count out groups of objects in multiples of 10 e.g. straws, blocks	- Can count forward in multiples of 2 from a given number including 0 - Can count backwards in multiples of 2 from a given number including 0 - Can count forward in multiples of 3 from a given number including 0 - Can count backwards in multiples of 3 from a given number including 0 - Can count forward in multiples of 5 from a given number including 0 - Can count backwards in multiples of 5 from a given number including 0

			- Can count forward in multiples of 10 from a given number including 0 - Can count backwards in multiples of 10 from a given number including 0
Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number [NC YR3]		- Can count out groups of objects in multiples of 4 e.g. straws, blocks - Can count out groups of objects in multiples of 8 e.g. straws, blocks - Count out objects in multiples of 50 using appropriate resources e.g. Cuisenaire rods - Count out objects in multiples of 10 using appropriate resources e.g. Cuisenaire rods - Can find 10 more using concrete resources - Can find 10 less using concrete resources - Can find 10 less than a given number using visual support - Can find 10 more than a given number using visual support	- Can count in multiples of 4 from 0 - Can count in multiples of 8 from 0 - Can count in multiples of 50 from 0 - Can count in multiples of 100 from 0 - Can find 10 less than a given number - Can find 10 more than a given number - Can find 100 less than a given number - Can find 100 more than a given number
Find 10 or 100 more or less than a given number – from tribal progression paperwork			

Comparing Numbers			
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 [NC YR1]		- Represents amounts using real-life materials - Understand that numbers can be represented differently in pictures e.g., dice face, number of fingers - Uses a number line to find a given number - Create groups of equal amounts - Identify the group with the most objects from a choice of two - Identify the group with the least objects from a choice of two - In practical situations can identify who has the most - In practical situations can identify who has the least	- Represent numbers using (a) objects (b) pictorial representations - Interpret numbers represented by (a) objects (b) pictorial representations - Can identify one more on a number line - Can identify one less on a number line - knows the direction to count in on a number line when counting forwards and backwards - Uses language of maths (a) equal to, (b) more than and (c) less than, (d) most, (e) least
Compare and order numbers from 0 up to 100; use <, > and = signs [NC YR2]		- Compare two numbers to 20 using tangible objects Can order a selection of numbers to 20 e.g. 3, 9, 15, 20 - Can make two equal groups e.g. if given 6 blocks, they can make a group of 6	- Compare two numbers to say which one is bigger and which one is smaller e.g. 47 more than 29 as 47 has 4 tens compared with 29 which has 2 tens. - Order a selection of numbers between 0 and 100 e.g. 46, 19, 3, 76, 43, 79 becomes 3, 19, 43, 46, 76 and 79 - Uses mathematical symbols when comparing numbers e.g. (a) >, (b) < and (c) =
Compare and order numbers			- Compare two number to say which one is bigger and which one is smaller e.g. 347 more

up to 1000 [NC YR3]			than 229 as 347 has 3 hundreds, and 229 has 2 hundreds. - Order a selection of number between 0 and 1000 e.g. 46, 119, 3, 476, 43, 779 becomes 3, 119, 43, 46, 476 and 779
Identifying, Representing and Estimating Numbers			
Identify, represent, and estimate numbers using different representations, including the number line [NC YR2]		- Looks at/feels objects in a bag or box and makes a guess at number of objects ; introduce the concept of guessing (staff to model estimate rather than guess as vocabulary) - To use Numicon or base ten to represent number - Estimate which group has more or less e.g. holding two bags where there is a distinct difference	- Can identify (interpret) other representations of number - Can use representations of number (make and interpret) including objects, pictorial, number lines, 100 square and symbols to one hundred. - Estimate numbers based on different representations to one hundred e.g. each one of those piles has about 10 sticks, so we have about 30 sticks.
Identify, represent, and estimate numbers using different representations [NC YR3]			- Can use representations of number (make and interpret) including: objects, pictorial, number lines, 100 square, base 10 and symbols to one thousand. - Estimate numbers based on different representations to one thousand e.g. each one of those piles has about 100 sticks, so we have about 300 sticks.
Reading and Writing Numbers (including numeral numbers)			
Read and write numbers from 1 to 20 in numerals		- Overwrite/trace some numerals accurately	No reading and writing numerals as this is already covered in count, read and write

and words. [NC YR1]			numbers to 100 in numerals; count in multiples of twos, fives and tens [YR1] - Matching numerals to the word - Read words from one to twenty - Write words from one to twenty
Read and write numbers to at least 100 in numerals and in words [NC YR2]		- Match numerals to words - Can overwrite/trace numerals over 10	Reading and writing numbers from 1-20 in numerals and words is covered in year 1 - Can read numbers from 20-100 in numerals - Can read numbers from 20-100 in words - Can write or represent numbers from 20-100 in numerals (e.g. 69 using a Velcro 6 and 9 so numbers need to be comprised of tens and units) - Can write numbers from 20-100 in words
Read and write numbers up to 1000 in numerals and in words [NC YR3]			Reading and writing numbers from 1-100 in numerals and words is covered in year 1 & 2 - Can read numbers from 100-1000 in numerals - Can read numbers from 100-1000 in words - Can write numbers from 100-1000 in numerals - Can write numbers from 100-1000 in words
Understanding Place Value			
Recognise the place value of each digit in a two-digit number		- Can make groups of ten - Can make groups of ones - Use base 10 resources represent two-digit numbers	- Can partition a two-digit number into tens and ones

(tens, ones) [NC YR2]		- Can partition a number up to 19 by counting ten in one pile and the ones in another pile	- Can understand the value of each digit within a two-digit number e.g. 25, 2 represents two tens and 5 five ones - Understands 0 as a placeholder when in the 'ones'
Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) [NC YR3]			- Can partition a three-digit number into hundred, tens and ones - Can understand the value of each digit within a three-digit number e.g. 325, 3 represents three hundreds, 2 represents two tens and 5 five ones - Understands 0 as a placeholder when in the 'tens'