NUMBER AND PLACE VALUE SEQUENTIAL LEARNING OSMOTHERLEY CP

Highlighted= 2020 Maths guidance ready-to-progress criteria

Year group	sequence	methods
FOUNDATION	*notice change in number of objects/images or sounds in groups of up to 3 then 4 then 5 and develop awareness of number names *compare groups *investigate number to ten *number to 20	*using practical objects to count and using action, rhymes and songs *compare quantities of identical objects moving to non-identical objects *counting to 6,7,8 *counting to 9, 10 *comparing groups up to ten *count to 20

ONE	*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 2s, 5s and 10s *given a number, identify 1 more and 1 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 practise counting (1, 2, 3…), ordering (for example, first, second, third…), and to indicate a quantity (for example, 3 apples, 2 centimetres), including solving simple concrete problems, until they are fluent. *They practise counting as reciting numbers and counting as enumerating objects, and counting in 2s, 5s and 10s from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through increasingly complex questions. They recognise and create repeating patterns with objects and with shapes

	reason about the location of numbers to 20 within the linear number system including using **> < =**	

TWO	*count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward ***recognise the place value of each digit in a two-digit number and compose and decompose 2 digit numbers using standard and non-standard partitioning***	*Using arrow partitioning cards and base ten equipment

	*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 • ***Reason about the location of any 2 digit numbers in linear number system including identifying previous and next multiple of ten***	*Using materials and a range of representations, pupils practise counting, reading, writing and comparing numbers to at least 100 and solving a variety of related problems to develop fluency. As they become more confident with numbers up to 100, pupils are introduced to larger numbers to develop further their recognition of patterns within the number system and represent them in different ways, including spatial representations. *Pupils should partition numbers in different ways (for example, 23 = 20 + 3 and 23 = 10 + 13) to support subtraction. They become fluent and apply their knowledge of numbers to reason with, discuss and solve problems that emphasise the value of each digit in two-digit numbers. They begin to understand 0 as a place holder

THREE	***know that 10 tens equals 100 and that 100 is ten times the size of 10 and apply this knowledge to work out how many tens there are in 3 digit multiples of ten*** *count from 0 in multiples of 2,3, 4,5, 8, 50 and 100; find 10 or 100 more or less than a given number ***recognise the place value of each digit in a 3-digit number and compose and decompose using standard and non-standard partitioning*** *compare and order numbers up to 1,000 *identify, represent and estimate numbers using different representations *read and write numbers up to 1,000 in numerals and in words *solve number problems and practical problems involving these ideas ***divide 100 into 2 4 5 and ten equal parts and read scales/number lines marked in multiples of 100 with 2 4 5 and 10 equal parts*** ***reason about the location of any 3 digit number in the linear number system including***	*They use larger numbers to at least 1,000, applying partitioning related to place value using varied and increasingly complex problems, building on work in year 2 (for example, 146 = 100 + 40 + 6, 146 = 130 +16). *Using a variety of representations (place value counters, base 10 equipment,arrow partitioning cards) for number including those related to measure, pupils continue to count in 1s, 10s and 100s, so that they become fluent in the order and place value of numbers to 1,000

	identifying the previous and next multiple of ten and a hundred	
FOUR	***know that ten hundreds equal one thousand and that a thousand is ten times the size of 100 and apply this to identify and work out how many 100's there are in other 4 digit multiples of 100*** *count in multiples of 6, 7, 9, 25 and 1,000 *find 1,000 more or less than a given number *count backwards through 0 to include negative numbers ***recognise the place value of each digit in a four-digit number and compose and decompose in standard and non-standard partitioning*** *order and compare numbers beyond 1,000 *identify, represent and estimate numbers using different representations	*Using a variety of representations, including measures, pupils become fluent in the order and place value of numbers beyond 1,000, including counting in 10s and 100s, and maintaining fluency in other multiples through varied and frequent practice. Use rounding jotting: 245 rounded to nearest 100? 2 possible answers: 250 245 240 Choose correct answer

	*round any number to the nearest 10, 100 or 1,000 *solve number and practical problems that involve all of the above and with increasingly large positive numbers ***reason about the location of any 4 digit number in the linear number system including identifying previous and next multiple of 1000 and 100 and rounding to the nearest of each*** ***divide 1000 into 2 4 5 10 equal parts and read scales/number lines marked in multiples of 1000 with 2 4 5 10 equal parts*** *read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value	They begin to extend their knowledge of the number system to include the decimal numbers and fractions that they have met so far. They connect estimation and rounding numbers to the use of measuring instruments. (use metre sticks/ interactive visuals- Octopus incorporated into class whiteboards plus www.topmarksinteractive whiteboard resources) *use visual images where roman numerals used in **modern** world- clockfaces/on monuments to show date of construction/film dates/Kings and Queens e.g Henry VIII. Roman numerals should also be put in their historical context so pupils understand that there have been different ways to write whole numbers and that the important concepts of 0 and place value were introduced over a period of time.

FIVE	***know that 10 tenths equals one and one is ten times the size of 0.1 and know that 100 hundredths equals one and one is 100 times the size of 0.01 and know that 10 hundredths are equivalent to one tenth and 0.1 is ten times the size of 0.01*** *read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit ***recognise the place value of each digit in number up to 2 decimal places and compose and decompose using standard and non-standard partitioning*** *count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 *interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0 *round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000	*Pupils identify the place value in large whole numbers. *They continue to use number in context, including measurement. Pupils extend and apply their understanding of the number system to the decimal numbers and fractions that they have met so far. They should recognise and describe linear number sequences (for example, 3, $3\frac{1}{2}$, 4, $4\frac{1}{2}$...), including those involving fractions and decimals, and find the term-to-term rule in words (for example, add $\frac{1}{2}$).

	*solve number problems and practical problems that involve all of the above ***reason about the location of any number with 2 decimal places in linear number system including identifying previous and next multiple of 1 and 0.1 and rounding to the nearest of each*** *read Roman numerals to 1,000 (M) and recognise years written in Roman numerals	
SIX	****understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).*** ***recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning.*** *read, write, order and compare numbers up to 10,000,000 and determine the value of each digit	Pupils use the whole number system, including saying, reading and writing numbers accurately They use jottings (of number lines/rounding method/place value headings/ segmenting and partitioning) where helpful

	*round any whole number to a required degree of accuracy *use negative numbers in context, and calculate intervals across 0 *solve number and practical problems that involve all of the above ***reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.*** ***divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.***	