Milestones for when children are expected to attain declarative knowledge

Declarative knowledge	Procedural knowledge	Conditional knowledge	Vocabulary	Stem sentences
Nursery - Number/Place value				
I know that I can recognise numerals 1 to 5. I know that counting can go forward or backwards. I know that I can recognise numbers 1 – 5. I know that I can say numbers 1 – 5. I know that I can recognise sets of 1, 2 and 3. I know that dots can be arranged in different ways to represent the same number. I know that one number can be made from (composed from) two or more smaller numbers.	I know how to count to five objects by saying one number name for each item. I know how to identify numbers 1 – 5. I know how to recognise the number of objects in a group (within 5) without counting. I know how to identify the number that comes before and after 1-3 I know how to use the language of 'more' and 'fewer' to compare two sets of objects. I know how to say the number that is one more than a 1-3. I know how to use objects and pictorial representations to help me. I know how to compare two small groups of up to five objects. I know how to explore all the ways that five can look.	I know when counting forwards each number is one more than the number before. I know when counting backwards each number is one less than the number before. I know when comparing two small groups how to identify how many are in each group. I know when counting how to link the number symbol with its cardinal value.	Zero, ones, tens number one, two, three, four, five none how many …? count, count (up) to, count on (from, to), count back (from, to) count in ones, twos. is the same as more, less odd, even few, pattern, pair, ones, tens digit, the same number as, more, larger, bigger, greater fewer, smaller, less fewest, smallest, least most, biggest, largest, greatest one more, one less compare order size first, second, third, fourth, fifth last, last but one before, after next between	• There are ____ altogether. • ____ is one more than _____ • _____ is one less than _____ • I can subitise _____. • This set has ____ objects in • There are more/less objects in this group. • I know that the next number is _____

Milestones for when children are expected to attain declarative knowledge

Declarative knowledge	Procedural knowledge	Conditional knowledge	Vocabulary	Stem sentences
Reception - Number/Place value				
I know that I can recognise numerals 1 to 10. I know that counting can go forward or backwards. I know that I can recognise and can name 0. I know that I can recognise numbers 1 to 10. I know that I can recognise sets of numbers to 5. I know that numbers can be split into different groups. I know that numbers that come after each other are larger. I know that numbers that come before each other are smaller.	I know how to count up to ten objects by saying one number name for each item. I know how to use graphics to help me identify what comes before and after 1-10. I know how to use the language of 'more' and 'fewer' to compare two sets of objects. I know how to split 10 into different groups. I know the 'one more than/ one less than' relationship between consecutive numbers.	I know when counting forwards the numbers will get greater. I know when counting backwards the numbers will get smaller. I know when splitting 10 into different groups how to explain their groupings. I know when making predictions how to use the relationship between consecutive numbers to help me.	zero number one, two, three … to twenty and beyond teens numbers, eleven, twelve … twenty none how many …? count, count (up) to, count on (from, to), count back (from, to) count in ones, twos, fives, tens is the same as more, less odd, even few pattern pair ones tens digit the same number as, as many as more, larger, bigger, greater fewer, smaller, less fewest, smallest, least most, biggest, largest, greatest one more, ten more one less, ten less compare order size first, second, third… twentieth last, last but one before, after next between	• This set of objects has been sorted by …… • I could also sort the objects by … • _____does belong in the set because … • The last number I said was___ , so there are _____objects in total. • There are ____objects left in the group. • The numeral for ___ is _____ • I can use a ____ to represent each _____ • There are _____ carrots. I am using 1 counter to represent each carrot I need ____counters. • The number that comes after ___ is _____. • 1 more than ____is _____ • 1 less than _____ is _____ Create stories - • First there were … Then … Now there are … • The number that comes before ___ is ___

Milestones for when children are expected to attain declarative knowledge

Declarative knowledge	Procedural knowledge	Conditional knowledge	Vocabulary	Stem sentences
YEAR 1 - Number/Place value				
I know that I can recognise some numerals of personal significance. I know that counting can go forward or backwards in order. I know that I can recognise and can name 0 and its significance. I know that I can recognise counting patterns from 1 to 100. I know that I can say, read and write numbers to 100 in numerals correctly. I know that I can say, read and write number to 20 in numerals and words. I know that I can count to 100 in 1s, 2s, 10s and 5s. I know that I can recognise the patterns of counting in 2s, 5s and 10s. I know that some small quantities do not need counting.	I know how to identify the number that comes before and after 1-10. I know how to use the language of 'more' and 'fewer' to compare two sets of objects. I know how to recognise patterns of counting in 2s, 5s, and 10s, I know how to compare numbers up to 20. I know how to say the number that is one more than a given number. I know how to count in multiples of 2s, 5s and 10s. I know how to use objects and pictorial representations to help me.	I know when to reason about the location of numbers to 20 within the linear number system, including comparing using ≤ ≥ and =. I know when counting forwards the numbers will get greater. I know when counting backwards the numbers will get smaller. I know when counting in multiples of 2 my answer will always end in 2,4,6,8 or 0. I know when counting in multiples of 5, my answer will always end in 5 or 0. I know when counting in multiples of 10, my answer will always end in 0.	Numbers to 100; place value; digit, integer; symbol; compare; equal to, more, less, greater than, fewer, less than, greatest, smallest; first, second, third…last; ones, tens, partition, exchange; order, largest, smallest, number bonds, part, whole; plus; fact family, addition sentence, number sentence; how many more; number line; commutative; addition, more, make, sum, total, add together, altogether; calculation; Inverse equals, is the same as How many altogether? How many are there? groups, groups of, equal groups, unequal groups; row, column, array; number sentence; double, doubles; equal groups of 2, equal groups of 5, equal groups of 10; share, sharing, equally, odd, even, Whole, parts, equal parts, the same; split; groups; share; equally; quarter; four equal parts One half, two halves A quarter, two quarters	• This set of objects has been sorted by …… • I could also sort the objects by …. • _____does belong in the set because … • _____does not belong in the set because … • The last number I said was___ , so there are _____objects in total. • I need to count objects from the group. • There are ____objects left in the group. • The numeral for ___ is _____ • I can use a ____ to represent each _____ • There are _____ carrots. I am using 1 counter to represent each carrot I need ____counters. • The number that comes after ___ is _____. • 1 more than ____is • _____is 1 more than Create stories - • First there were … Then … Now there are … • The number that comes before ___ is ___ • When counting backwards from __ the numbers I will say are ____. • 1 less than ___ is ___ • ____ is 1 less than ____

Milestones for when children are expected to attain declarative knowledge

Year 2 – Number/ Place Value				
Declarative knowledge	Procedural knowledge	Conditional knowledge	Vocabulary	Stem sentences
I know that I can recognise the properties of two-digit numbers. I know that I can recognise numbers up to 100. I know that I can read and write to at least 100 in numerals and words. I know that counting can be done in varying step sizes. I know that < means less than, > means greater than and = means equals to. I know that I can recall number bonds to and within 20 and to 100. I know that I can describe the properties of two-digit numbers. I know that I can represent numbers in different ways. I know that I can recall the properties of place value.	I know how to compare and order numbers from 0 to 100, using greater than, less than and equals signs. I know how to count in steps of 2, 3 and 5 from 0, and in tens from any number forward and backward I know how to recognise the place value of each digit in a 2-digit number (tens and ones) I know how to partition and rearrange numbers to help me solve calculations. I know how to identify, represent and estimate numbers using different representations. I know that I can recall efficient methods using number sense, place value, bridging, near doubles and adjustment strategies.	I know when I need to exchange. I know when to use the skill of estimation to help me with an equation. I know when comparing numbers, to use my place value knowledge to help me. I know when to partition to help me solve a calculation. I know when to use place value and number facts to solve problems. I know when solving problems with place value how resources can help me.	units, ones tens, hundreds digit one-, two- or three-digit number 'teens' number place, place value stands for, represents exchange the same number as, as many as equal to Of two objects/amounts: greater, more, larger, bigger less, fewer, smaller Of three or more objects/amounts: greatest, most, biggest, largest least, fewest, smallest one more, ten more one less, ten less compare order size first, second, third... tenth... twentieth twenty-first, twenty-second... last, last but one before, after next between, half-way between above, below	• There is 1 ten and ___ ones. The number is ____ • The number after ___ is ____ •The number before ____ is ___ •____ in words is _____ •____ in numerals is ____ •There are ____ tens and ____ ones. The number is _____ •There are ___ groups of 10 and ____ more. There are ____ in total. •_____ is made up of ____ tens and ____ ones. •___ is a part and ____ is a part. The whole is _____. •There are ____ tens. In words this is _____. •____ can be partitioned into ___ and ____. •_____ is equal to ___ plus ____ •The start point is ____and the end point is ____. There are intervals on the number line. Each interval is worth ____ The number line is counting up in ____

Milestones for when children are expected to attain declarative knowledge

Year 3 – Number/ Place Value				
Declarative knowledge	Procedural knowledge	Conditional knowledge	Vocabulary	Stem sentences
I know that I understand the properties of three-digit numbers. I know that zero can be a place holder in three-digit numbers and understand its importance. I know that I can describe the standard form for writing numbers up to 1000. I know that I can read and write numbers up to 1,000 in numerals and in words. I know that one hundred is equivalent to ten lots of ten. I know that ten is equivalent to ten lots of ones. I know that I can write numbers in words. I know that I can explain the relative position of numbers. I know that I can recall my number bonds to 20 and 100.	I know how to count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number I know how to recognise the place value of each digit in a 3-digit number (H, T, U) I know how to compare and order numbers up to 1,000 I know how to identify, represent, and estimate numbers using different representations	I know when comparing numbers, how to use place value to help me problem solve. I know when to partition numbers to help me solve calculations. I know when solving number problems and practical problems involving place value, which strategies to use and why. I know when solving number problems which resources will help me and why.	ones, tens, hundreds digit one-, two- or three-digit number 'teens' number place, place value stands for, represents exchange the same number as, as many as equal to Of two objects/amounts: greater, more, larger, bigger less, fewer, smaller Of three or more objects/amounts: greatest, most, biggest, largest least, fewest, smallest one more, ten more, one hundred more one less, ten less, one hundred less compare order size estimate first, second, third… tenth… twentieth twenty-first, twenty-second… last, last but one before, after next between, half-way between above, below ascending, descending	•There is ___ tens and ___ ones. •The number is ____. •The ___ represents ____ groups of ten. The ____ represents ____ extra ones. •There are ___ tens in 100 and ___ hundreds in _____. This means there are ___ tens in ____. •____ tens and ____ ones is the same as ___ tens and ___ ones. •There are ___ hundreds, ___ tens and ____ ones. The number is ___. •___ is made up of ___ hundreds, ___ tens and ___ ones. •___ is ___ more/ less than ____. •____ can be partitioned into ___, ____ and _____. •When comparing numbers, I start with the ____ place value column. •The start point is __ and the end point is ____. There are ___ interval on the number line. Each interval is worth _____

Milestones for when children are expected to attain declarative knowledge

Year 4 – Number/ Place Value				
Declarative knowledge	Procedural knowledge	Conditional knowledge	Vocabulary	Stem sentences
I know that Roman numerals only have three of the same symbols in them and they are always next to each other. I know that because of the rule of order of Roman numerals, when the symbol is in front it is added to the amount, however when it is less than the symbol in front of it is subtracted. I know that I can recall symbols for Roman numerals up to C=100 I know that zero is important in the concept of place value as it acts as a place holder. I know that there are ten 100s in a thousand. I know that 1,000 is ten times bigger than 100, 100 is ten times bigger than 10 and 10 is ten times bigger than 1. I know that I can explain the place value of numbers beyond 1,000, including counting in tens and hundreds. I know that I understand the rules of rounding.	I know how to count in multiples of 6,7,9,25 and 1000 and how this can help me solve calculations. I know how to find 1000 more or less than a given number. I know how to compare and order numbers beyond 1000. I know how to count backwards through 0 using negative numbers. I know how to recognise the place value of each digit in a four-digit number (Th, H, T, U). I know how to recognise the place value of each digit to 2 decimal places. I know how to identify, represent, and estimate numbers using different representations I know how to compare and order decimal numbers with up to two decimal places	I know when partitioning a number, I can explore efficient methods to partition in different ways through creating friendly numbers. I know when rounding I need to look at the decider (the digit to the right) to determine if I need to round up or round down. I know when comparing numbers, I need to use my place value knowledge to help me. I know when solving number and practical problems which strategy to use and why. I know when solving number problems which resources will help me and why.	units, ones tens, hundreds, thousands ten thousand, hundred thousand, million digit, one-, two-, three- or four-digit number numeral 'teens' number place, place value stands for, represents exchange the same number as, as many as equal to Of two objects/amounts: greater than, more than, larger than, bigger than, less than, fewer than, smaller than Of three or more objects/amounts: greatest, most, largest, biggest least, fewest, smallest one… ten… one hundred… one thousand more/less compare, order, size first… tenth… twentieth last, last but one before, after, next, between, half-way between, guess how many, estimate, nearly, roughly, close to, about the same as, approximate, approximately, just over, just under exact, exactly, too many, too few, enough, not enough round (up or down), nearest round to the nearest ten round to the nearest hundred integer, positive, negative above/below zero Roman numerals	•There are ___ hundreds, ___ tens and ____ ones. The number is _____ •When a number has no ____, then we use ____ as a placeholder. •There are ____ tens in 100 and ___ hundred in _____. This means there are ___ tens in _____. •____ thousands is equal to ____ hundreds. •___ rounded to the nearest 10/ 100 / 1,000 is _____. •The letter ___ represents the number ____ •___ more/ less than ___ is ___ •When comparing numbers, I know that I need to look at the digits in the _____ column. •When comparing numbers, if the digits in the ____ column are the same, then I need to look in the ___ column. •The difference between the start point and the end point of the line is _____. There are ____ intervals on the number line. Each interval is worth _____.

Milestones for when children are expected to attain declarative knowledge

Year 5– Number/ Place Value				
Declarative knowledge	Procedural knowledge	Conditional knowledge	Vocabulary	Stem sentences
I know that zero is important in the concept of place value as it acts as a place holder. I know that there are ten 1,000s in ten thousand. I know that 10,000 is ten times bigger than 1,000, 1,000 is ten times bigger than 100, 100 is ten times bigger than 10 and 10 is ten times bigger than 1. I know that I can read and write numbers with up to 7 digits using the comma separator. I know that I can describe linear number sequences. I know that I can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through 0. I know how to recall Roman numerals up to M = 1,000. I know I understand the rules of reading Roman numerals including years.	I know how to recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents I know how to round decimals using my place value knowledge and understanding of the high five rule to two decimal places to the nearest whole number and to one decimal place. I know how to read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit I know how to count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 I know how to read Roman numerals to 1,000 (M) and recognise years written in Roman numerals I know how to read, write, order and compare numbers with up to 3 decimal places using my place value knowledge. I know how to read and interpret negative numbers and find differences between negative and positive numbers.	I know when and why rounding any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 can help me solve calculations. I know when solving problems involving numbers up to three d.p, which strategy to use and why. I know when comparing numbers, I need to use my place value knowledge. I know when solving number and practical problems which strategy to use and why.	units, ones tens, hundreds, thousands ten thousand, hundred thousand, million digit, one-, two-, three- or four-digit number numeral, 'teens' number place, place value stands for, represents exchange, the same number as, as many as equal to, greater than, more than, larger than, bigger than q, less than, fewer than, smaller than ≥, greater than or equal to ≤, less than or equal to, greatest, most, largest, biggest, least, fewest, smallest one… ten… one hundred… one thousand more/less, compare, order, size, ascending/descending order, first… tenth… twentieth last, last but one, before, after, next, between, half-way between guess how many, estimate nearly, roughly, close to, about the same as, approximate, approximately, is approximately equal to, just over, just under exact, exactly, too many, too few, enough, not enough, round (up or down), nearest, round to the nearest ten/hundred round to the nearest thousand integer, positive, negative above/below zero, minus (temperature)	•The value of the ___ in ___ is worth _____. •When a number has no ___ then we use ____ as a placeholder. •The column before/ after the ___ column is the ___ column. •Ten _____ can be exchanged for _____ •___ rounded to the nearest 10/100/1,000 is ____ •The letter ___ represents the number _____ •___ more/ less than ___ is _____ •The difference between the starting point and the end point of the line is _____. There are ____ intervals on the number line. Each interval is worth _____. •If the digits in the ___ column are the same. I know I need to look in the ___ column when comparing.

Milestones for when children are expected to attain declarative knowledge

Year 6 – Number/ Place Value				
Declarative knowledge	Procedural knowledge	Conditional knowledge	Vocabulary	Stem sentences
I know that I can read and write numbers with up to 8 digits using the comma separator. I know that I can use the whole number system, including saying, reading and writing numbers accurately. I know that there are ten 100,000s in a million. I know that 1 million is ten times bigger that 100,000, 100,000 is ten times bigger than 10,000, 10,000 is ten times bigger than 1,000, 1,000 is ten times bigger than 100, 100 is ten times bigger than 10 and 10 is ten times bigger than 1.	I know how to read, write, order and compare numbers up to 10,000,000 and determine the value of each digit I know how to round any whole number to a required degree of accuracy I can know how to use negative numbers in context, and calculate intervals across 0 I know how to calculate with negative and positive numbers. I know how to use efficient methods of applying my knowledge of properties of numbers to help me solve calculations.	I know when rounding to look at the digit to the right as my decider and use my place value knowledge to help me solve problems. I know when multiplying numbers by power of 10, I can use my place value knowledge to calculate the answer. I know when solving number and practical problems which strategies to use and why.	units, ones tens, hundreds, thousands ten thousand, hundred thousand, million, digit, one-, two-, three- or four-digit number, numeral, 'teens' number, place, place value stands for, represents exchange, the same number as, as many as, equal to, greater than, more than, larger than, bigger than q, less than, fewer than, smaller than, ≥, greater than or equal to, ≤, less than or equal to, greatest, most, largest, biggest least, fewest, smallest, one… ten… one hundred… one thousand more/less compare, order, size ascending/descending order first… tenth… twentieth last, last but one before, after next, between, half-way between guess how many, estimate nearly, roughly, close to, about the same as, approximate, approximately, is approximately equal to, just over, just under exact, exactly, too many, too few, enough, not enough, round (up or down), nearest, round to the nearest ten/hundred/thousand integer, positive, negative above/below zero, minus (temperature)	•The value of the ____ in ___ is worth ____ •When a number has no ____, then we use ___ as a placeholder. •The column before/ after the ____ column is the ____ column. •The column one space to the left/right is _____ time bigger/ smaller •Ten ____ can be exchanged for ___ •_____ rounded to the nearest 10/100/ 1,000 is _____ •The letter ___ represents the number _____ •____ more/ less than ___ is _____ •___ is ___ away from zero •If the digits in the ____ column are the same, I need to look in the ____ column.