Unit overview: Place value – Year Reception

National Curriculum requirements

Children at the expected level of development will:

- Have a deep understanding of number to 10, including the composition of each number;
- Subitise (recognise quantities without counting) up to 5;
- Verbally count beyond 20, recognising the pattern of the counting system;
- Explore and represent patterns within numbers up to 10.

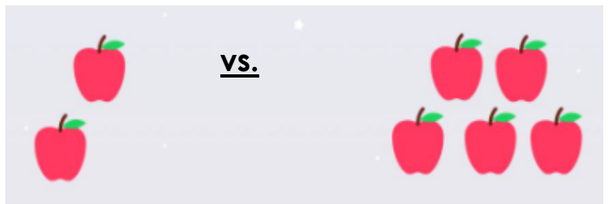
Vocabulary

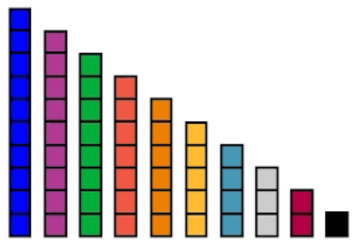
- number names (0 – 20 and beyond)
- numeral/ digit
- more than / greater than
- less than / fewer than
- equal to
- number bonds
- check – strategy: count to check

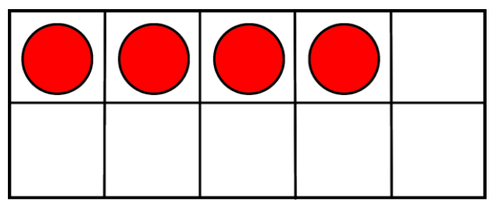
Manipulatives

- number cards
- counters
- counting tools (i.e. counting bears)
- interlocking cubes
- ten frames
- number lines
- bead strings

Visual representations







Sentence stems

One, two, three, _____, _____.

Ten, eleven, twelve, thirteen, _____.

This number is _____.

The next number in my pattern is _____ because _____.

One more than _____is _____.

One less than _____ is _____.

_____ is greater than _____.

_____ is less than _____.

_____ is equal to _____.

Learning sequence

- Solve real-world mathematical problems with number up to 5.
- Counts objects, actions and sounds.
- Explore the composition of numbers up to 5.
- Subitise within numbers up to 5.
- Explore the composition of numbers up to 10.
- Automatically recall number bonds for numbers 0-5 and some to 10.
- Explore the composition of numbers to 20.
- numbers to 5
    - count sets of objects within 5*
    - represent numbers within 5: concrete and pictorial*
    - recognise number bonds up to 5*
    - count to 5 forwards and backwards*
    - given a number, identify one more and one less*
- numbers within 20 (repeat steps marked with a * replacing 5 with 10 and 20)

Unit overview: Place value – Year 1

National Curriculum requirements

By the end of the year, the children will be able to:

- 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

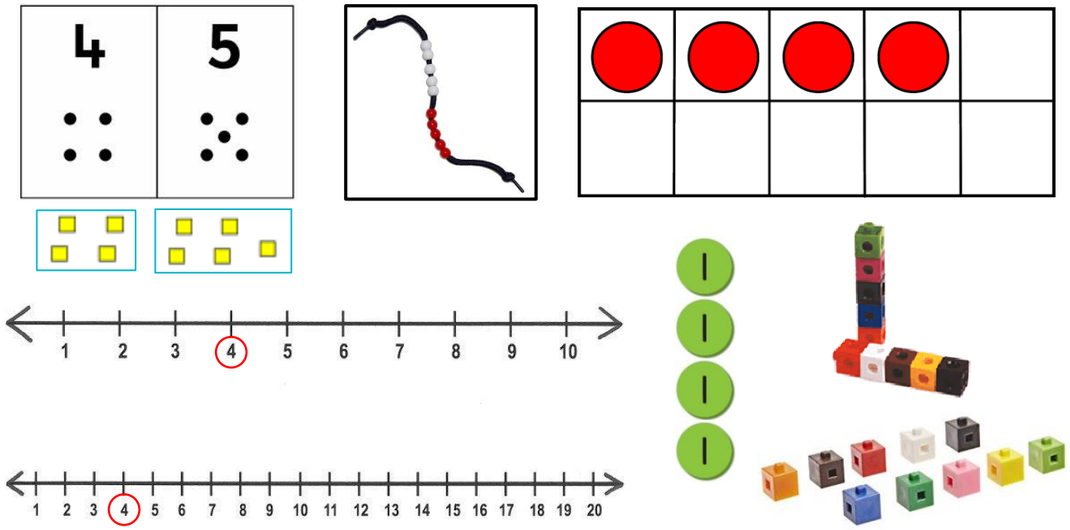
Vocabulary

- number names (0 – 100)
- digit
- more than / greater / most
- less than / fewer / least
- equal to
- number bonds
- estimate

Manipulatives

- number cards
- counters/counting props, e.g. toys
- dienes
- place value counters
- interlocking cubes
- ten frames
- number lines
- bead strings

Visual representations



Sentence stems

One, two, three, _____, _____.

This number is _____. I know this because _____.

There are _____ more than _____.

_____ is greater than _____.

There are _____ less than _____.

There are _____ fewer _____.

_____ is equal to _____.

Twenty, twenty one, _____, twenty three.

One more than _____ is _____.

_____ has the most _____.

One less than _____ is _____.

_____ has the least _____.

I estimate there are _____ because _____.

Learning sequence

- numbers to 10
  - count sets of objects within 10
  - represent numbers within 10: concrete and pictorial
  - recognise number bonds up to 10
  - count to 10 forwards and backwards, beginning with 0 or 1, or from any given number*
  - count, read and write numbers to 10 in numerals and words*
  - identify and represent numbers using objects and pictorial representations*
  - given a number, identify one more and one less*
  - compare and order numbers to 10 using <, > or = symbols*
  - count in multiples of two
  - estimate numbers within 10
- numbers to 20 (repeat steps marked with a * replacing 10 with 20)
  - count in multiples of two and five
- number to 50 (repeat steps marked with a * replacing 10 with 50)
  - recognise the place value of each digit in a two-digit number
- number to 100 (repeat steps marked with a * replacing 10 with 100)
  - read and write numbers to at least 100 in numerals

Unit overview: Place value – Year 2

National Curriculum requirements

By the end of the year, the children will be able to:

- 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 (10s, 1s)
- 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

Vocabulary

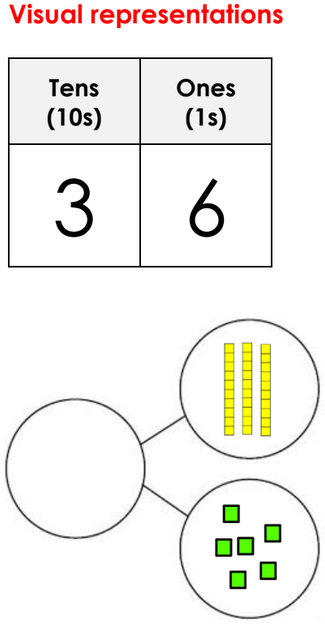
- number names (0 – 100)
- digit
- partition / tens / ones
- number bonds
- more than / greater / most
- less than / fewer / least
- equal to
- estimate

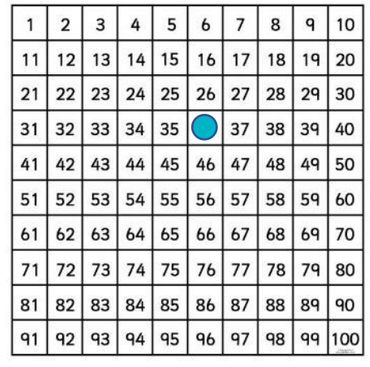
Manipulatives

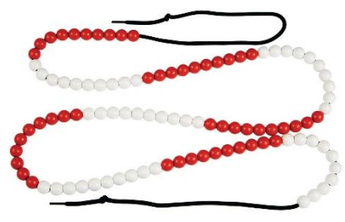
- counters
- dienes
- place value counters
- interlocking cubes
- hundred squares
- ten frames
- number lines
- bead strings

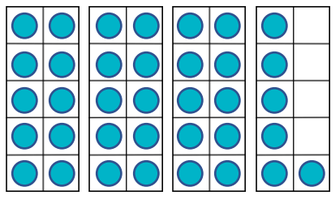
Visual representations

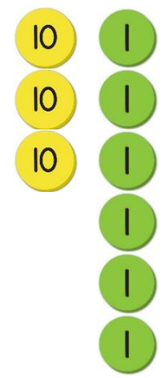
Tens (10s)	Ones (1s)
3	6











Sentence stems

One, two, three, _____, _____.

Twenty, twenty one, _____, twenty three.

There are _____ tens and _____ ones.

The digit _____ is in the tens/one column.

This number can be partitioned into _____ tens and _____ ones.

There are _____ more than _____.

_____ is greater than _____ because _____.

One more than _____ is _____.

_____ has the most _____.

There are _____ less than _____.

There are _____ fewer _____.

One less than _____ is _____.

_____ has the least/fewest _____.

_____ is equal to _____.

I estimate there are _____ because _____.

Learning sequence

- numbers to 100
  - use place value and number facts to solve problems
  - recognise the place value of each digit in a two-digit number (tens, ones)
  - identify, represent and estimate numbers to 100 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
  - count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
- numbers to 1,000
  - use place value and number facts to solve problems
  - identify, represent and estimate numbers to 1000 using different representations
  - recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
  - compare and order numbers up to 1000
  - read and write numbers up to 1000 in numerals and in words
  - count from 0 in multiples of 100; find 10 or 100 more or less than a given number

Unit overview: Place value – Year 3

National Curriculum requirements

By the end of the year, the children will be able to:

- count from 0 in multiples of 4, 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 (100s, 10s, 1s)
- 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

Vocabulary

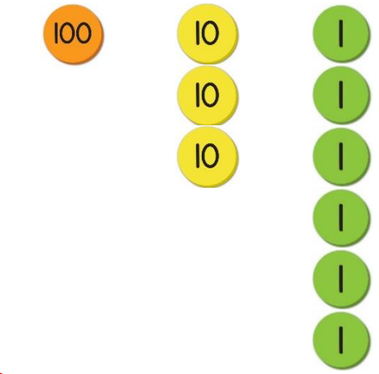
- number names (0 – 1,000)
- digit
- partition / hundreds / tens / ones
- more than / greater / most
- less than / fewer / least
- equal to
- estimate

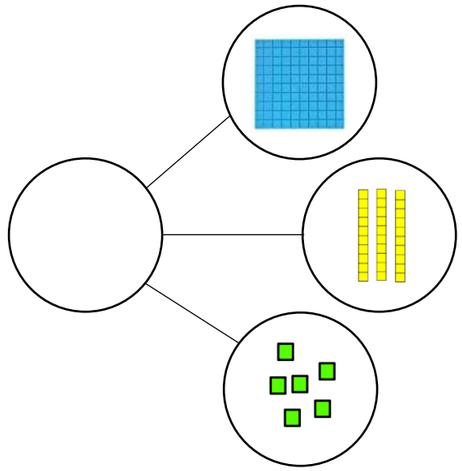
Manipulatives

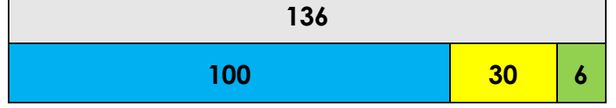
- counters
- dienes
- place value counters
- interlocking cubes
- hundred squares
- number lines
- bead strings

Visual representations

Hundreds (100s)	Tens (10s)	Ones (1s)
1	3	6







Sentence stems

There are _____ hundreds, _____ tens and _____ ones in the number _____.

The digit _____ is in the hundreds/tens/one column. It's value is _____.

This number can be partitioned into _____ hundreds, _____ tens and _____ ones.

There are _____ more than _____.

_____ is greater than _____ because _____.

One more than _____ is _____.

_____ has the most _____.

There are _____ less than _____.

There are _____ fewer _____.

One less than _____ is _____.

_____ has the least/fewest _____.

_____ is equal to _____.

I estimate there are _____ because _____.

Learning sequence

- identify, represent and estimate numbers using different representations, including the number line
- find 1, 10 or 100 more or less than a given number
- recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
- compare and order numbers up to 1,000
- read and write numbers up to 1,000 in numerals and in words
- solve number problems and practical problems involving these ideas
- count from 0 in multiples of 50 and 100
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

Unit overview: Place value – Year 4

National Curriculum requirements

By the end of the year, the children will be able to:

- 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 (1,000s, 100s, 10s, and 1s)
- order and compare numbers beyond 1,000
- identify, represent and estimate numbers using different representations
- 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
- 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

Vocabulary

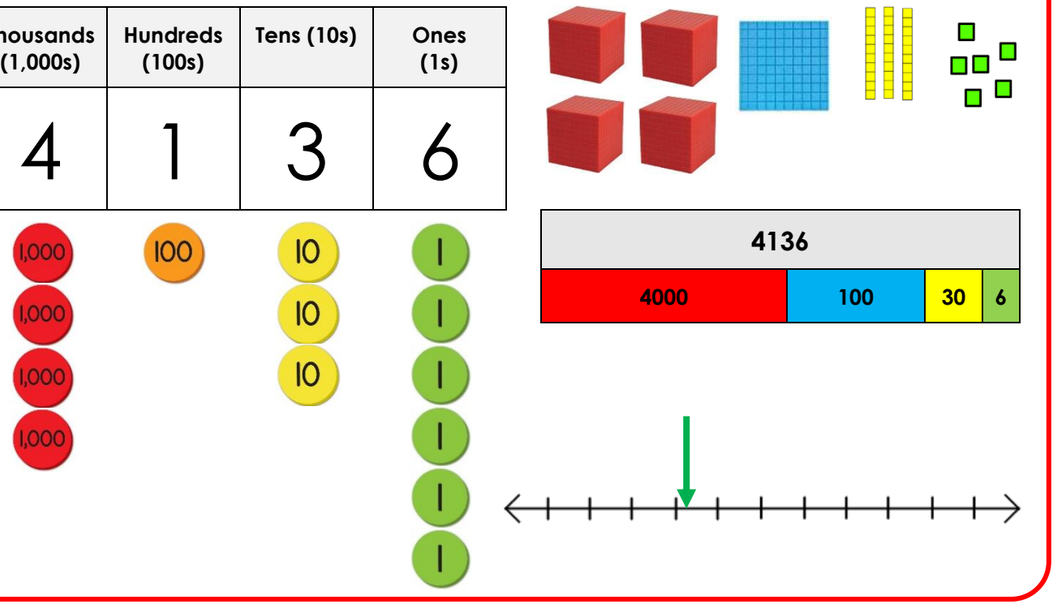
- number names (0 – 10,000)
- digit
- partition / thousands / hundreds / tens / ones
- more than / greater / most
- less than / fewer / least
- equal to
- estimate

Manipulatives

- counters
- dienes
- place value counters
- interlocking cubes
- hundred squares
- number lines
- bead strings
- place value white boards

Visual representations

Thousands (1,000s)	Hundreds (100s)	Tens (10s)	Ones (1s)
4	1	3	6



Sentence stems

There are _____ thousands, _____ hundreds, _____ tens and _____ ones in the number _____.

The digit _____ is in the thousands/hundreds/tens/one column. It's value is _____.

This number can be partitioned into ___ thousands, ___ hundreds, ___ tens and ___ ones.

There are _____ more than _____.

_____ is greater than _____ because _____.

_____ more than _____ is _____.

_____ has the most _____.

There are _____ less than _____.

There are _____ fewer _____.

One less than _____ is _____.

_____ has the least/fewest _____.

_____ is equal to _____.

I estimate there are _____ because _____.

Learning sequence

- recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)
- identify, represent and estimate numbers using different representations
- find 1, 10, 100 or 1,000 more or less than a given number
- order and compare numbers beyond 1,000
- round any number to the nearest 10, 100 or 1000
- count in multiples of 6, 7, 9, 25 and 1000
- count backwards through zero to include negative numbers
- identify, represent and estimate numbers using different representations
- solve number and practical problems that involve using the four operations and place value, rounding, ordering, comparing and estimating with increasingly large positive numbers

Unit overview: Place value – Year 5

National Curriculum requirements

By the end of the year, the children will be able to:

- read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit
- 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
- solve number problems and practical problems that involve all of the above
- read Roman numerals to 1,000 (M) and recognise years written in Roman numerals

Vocabulary

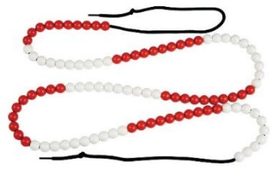
- number names (0 – 1,000,000)
- digit
- place value labels
- decimal
- negative
- more than / greater / most
- less than / fewer / least
- equal to

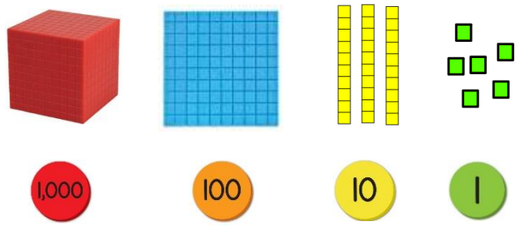
Manipulatives

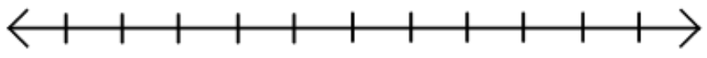
- counters
- dienes
- place value counters
- interlocking cubes
- hundred squares
- number lines
- bead strings
- place value white boards

Visual representations

M	HTh	TTh	Th	H	T	O	.	t	h	th
2	0	9	4	1	3	6	.	7	5	8







Sentence stems

There are _____ millions, _____ hundred thousands, _____ ten thousands, _____ thousands, _____ hundreds, _____ tens and _____ ones.

The digit _____ is in the millions/hundred thousands/ten thousands/thousands/hundreds/tens/ones/tenths column.

The digit _____ has a place value of _____. This number can be partitioned into ___ thousands, ___ hundreds, ___ tens and ___ ones.

There are _____ more than _____.

_____ is greater than _____ because _____.

_____ more than _____ is _____.

_____ has the most _____.

There are _____ less than _____.

There are _____ fewer _____.

One less than _____ is _____.

_____ has the least/fewest _____.

_____ is equal to _____.

I estimate there are _____ because _____.

Learning sequence

- read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit
- identify the value of each digit in numbers given to one decimal place and multiply and divide numbers by 10, up to one decimal place
- count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000
- round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000
- interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
- solve number problems and practical problems that involve numbers up to 1,000,000, powers of ten, decimal numbers, and negative numbers

Unit overview: Place value – Year 6

National Curriculum requirements

By the end of the year, the children will be able to:

- read, write, order and compare numbers up to 10,000,000 and determine the value of each digit
- 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

Vocabulary

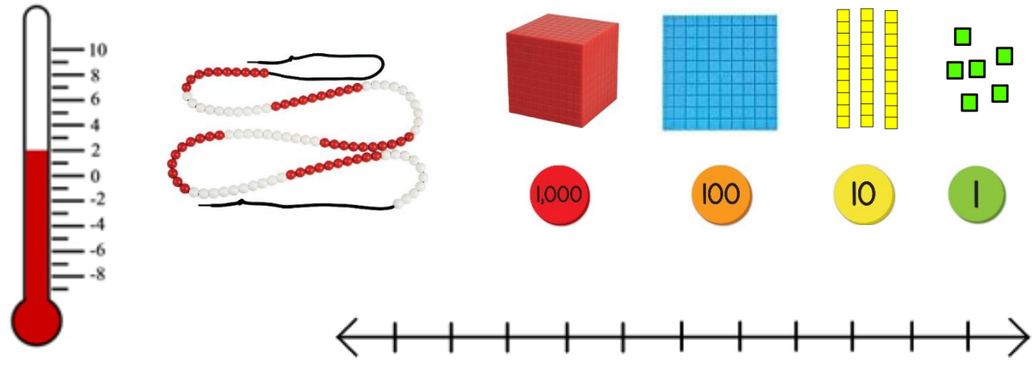
- number names (0 – 1,000,000)
- digit
- place value labels
- decimal
- negative
- more than / greater / most
- less than / fewer / least
- equal to

Manipulatives

- counters
- dienes
- place value counters
- interlocking cubes
- hundred squares
- number lines
- bead strings
- place value white boards

Visual representations

M	HTh	TTh	Th	H	T	O	.	t	h	th
2	0	9	4	1	3	6	.	7	5	8



Sentence stems

There are _____ millions, _____ hundred thousands, _____ ten thousands, _____ thousands, _____ hundreds, _____ tens, _____ ones, _____ tenths, _____ hundredths, and _____ thousandths.

The digit _____ is in the millions/hundred thousands/ten thousands/thousands/hundreds/tens/ones/tenths/hundredths/thousandths column.

The digit _____ has a place value of _____.

This number can be partitioned into ___ thousands, ___ hundreds, ___ tens and ___ ones.

There are _____ more than _____.

_____ is greater than _____ because _____.

_____ more than _____ is _____.

_____ has the most _____.

There are _____ less than _____.

There are _____ fewer _____.

One less than _____ is _____.

_____ has the least/fewest _____.

_____ is equal to _____.

I estimate there are _____ because _____.

Learning sequence

- read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
- identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places
- round any whole number to a required degree of accuracy
- use negative numbers in context, and calculate intervals across zero