Unit overview: Addition – Year 1

National Curriculum requirements

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

- read, write and interpret mathematical statements involving addition (+) and equals (=) signs

- represent and use number bonds and within 20

- add one-digit and two-digit numbers to 20, including zero

- solve one-step problems that involve addition, using concrete objects and pictorial representations, and missing number problems such as □ = 8 + 9.
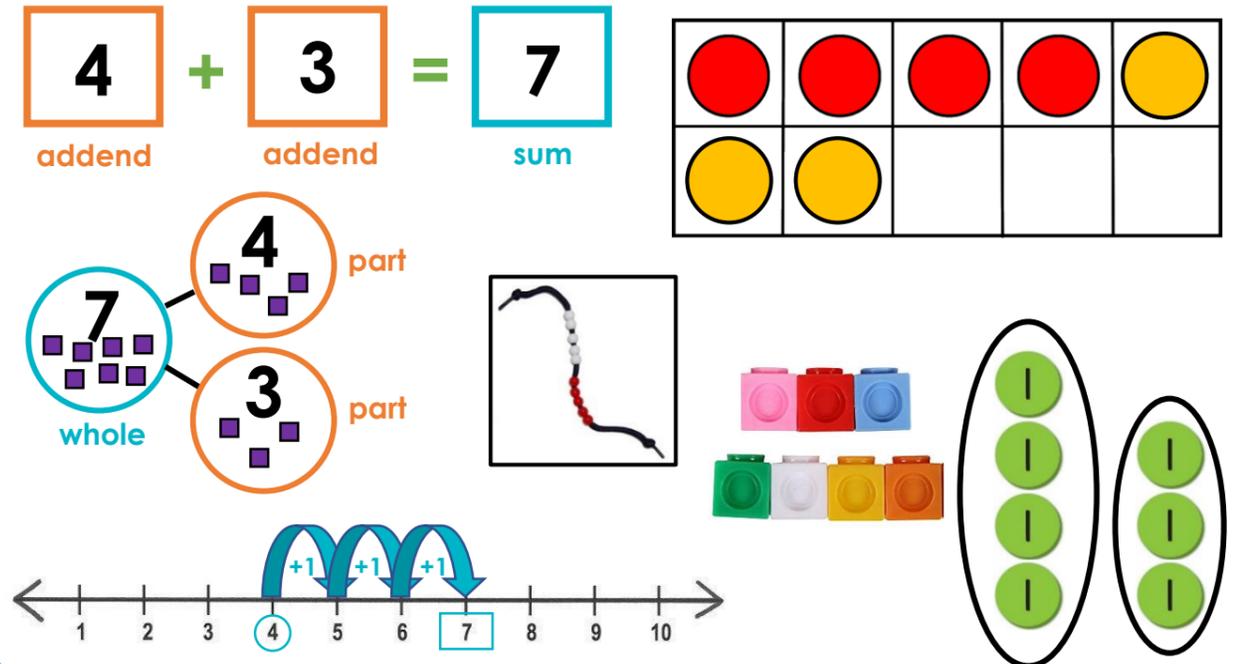
Vocabulary

- number names (0 – 100)
- digit
- number bonds
- add / addition / plus
- part / addend
- whole / sum
- equal to

Manipulatives

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

Visual representations

$4 + 3 = 7$

addend   addend   sum

whole 7 — part 4, part 3

Sentence stems

_____ add _____ is equal to _____.

_____ plus _____ is equal to _____.

_____ is a part. _____ is a part. The whole is _____.

_____ is an addend. _____ is an addend. The sum is _____.

The whole is _____; the parts are _____ and _____.

The sum is _____; the addends are _____ and _____.

To find the _____ you add the _____ to the other _____.

Learning sequence

- read, write and interpret mathematical statements involving addition (+) and equal to (=) signs
- represent and use number bonds and related facts within 10, e.g. 6 + 2 = 8
- add one-digit numbers within 10, including zero
- represent and use number bonds and related facts within 20
- add one-digit and two-digit numbers to 20, including zero using concrete objects, pictorial representations, and mentally, including:
  - adding a two-digit number to a one
  - adding three one-digit numbers
- solve one-step problems that involve addition using concrete objects and pictorial representations, and missing number problems
- estimate to check answers

Unit overview: Addition – Year 2

Gonville ACADEMY

National Curriculum requirements

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

- solve problems with addition:
  - using concrete objects and pictorial representations, including those involving numbers, quantities and measures
  - applying their increasing knowledge of mental and written methods
- recall and use addition facts to 20 fluently, and derive and use related facts up to 100
- add numbers using concrete objects, pictorial representations, and mentally, including:
  - a two-digit number and ones
  - a two-digit number and tens
  - two two-digit numbers
  - adding three one-digit numbers
- show that addition of two numbers can be done in any order (commutative)
- recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
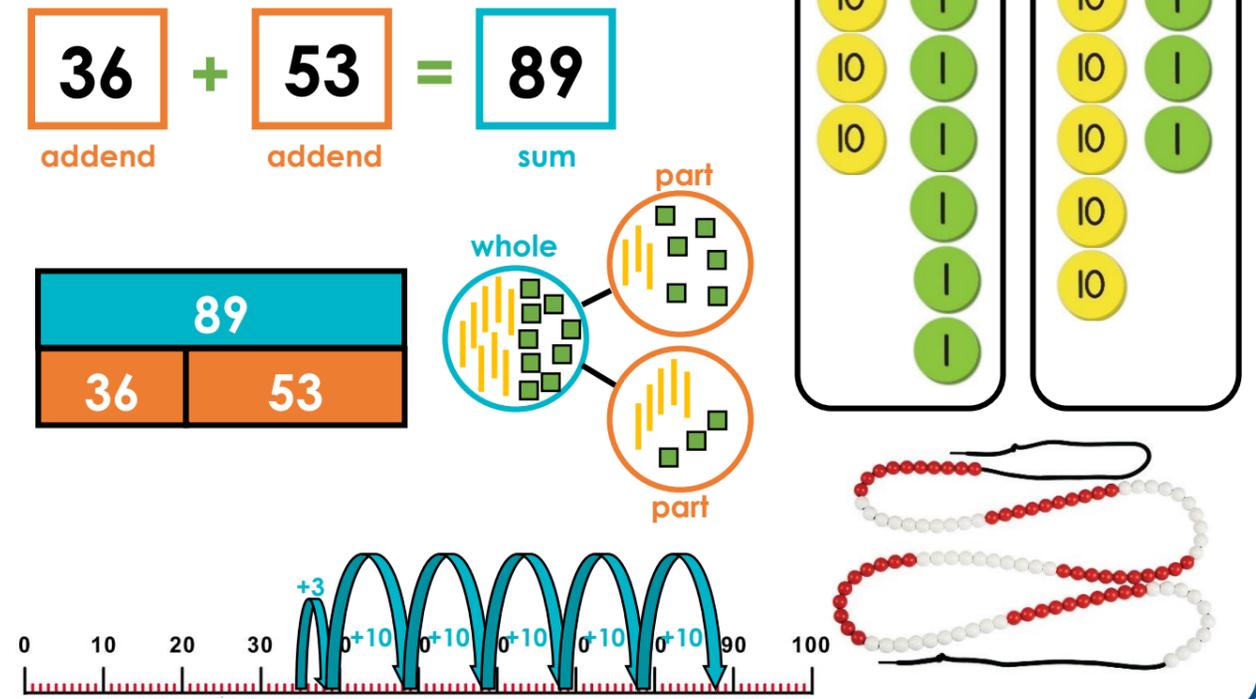
Vocabulary

- digit
- number bonds
- add / addition / plus
- part / addend
- whole / sum
- equal to
- partition
- commutative

Manipulatives

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

Visual representations

$$36 + 53 = 89$$

addend   addend   sum

89	
36	53

whole

part

part

+3   +10 +10 +10 +10 +10

0 10 20 30 40 50 60 70 80 90 100

Sentence stems

_____ add _____ is equal to _____.

_____ plus _____ is equal to _____.

_____ is a part. _____ is a part. The whole is _____.

_____ is an addend. _____ is an addend. The sum is _____.

The whole is _____; the parts are _____ and _____.

The sum is _____; the addends are _____ and _____.

To find the _____ you add the _____ to the other _____.

Learning sequence

- recall and use addition facts to 20 fluently, and derive and use related facts up to 100
- show that addition of two numbers can be done in any order (commutative)
- using number bond facts, add numbers using concrete objects, pictorial representations, and mentally, including:
  - a two-digit number and ones
  - a two-digit number and tens
  - two two-digit numbers
  - adding three one-digit numbers
- using a 'make the next 10' strategy, add numbers using concrete objects, pictorial representations, and mentally, including:
  - two one digit numbers
  - a two-digit number and ones
  - two two-digit numbers
- solve problems with addition: using concrete objects and pictorial representations, including those involving numbers, quantities and measures
- recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems
- apply their increasing knowledge of mental and written methods in a range of scenarios.

Unit overview: Addition – Year 3

Gonville ACADEMY

National Curriculum requirements

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

- add numbers mentally, including:
  - a three-digit number and ones
  - a three-digit number and tens
  - a three-digit number and hundreds
- add numbers with up to three digits, using formal written methods of columnar addition
- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition.

Vocabulary

- digit
- number bonds
- add / addition / plus
- part / addend
- whole / sum
- equal to
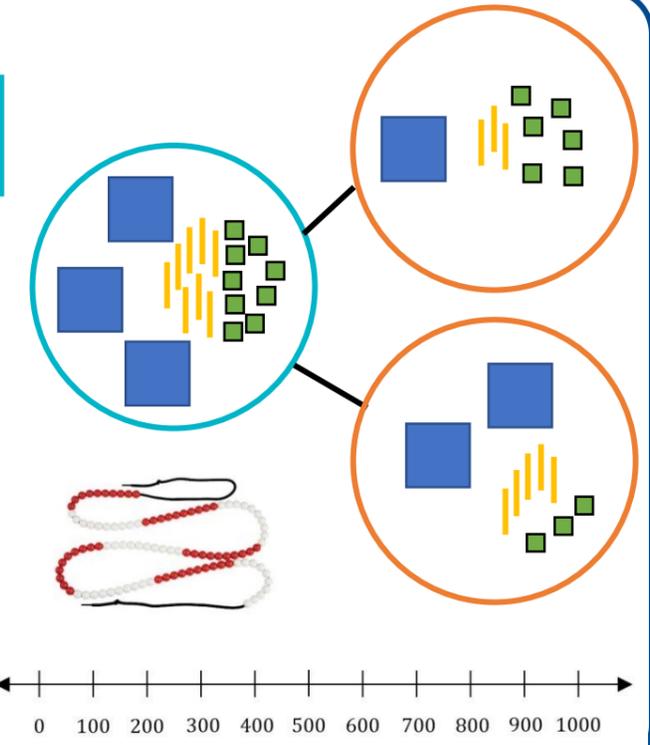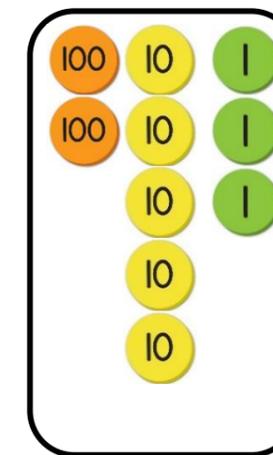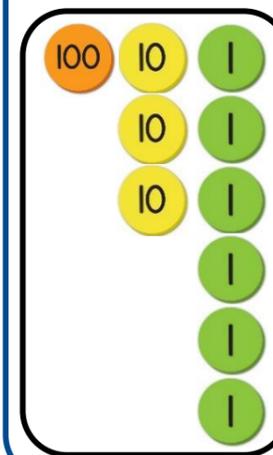- partition
- commutative
- estimate

Manipulatives

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

Visual representations

$$136 + 253 = 389$$

addend   addend   sum

Sentence stems

_____ add _____ is equal to _____.

_____ plus _____ is equal to _____.

_____ is a part. _____ is a part. The whole is _____.

_____ is an addend. _____ is an addend. The sum is _____.

The whole is _____; the parts are _____ and _____.

The sum is _____; the addends are _____ and _____.

To find the _____ you add the _____ to the other _____.

Learning sequence

- using number bond facts, add numbers using concrete objects, pictorial representations, and mentally, including:
  - a two-digit number and ones
  - a two-digit number and tens
  - two two-digit numbers
  - adding three one-digit numbers
- using a 'make the next 10/100' strategy, add numbers using concrete objects, pictorial representations, and mentally, including:
  - two one digit numbers
  - a two-digit number and ones
  - two two-digit numbers
- add numbers with up to three digits, using formal written methods of columnar addition
- solve problems, including missing number problems, using number facts, place value, and more complex addition
- estimate the answer to a calculation and use inverse operations to check answers

Unit overview: Addition – Year 4

Gonville ACADEMY

National Curriculum requirements

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

- add numbers with up to 4 digits using the formal written methods of columnar addition where appropriate

- estimate and use inverse operations to check answers to a calculation

- solve addition two-step problems in contexts, deciding which operations and methods to use and why.
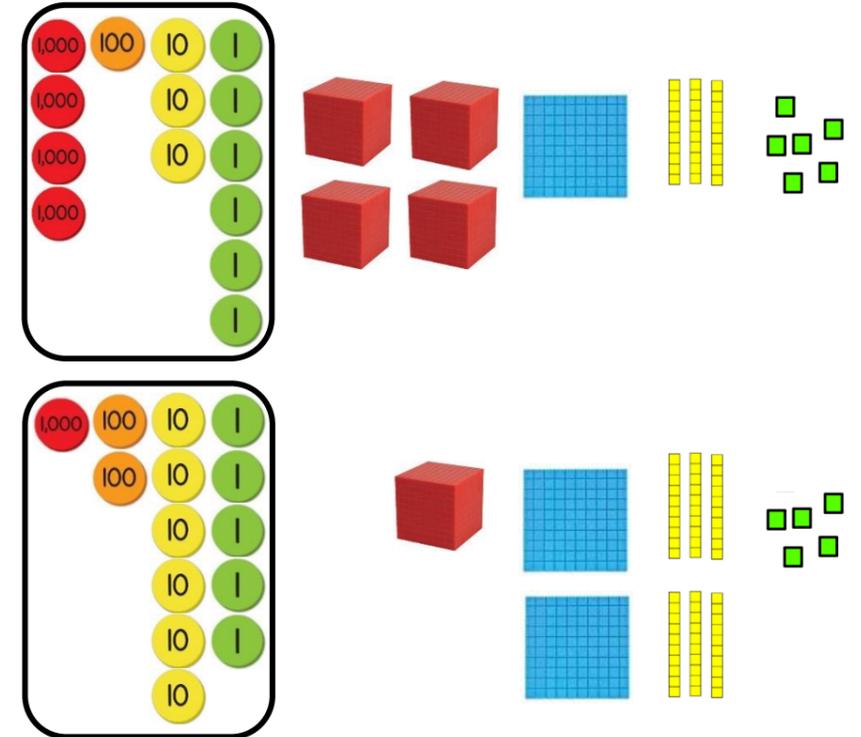
Vocabulary

- digit
- number bonds
- add / addition / plus
- part / addend
- whole / sum
- equal to
- partition
- commutative
- estimate

Manipulatives

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

Visual representations

$$4136$$
$$+1265$$
$$\overline{5401}$$
$$11$$

Sentence stems

_____ add _____ is equal to _____.

_____ plus _____ is equal to _____.

_____ is a part. _____ is a part. The whole is _____.

_____ is an addend. _____ is an addend. The sum is _____.

The whole is _____; the parts are _____ and _____.

The sum is _____; the addends are _____ and _____.

To find the _____ you add the _____ to the other _____.

Learning sequence

- using number bond facts, add numbers using concrete objects, pictorial representations, and mentally, including:
    - a two-digit number and ones
    - a two-digit number and tens
    - two two-digit numbers
    - two three-digit numbers
    - two four-digit numbers
    - adding three one-digit numbers
- using a 'make the next 10/100/1000' strategy, add numbers using concrete objects, pictorial representations, and mentally, including:
    - two one digit numbers
    - a two-digit number and ones
    - two two-digit numbers
    - two three-digit numbers
    - two four-digit numbers
- add and subtract numbers with up to 4 digits using the formal written methods of columnar addition
- estimate and use inverse operations to check answers to a calculation
- solve addition two-step problems in contexts, deciding which methods to use and why

Unit overview: Addition – Year 5

Gonville ACADEMY

National Curriculum requirements

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

- add whole numbers with more than 4 digits, including using formal written methods (columnar addition)

- add numbers mentally with increasingly large numbers

- use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

- solve addition multi-step problems in contexts, deciding which operations and methods to use and why.
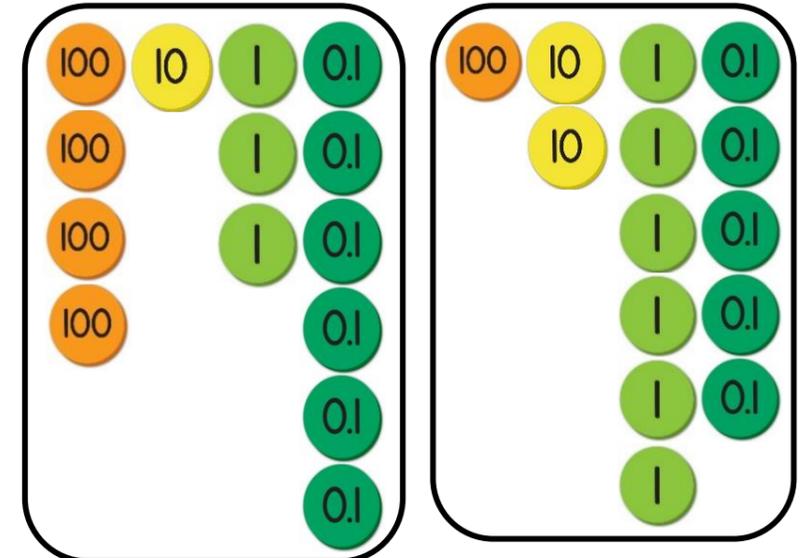
Vocabulary

- digit
- number bonds
- add / addition / plus
- part / addend
- whole / sum
- equal to
- partition
- commutative
- estimate

Manipulatives

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

Visual representations

$$413.6$$
$$+126.5$$
$$540.1$$

Sentence stems

_____ add _____ is equal to _____.

_____ plus _____ is equal to _____.

_____ is a part. _____ is a part. The whole is _____.

_____ is an addend. _____ is an addend. The sum is _____.

The whole is _____; the parts are _____ and _____.

The sum is _____; the addends are _____ and _____.

To find the _____ you add the _____ to the other _____.

If I know _____ then I can calculate _____

Learning sequence

- revise addition skills from Years 1 – 4
- add numbers mentally with increasingly large numbers
- add whole numbers with more than 4 digits, including using formal written methods (columnar addition)
- use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
- solve addition multi-step problems in contexts, deciding which methods to use and why
- solve problems involving numbers up to three decimal places

Unit overview: Addition – Year 6

National Curriculum requirements

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

- perform mental calculations, including with mixed operations and large numbers

- solve addition multi-step problems in contexts, deciding which operations and methods to use and why
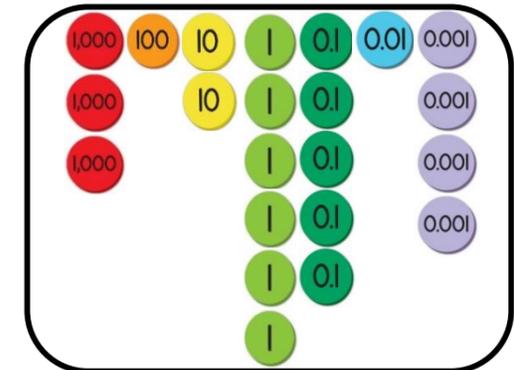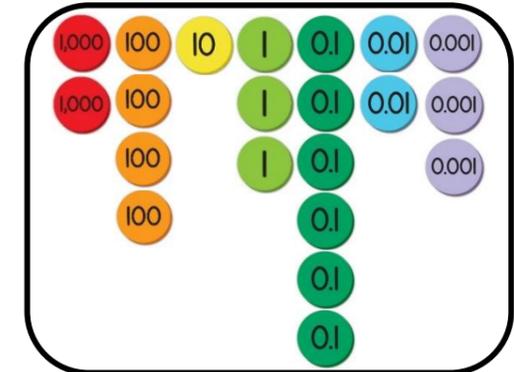
Vocabulary

- digit
- number bonds
- add / addition / plus
- part / addend
- whole / sum
- equal to
- partition
- commutative
- estimate

Manipulatives

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

Visual representations

$$2413.623$$
$$+3126.514$$
$$5540.137$$
$$11$$

Sentence stems

_____ add _____ is equal to _____.

_____ plus _____ is equal to _____.

_____ is a part. _____ is a part. The whole is _____.

_____ is an addend. _____ is an addend. The sum is _____.

The whole is _____; the parts are _____ and _____.

The sum is _____; the addends are _____ and _____.

To find the _____ you add the _____ to the other _____.

If I know _____ then I can calculate _____

Learning sequence

- revise addition skills from Years 1 – 5
- add numbers mentally with increasingly large numbers
- add whole numbers with more than 4 digits, including using formal written methods (columnar addition)
- use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
- solve addition multi-step problems in contexts, deciding which methods to use and why
- solve problems involving numbers up to three decimal places
- use their knowledge of the order of operations to carry out calculations involving the four operations
- find pairs of numbers that satisfy an equation with two unknowns