

## Unit 7 Addition within 20



In this unit we will ...

- ↘ Add by counting on
- ↘ Practise adding ones to help with adding numbers to 20
- ↘ Use number bonds to 10 to help us with numbers bonds to 20
- ↘ Solve word problems

We will need a ten frame again. How would you use a ten frame to add 8 red counters and 5 yellow counters?



### KEY LANGUAGE

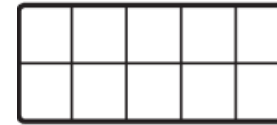
There is some key language that children will need to know as part of the learning in this unit:

- count, count on
- add, addition, additions, plus or +
- altogether, in total
- number bond
- tens, ones
- number stories, represent
- part, whole, part-whole
- greater, less, how many more?
- predict

### STRUCTURES AND REPRESENTATIONS

**Ten frame:** The ten frame helps give children a sense of ten and of number bonds to 10.

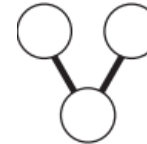
It is especially powerful when two ten frames are placed side by side, to be used when adding numbers to 20.



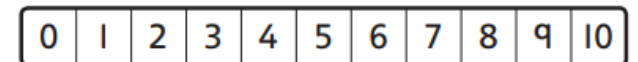
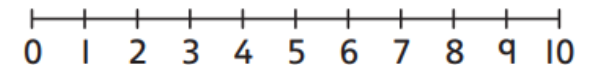
**Bead string:** The bead string helps children represent numbers and split numbers into parts. It can also be used to show the effect of adding two numbers together.



**Part-whole model:** This model helps children understand that two or more parts combine to make a whole. It also helps strengthen children's understanding of number bonds within 10.



**Number line and number track:** These help children identify whether an addition will require 'crossing the 10' and can also be a useful support when children use 'count on' to check an addition.



# Unit 8

## Subtraction within 20



- In this unit we will ...
- ⚡ Subtract tens and ones
  - ⚡ Learn how to cross a 10 when subtracting
  - ⚡ Compare additions and subtractions
  - ⚡ Solve word and picture problems

We will need a ten frame again. Can you remember how to use it to help you find the answer to  $15 - 3$ ?



$15 - 3 = \square$



### KEY LANGUAGE

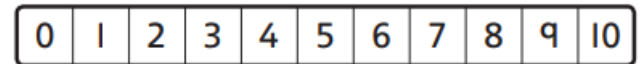
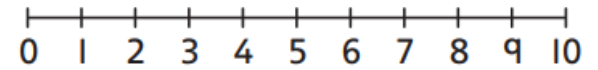
There is some key language that children will need to know as part of the learning in this unit:

- subtract (-)
- find the difference
- how many are left?
- take away
- tens, ones
- number bonds
- part-whole
- addition (+)
- count back
- fact family

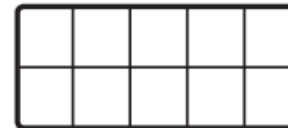
### STRUCTURES AND REPRESENTATIONS

In this unit, the following structures and representations are key to learning:

**Number line and number track:** These help children identify whether a subtraction will require 'crossing the 10' and can also be a useful support when children use 'count back' to check a subtraction.



**Ten frame:** The ten frame helps give children a sense of ten and of number bonds to 10. It is especially powerful when two ten frames are placed side by side, to be used when subtracting numbers within 20.



**Part-whole model:** This model helps children to partition numbers and visualise that addition and subtraction are inverse operations.



**Bead strings:** The bead string helps children represent numbers and split numbers into parts.

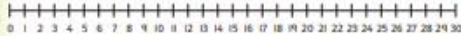


# Unit 9 Numbers to 50



- In this unit we will ...
- ↘ Count up to 50
  - ↘ Compare numbers to 50
  - ↘ Order numbers
  - ↘ Count in 2s and 5s
  - ↘ Solve word and picture problems

We can use a number line to help us order and compare numbers. Which number is larger, 12 or 21?



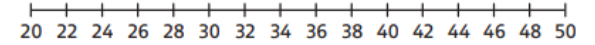
## KEY LANGUAGE

There is some key language that children will need to know as part of the learning in this unit:

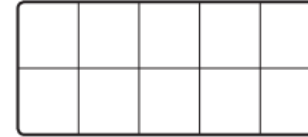
- tens, ones
- compare, order
- less than (<), greater than (>)
- number names and numerals to 50

## STRUCTURES AND REPRESENTATIONS

**Number line:** A number line is useful for helping children to order and compare numbers.



**Ten frame:** This model helps children to develop a sense of ten. It is particularly useful for exploring the concept of exchange when counting across tens boundaries and for spotting patterns when counting in multiples of 2 and 5.



**Number track:** Like a number line, a number track helps children represent the order of numbers. A number track can support children in counting and in comparing and ordering numbers.



**Bead string:** The bead string offers children the opportunity to manipulate different numbers.



**Part-whole model:** This model helps children understand that two or more things combine to make a whole. In this unit, it is especially useful for showing how a number is made up of tens and ones.



**Base 10 equipment:** Base 10 equipment allows children to see the structure of a number, and how it is made up of tens and ones.



## Unit 10

### Introducing length and height



In this unit we will ...

- ↘ Compare lengths and heights of objects
- ↘ Use non-standard units to measure objects
- ↘ Measure with a ruler
- ↘ Solve word problems about length

We can use cubes to help us compare the length of objects. Which is longer, the pen or the pencil?



#### KEY LANGUAGE

There is some key language that children will need to know as part of the learning in this unit:

- long, longer, longest
- short, shorter, shortest
- tall, taller, tallest
- length, height
- compare, comparison
- measure
- distance
- unit, non-standard units
- ruler
- centimetre (cm)
- total
- difference

#### STRUCTURES AND REPRESENTATIONS

##### Ruler



## Unit II

### Introducing weight and volume



In this unit we will ...

- ✦ Compare the weight of objects
- ✦ Weigh objects
- ✦ Compare the capacity of objects
- ✦ Measure capacity
- ✦ Solve word problems about weight and capacity

Have you seen one of these before? It is a balance scale. We can use it to compare the weight of objects. Which item do you think is heavier?



### KEY LANGUAGE

There is some key language that children will need to know as part of the learning in this unit:

- weight, weigh
- capacity, volume, contains, container
- heavier, heaviest, lighter, lightest
- more, most, fewer, less, least
- $>$ ,  $<$ ,  $=$
- addition, subtraction
- balance scales, balanced
- compare, measure, estimate
- empty, full, amount, half

### STRUCTURES AND REPRESENTATIONS

Although there are no set mathematical structures and representations for this unit, the following concrete resources will be helpful:

- balance scales
- jugs and cups
- cubes