Methods Guidance - Addition

Aims:

To be used alongside the calculation policy and support the progression you are working on.

We teach the additive skill using the manipulatives indicated here to develop conceptual and procedural understanding.

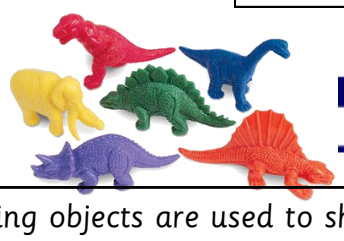
Talk is embedded at every stage.

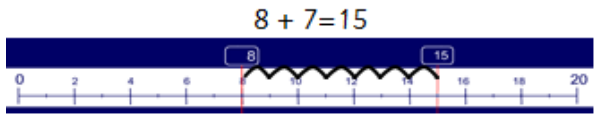
Concrete

Numicon

Create 2 quantities using the Numicon pieces. Join the 2 quantities together starting with the 1s. It may be valuable to regroup the quantity into Numicon 1 pieces to support bridging through 10.

Count altogether to make the total.





H	T	1s

Counting objects are used to show quantities (counting in 1s).

Combine to total: Join both groups together and recount to find the total.

Total by counting from: Counting in 1s, join the second group to the first by moving across one object at a time and counting on from the first group total.

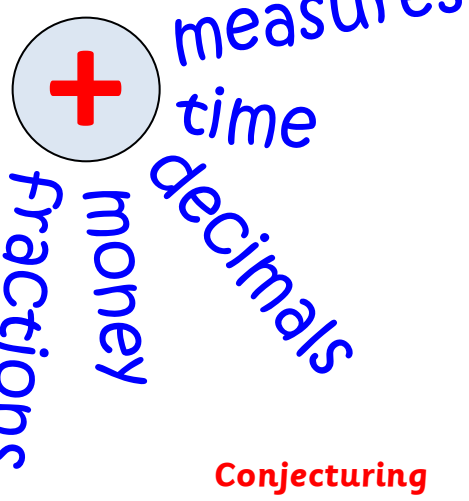
This can be transferred to a number line/100square.

The numbers to be added are created on the place value mat. Quantities are then joined, starting with the 1s (to mirror columnar addition) and moving through, as appropriate.

At each stage we check to make sure that the place value makes sense. Do we need to exchange as we bridge through a boundary?

Contextual application

We continue to use the manipulatives in context or move onto making sense of the problem by drawing a mathematical story.

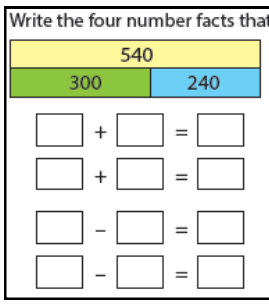


Looking for patterns

What do you notice?
Is there a relationship between the calculations?

500 + 400 =	523 + 400 =	523 + 28 =
400 + 500 =	423 + 500 =	423 + 28 =
300 + 600 =	323 + 600 =	323 + 28 =
200 + 700 =	223 + 700 =	223 + 28 =
100 + 800 =	123 + 800 =	123 + 48 =

Write the four number facts that this bar model shows.



Exploring relationships

Sophie has five coins in her pocket. How much money might she have?
What is the greatest amount she can have?
What is the least amount she can have?

If all the coins are different:
What is the greatest amount she can have?
What is the least amount she can have?

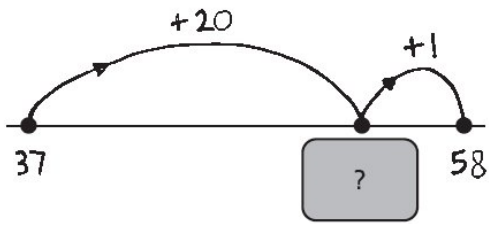
Make connections within Additive reasoning by linking additive and other objectives together. Adding money, time, measures are all good examples. Here we give the maths meaning in everyday life.

Conjecturing

Captain Conjecture says, 'When working with whole numbers, if you add two 2-digit numbers together the answer cannot be a 4-digit number.'

Captain Conjecture says, 'If you add 6 to a number ending in 7 you will always get a number ending in 3.' Is he correct?

Katie drew a number line to help her find the answer to 37 + 21

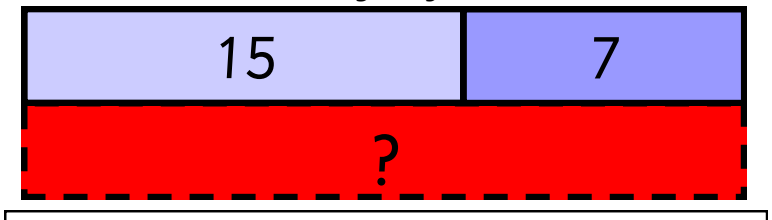


What number is hidden under the card?

Abstract

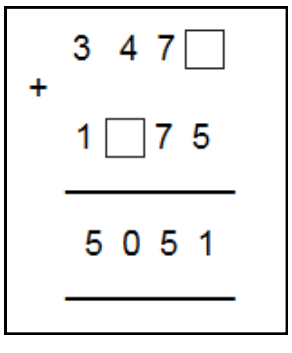
Children have a good conceptual and procedural understanding of addition. They can now apply this understanding in an abstract form.

A pencil is 15cm long and a rubber is 7cm. What is the total length of these items?



The 'Bar Model' is a great way for children to organise their thinking and is a way of recording the problem but is not a method to solve a problem. Mental skills or the current progression need to be used alongside.

Abstract application may also be simply using the correct formal written method and/or progression from the calculation policy.



Calculate **1202 + 45 + 367**

Megan has 7 coins that make one pound.

The coins are of **only two** different kinds.

What are the 7 coins?