

Stages in Addition

Addition - Early Stages

Children will engage in a wide variety of songs and rhymes, games and activities.

- They will begin to relate addition to **combining two groups of objects**, first by **counting all** and then by **counting on** from the largest number.
- They will find **one more** than a given number.

In practical activities and through discussion they will begin to use the vocabulary involved in addition.



'You have five apples and I have three apples. How many apples altogether?'



A number line is to be introduced, as appropriate, to support children when counting on.

Addition – Stage One

- Given a number, identify **one more**
- Read, write and **interpret mathematical statements** involving addition (+) and the equals (=) sign
- **Add** one- digit and two-digit numbers within 20, including zero
- Solve **missing number problems** e.g. $10 + ? = 16$

Ensure that children are confident with the methods outlined in the previous year's guidance **before moving on**.

Children will continue to practise counting on from any number e.g.

'Put five in your head and count on four.'

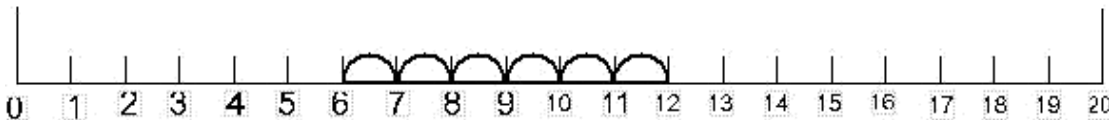
Initially use a number line to count on for addition, counting on from the largest number:



$$5 + 4 = 9$$

'Put your finger on number five. Count on (count forwards) four.'

$$6 + 6 = 12$$

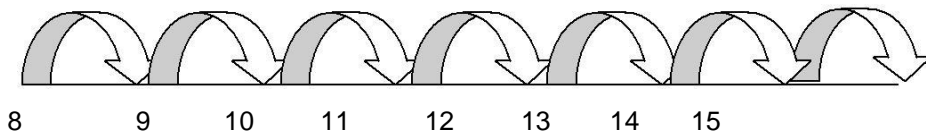


'Put your finger on number six and count on six.'

$$8 + 7 = 15$$

'Put your finger on number eight and count on seven.'

+1 +1 +1 +1 +1 +1 +1



Ensure children are confident with using a marked number line before moving on to an empty number line (see stage two guidance).

Continue to practise counting on from the largest number for addition with totals within 20.

Be sure to use language to support children's understanding and use lots of practical examples in these early stages (such as making "jumps" along or up a number line)

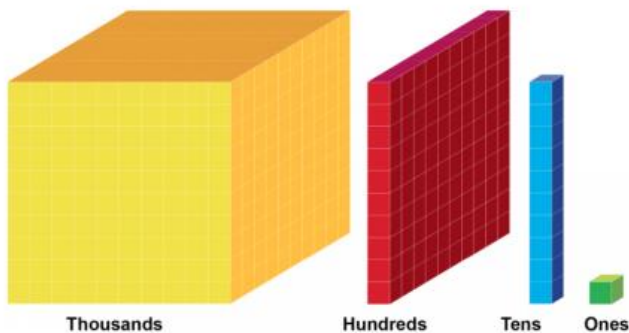
Addition – Stage Two

- 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
 - Three one-digit numbers

Ensure that children are confident with the methods outlined in the previous stage's guidance before moving on.

To support children with the use of an empty number line, use the following resources:

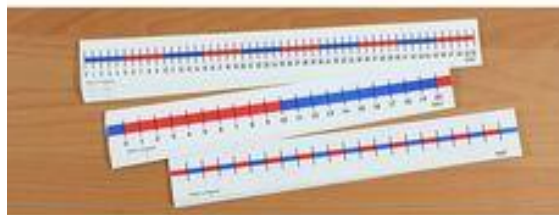
dienes



100 square

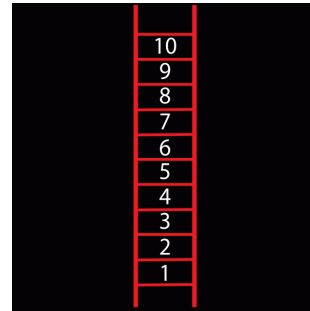
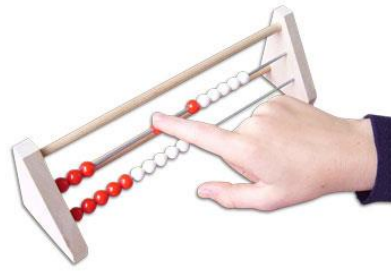
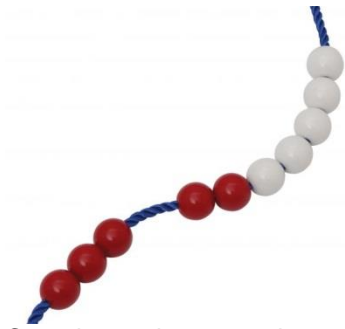
1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

Number lines



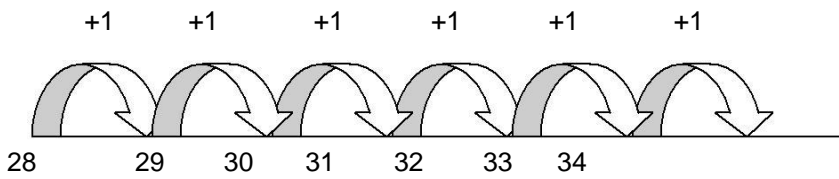
Number beads

Number ladder



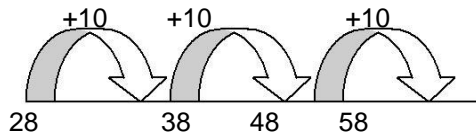
Counting on in ones using an **empty number line**, within 100...

$28 + 6 = 34$



...and in tens

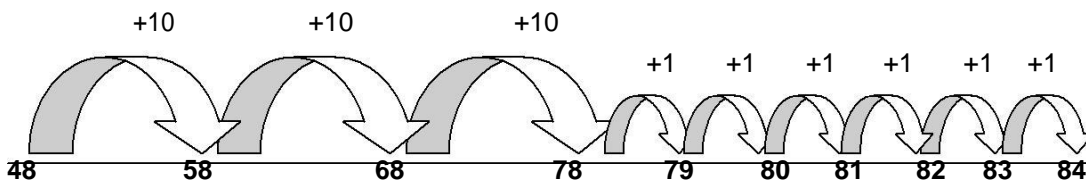
$28 + 30 = 58$



Use in conjunction with a 100 square to show jumps of tens.

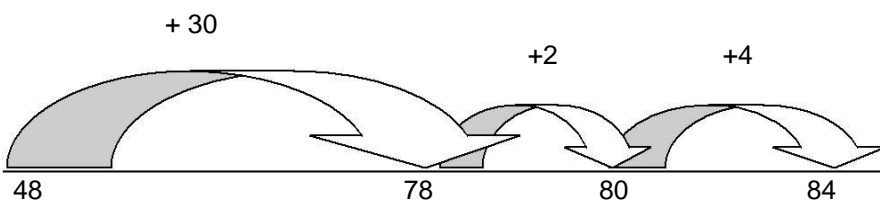
$48 + 36 = 84$

'Put the biggest number first (48), and then partition the smaller number ($36 = 30 + 6$) and count on: $48 + 30 + 6$.'



Use in conjunction with a 100 square to show jumps of tens and ones.

If children are confident, use more efficient jumps...



Use in conjunction with a 100 square to show jumps of tens and ones/units.

Also use **the partitioning method** to add two two-digit numbers:

$$\begin{array}{r} 43 + 25 = 68 \\ \diagdown \quad \diagup \quad \diagdown \quad \diagup \\ 40 \quad 3 \quad 20 \quad 5 \end{array}$$

$$40 + 20 = 60$$

$$3 + 5 = 8$$

$$60 + 8 = 68$$

'Partition the numbers into tens and ones/units.

Add the tens together and then add the ones/units Together. Recombine to give the answer'.

Then move on to calculations that bridge the tens:

$$48 + 36 = 40 + 8 + 30 + 6$$

$$40 + 30 = 70$$

$$8 + 6 = 14$$

$$70 + 14 = 84$$

$$48 + 36 = 84$$

This is an alternative way of recording the partitioning method.

Further develop addition with numbers that bridge 100, using a 200 grid to support.

If, at any time, children are making significant errors, return to the previous stage in calculation.