

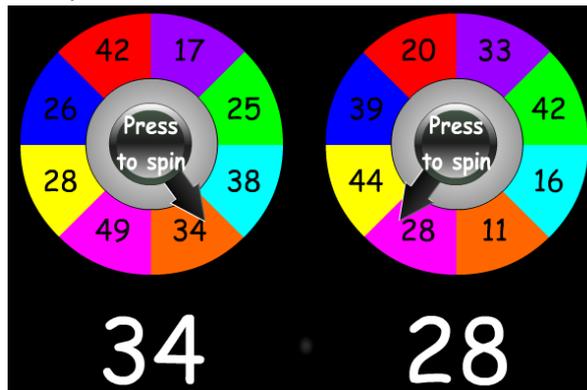
Totally investigative

Activity 1

Focus of activity: Adding any pairs of 2-digit numbers using partitioning (including 1s > 10 AND 10s > 100).

Working together: conceptual understanding

- Give each child a set of 10s and 1s cards, and each pair a whiteboard and pen.
- Choose 2 spinners at <https://www.topmarks.co.uk/Flash.aspx?f=Spinners>. Click on 'set values for Spinner 1' and set to <50. Do the same for Spinner 2.
- Click the centres to spin both spinners.



- One child in each pair uses place value cards to make the first number, the other child makes the second number. The first child collects the 10s and the other collects the 1s. They each add their cards, and then combine their answers, writing their total on the whiteboard. Have each pair written the same total? Model a jotting, e.g.

$$\begin{array}{r} 34 + 28 \\ \begin{array}{l} \swarrow \quad \searrow \\ \downarrow \quad \downarrow \end{array} \\ 50 + 12 = 62 \end{array}$$

- Change Spinner 1 to >50 and keep Spinner 2 as <50. Click the centres to spin both spinners and repeat as above.
- Change Spinner 2 to >50. Repeat as above. Model a jotting on the flipchart, supporting children with adding the 10s if necessary by counting on in 10s through 100.
- Press both spinners and repeat.

Up for a challenge?

Challenge children to think of two pairs of numbers with a total of exactly 100.

Now it's the children's turn:

- Children work in pairs. They spread out a set of 10s cards and a set of 1s cards. They work together to investigate how many pairs of 2-digit numbers with totals less than 100 they can make. Each card can only be used once. Repeat, but this time making totals greater than 100.
- Go round the group and mark their additions as they do them, e.g. initially after three examples. Check that where the 1s come to more than 10, that they are adding the extra 10 to the 10s.

S-t-r-e-t-c-h:

If children cope well, ask them also to investigate how many pairs of numbers with a total of exactly 100 they can make.

Things to remember

Remember that to add a pair of 2-digit numbers, we can use partitioning. We add the 10s, add the 1s, and then add our two answers together. Sometimes the 1s come to more than 10, sometimes the 10s come to more than 100 and sometimes both come to more than 10/100. Ask pairs to share how many pairs of numbers they found with totals less than 100, and greater than 100.

You may want to add something that has emerged from the activity. This may refer to misconceptions or mistakes made.

Resources	Outcomes
<ul style="list-style-type: none">Spinners at https://www.topmarks.co.uk/Flash.aspx?f=SpinnersPlace value cards (10s and 1s)Mini-whiteboards and pens	<ol style="list-style-type: none">Children can add any pair of 2-digit numbers.Children begin to use their skills in adding pairs of 2-digit numbers to find pairs of numbers with a total of 100.

Totally investigative Activity 1

Work in pairs

Things you will need:

- A set of 10s and 1s place value cards
- A pencil



What to do:

- Spread out the 10s cards and 1s cards.
- Work together to investigate how many pairs of 2-digit numbers with totals less than 100 you can make. Each card can only be used once.
- To work out the total, either:
 - collect the 10s, collect the 1s and combine your totals, or
 - draw a jotting to help.
- Repeat, but this time make totals greater than 100.

<u>Total less than 100</u>
$52 + 43 = 95$
$75 +$
<u>Total more than 100</u>
$95 + 23 = 118$
$82 +$

S-t-r-e-t-c-h:

Also investigate how many pairs of numbers with a total of exactly 100 you can make.

Learning outcomes:

- I can add any pair of 2-digit numbers.
- I am beginning to use my skills in adding pairs of 2-digit numbers to find pairs of numbers with a total of 100.