Triple totals
### Activity 1

Focus of activity: Partitioning 3-digit numbers, and combining 100s, 10s and 1s to make 3-digit numbers.

Working together: conceptual understanding

- Lay out a set of 100s, 10s and 1s place value cards, all the 100s in one column, then the 10s and then the 1s, so that children can see all the cards. Together count down each column: *100, 200, 300… 900; 10, 20, 30…90; 1, 2, 3… 9.*
- Ask a child to choose a card from each column and put them together to make a 3-digit number, helping them to align the cards if necessary, so that the three different digits in the number can be seen. Ask another child to take blocks of 100, sticks of 10 and 1s cubes to match the cards.
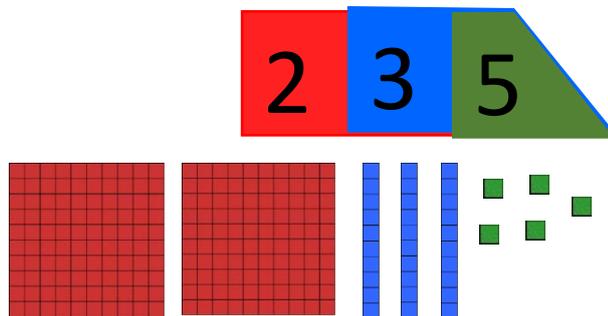
- Explain that this is a 3-digit number as it's a number with three digits in it.
  It is made from 200 and 30 and 5. We can <u>partition</u> 235 into 200 and 30 and 5. The 2 stands for two 100s, the 3 stands for three 10s and the 5 stands for five 1s. Each digit has a different <u>value</u> according to its <u>place</u> in the number. Ask the child to put the three cards back.
- Ask another child to pick three different cards, one from each column. They say the number on each card. Ask them to put the three cards together to make a 3-digit number. Match this to the appropriate squares, sticks and cubes. Read the number together as a group, e.g. *four hundred and fifty-two.*
- Repeat one more time, but if children are still struggling, repeat again.
- Next, write a 3-digit number, e.g. 634, on a piece of paper so that all children can see. Read the number together as a group. Ask for a volunteer to make that number using place value cards. Record the matching addition, e.g. 634 = 600 + 30 + 4.
- Repeat with another 3-digit number without any zeros.

Up for a challenge?

Write 204. Ask for a volunteer to make this number. Point out how this number only needed two cards! *It has 100s and 1s, but not 10s, so we write a 0 in the 10s place.* Repeat with 740.

Now it's the children's turn:

- Give each child a set of place value cards. They shuffle the 100s and place in a pile, face down, shuffle the 10s and place in a pile face down, likewise the 1s.
- They take the top card from each pile and put them together to make a 3-digit number. They write the addition.
- Repeat at least four more times.
- Go round the group and mark their additions as they do them, e.g. initially after three examples.

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

If children cope well, ask them to choose one card from the 100s pile and one card from either the 10s or the 1s pile to make a 3-digit number and write the corresponding addition.

Things to remember

Remember that in a 3-digit number, the first digit stands for the number of 100s, the second for the number of 10s and the last digit stands for the number of 1s. Ask a child to make the number 951 using place value cards, and another child to make the same number using base 10 equipment. Another pair make 159. Point out how much bigger the 951 is than 159. *Where the digit 9 is in a number makes a BIG difference to its value!*

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

Resources	Outcomes
- Place value cards: 100s, 10s and 1s - Base 10 equipment (Dienes): 100s, 10s and 1s	1. Children can make 3-digit numbers from 100s, 10s and 1s. 2. Children can partition 3-digit numbers. 3. Children begin to combine and partition 3-digit numbers with 0 in the 10s or 1s place.

Triple totals
Activity 1

Work in pairs

Things you will need:
• 100s, 10s and 1s place value cards
• A pencil

What to do:

- Shuffle the 100s. Place in a pile face down. Shuffle the 10s. Place in a pile face down. Repeat with the 1s.

- Take the top card from each pile and put them together to make a 3-digit number, e.g. 452.
  Write the addition.

400 **50** **2**

- Repeat at least four more times.

1. $400 + 50 + 2 = 452$
2. $700 + 40 + 3 =$

S-t-r-e-t-c-h:
Choose 1 card from the 100s. Choose 1 card from either 10s or 1s. Put the two cards together to make a 3-digit number. Write the addition. Repeat.

Learning outcomes:
• I can make 3-digit numbers from 100s, 10s and 1s.
• I can partition 3-digit numbers.
• I am beginning to make and partition 3-digit numbers with 0 in the 10s or 1s place.