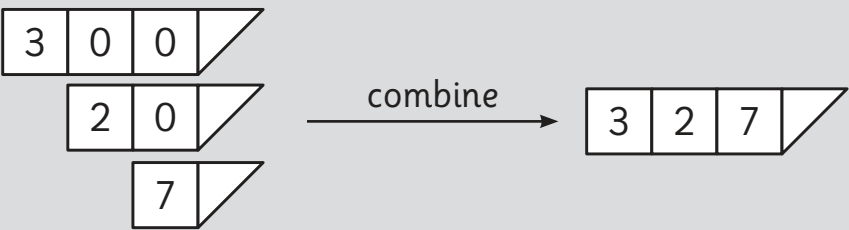# Three-digit numbers

Remember

In a three-digit number, the first digit tells you how many hundreds there are in the number, the second digit how many tens and the third digit how many ones. So, for 327, the 3 represents 300, the 2 represents 20 and the 7 represents 7 ones.

When you add or subtract 10 from a two-digit or three-digit number, the ones digit does not change, for example 134 − 10 = 124, 134 + 10 = 144.

You will need:
resource 1, pages 68–70 – two sets

Vocabulary
hundreds, tens, ones, place value, value

Two children each used a set of place-value cards to make 9 three-digit numbers for an activity.

What is the problem with the two sets of numbers?

Set 1

468	183	769
271	634	859
536	942	315

Set 2

249	765	528
421	157	973
614	382	897

Hint: Use the place-value cards to make both sets of numbers. Can you see what the problem is?

Unit 1A Number and problem solving
CPM Framework 3Nn2, 3Nn3, 3Nn5, 3Nn6, 3Nc9, 3Pt1, 3Pt3, 3Ps3, 3Ps6; CPM Teacher's Resource 1.1

Use a set of place-value cards to make 9 three-digit numbers and record them in the grid.

Write the numbers that are 10 less than each of your numbers in the second grid.

Make these numbers with place-value cards.

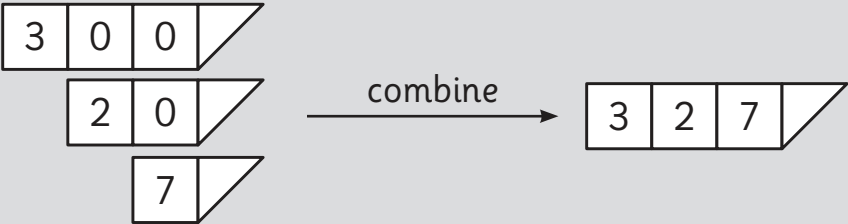Which card is left over? _____

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What happens when you write and make the numbers that are 10 more?

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Unit 1A Number and problem solving
CPM Framework 3Nn2, 3Nn3, 3Nn5, 3Nn6, 3Nc9, 3Pt1, 3Pt3, 3Ps3, 3Ps6; CPM Teacher's Resource 1.1

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Twelve abacus beads

Remember
The position of a digit in a number tells you its value.

| 3 | 0 | 0 |
| 2 | 0 |
| 7 |

combine →

| 3 | 2 | 7 |

You will need:
resource 1,
pages 68–70

Vocabulary
abacus, hundreds, tens, ones, place value, value

You have 12 beads for the abacus.

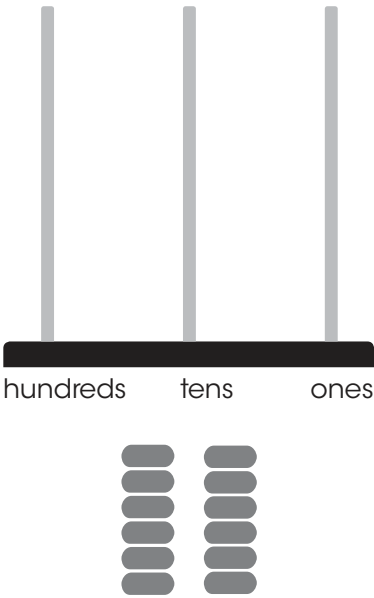Make 10 different numbers. Use all of the beads each time.

H	T	O

Then write 10 different numbers that you cannot make with 12 abacus beads.

H	T	O

Hint: Draw the abacus to check how many beads each number needs.

hundreds   tens   ones

Which numbers with 4 tens can you make when you use all 12 beads?

Unit 1A Number and problem solving
CPM Framework 3Nn2, 3Nn3, 3Nn5, 3Nn6, 3Nc10, 3Pt3, 3Ps3, 3Ps6; CPM Teacher's Resource 1.3

Palindromic numbers

Remember
When you add or subtract 10 from a two-digit or three-digit number, the ones digit does not change, for example 134 − 10 = 124, 134 + 10 = 144.

Vocabulary
hundreds, tens, ones, place value, value, less than, more than, palindrome, palindromic

A **palindromic** number is the same when it is written backwards, for example 535.

How many different palindromic numbers are there between 100 and 300? Use the grid to help you record the numbers.

For each palindromic number, write the number that is 10 less and the number that is 10 more.

Which 4 non-palindromic numbers have you made? You will need to continue your grid on another sheet of paper.

10 less	Palindromic number	10 more

Hint: Start with the lowest number you can make and use patterns to find all the possible numbers.

Unit 1A Number and problem solving
CPM Framework 3Nn2, 3Nn3, 3Nn5, 3Nn6, 3Nc9, 3Pt3, 3Ps3, 3Ps6; CPM Teacher's Resource 2.1

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