New neighbours

Summary:

Children use digit cards to make 2-digit numbers between neighbouring multiples of 10.

Skills practised:

- Using place value in 2-digit numbers
- Ordering 2-digit numbers

Conjecture:

It is possible to use the digits 1 to 9 to create 2-digit numbers so that there is one number between each pair of neighbouring multiples of 10 from 10 to 50.

Group size:

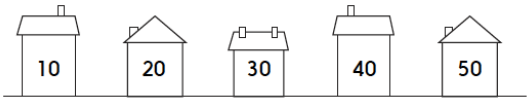
Children work individually or in pairs.

Resources needed:

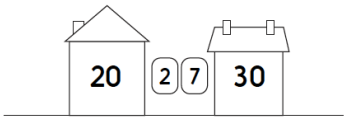
Children need a set of 1 to 9 digit cards and a large strip of paper with the numbers 10, 20, 30, 40 and 50 with spaces between for a pair of digit cards. You will need a street of numbers to show when explaining the investigation (see resource with child sheet).

What to do:

1. Show the 'street' of numbers 10, 20, 30, 40 and 50 living in houses.



2. Some new numbers are moving into the street! There is going to be a new number between every pair of numbers already living on the street, e.g. a number between 10 and 20, a number between 20 and 30 and so on.
3. Ask children to use the digit cards to create the new numbers. They can only use a digit card once. For example, they could use two cards to create the number 27 and this could go between 20 and 30.



4. Can they use the digit cards to create four numbers so that every house has a new neighbour? There should be one new number between every pair of neighbouring houses.

HINT: Let children play around with this first, but if they are stuck ask them to think which digit in the new two-digit numbers is the most important when working out where they will live on the street. For example, if they make the number 23 to go between 20 and 30, then they won't be able to make a number between 30 and 40.

Challenge:

Can children create a 10 to 100 street, and use two sets of 1-9 digit cards to make a new number between every neighbouring pair of multiples of 10?

Aims:

- To use trial and improvement

Minimum number of calculations expected:

N/A