

In-betweens

Activity 1

Focus of activity: Placing numbers on a 0 to 100 landmarked line.

Working together: conceptual understanding

- Sketch a large 0 to 100 line on a long strip of paper, marking and labelling all the multiples of 10. Explain that this is called a landmarked line as it has landmarks (10s numbers) to help us to place numbers on it. *It's like a beaded line but all the beads have disappeared!* Count in 10s along the line from 0 to 100.
- Shuffle the 10s cards, and the 1s cards from a set of place value cards and place face down in two piles. Ask a child to take the top card from each pile and make a 2-digit number, e.g. 36. *Where does this number belong on the line?* Ask children to describe where it belongs rather than just pointing. Agree that it belongs between 30 and 40, and is just after half way between 30 and 40, as 35 is half way between 30 and 40. *Try to imagine the 10 beads between 30 and 40.*
- Repeat for each child, encouraging them to describe where numbers belong, e.g. between 50 and 60, nearer to 50 than 60, just before 70, just after 80, half way between 20 and 30.

Up for a challenge?

Draw a mark where 45 belongs on the line. *What number do you think belongs here on the line?* Repeat for 59, 61 and 72.

Now it's the children's turn:

- Child A shuffles a pack of 1 to 9 cards and takes four to make a pair of two-digit numbers, marking them on a landmarked line. They can use the digit cards in any order they like. Child B takes the next two and tries to use them to make a number between. If they can do so, they win a point. If not, child A wins the point. Swap roles and repeat.
- Go round the group and mark their placing of numbers, e.g. initially after the first game.

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

If children cope well, ask them to think about the best order to use their digit cards to make it difficult for the other person to make a number in between.

Things to remember

Remember that the first digit in a number tells us very roughly where the number belongs on the line, e.g. in 42, the 4 tells us it has four 10s and so belongs between 40 and 50. The next digit tells us where the number belongs between the two 10s numbers, e.g. 40 and 50. Ask a child to think of a 2-digit number and mark its position (but not label it) on the large 0 to 100 landmarked line. Can the rest of the group guess their number, or be very close? Repeat.

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">• Long strips of paper• Place value cards (10s and 1s)• 1 to 9 digit cards• 0 to 100 landmarked lines (see child instructions)	<ol style="list-style-type: none">1. Children can place 2-digit numbers on a 0 to 100 landmarked line.2. Children begin to have an idea about whether numbers are close or far apart on the number line.3. Children begin to identify mystery numbers on 0 to 100 landmarked lines.

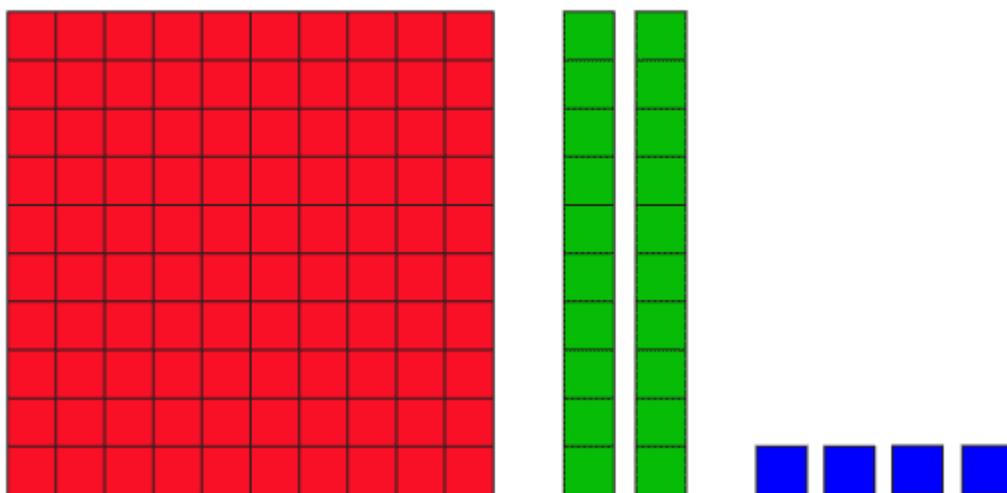
Make the number

Activity 2

Focus of activity: Knowing the value of each digit in 3-digit numbers.

Working together: conceptual understanding

- Shuffle the 100s, 10s and 1s cards from a set of place value cards and place face down in three separate piles. Ask a child to take the top card from each pile. Show these to the group and read the three numbers. Show how they fit together to make a 3-digit number, e.g... 124. Say the number together: *one hundred and twenty-four*. Look how the 20 covers the zeros in 100 to show that we have 2 tens, and then the 4 covers the zero in the 20 to show we have 4 ones.
- Show children how to make the number using base 10 equipment.



- *We have one 100, two 10s and four 1s.* Point to the equipment as you say *one hundred and twenty-four*.
- Repeat, but this time asking one child in a pair to take the three cards and put together to form a number and read the number. The other child in the pair makes the number using base 10 equipment. Do the rest of the group agree?
- Repeat for each pair.

Up for a challenge?

Make a 3-digit number using only two cards, e.g. 340 or 304. Ask children to make this number using the base 10 equipment. Point out how we have no 10s or no 1s, depending on the number shown.

Now it's the children's turn:

- Children take turns to choose a 3-digit number. One child makes the number using place value cards and the other child makes the number using base 10 equipment.
- Swap roles and repeat.
- Go round the group and ask them what each digit is worth in the numbers that they are making. As children are not recording, you may wish to make notes or take photographs as a record.

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

If chn cope well, ask them to make the numbers 520 and 603 using place value cards and base 10 equipment.

Things to remember

Remember that in a 3-digit number, the first digit tells us how many 100s are in the number, the next digit tells us how many 10s and the third digit tells us how many 1s are in the number. When we say the number, it tells us how many 100s are in it. Write 365 on a card and show it to a child without the rest of the group seeing. The child reads the number. The rest of the group make the number using their place value cards. The child reveals the number. Were they right? Repeat.

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">• Place value cards (100s, 10s and 1s)• Base 10 equipment, (100s, 10s and 1s)	<ol style="list-style-type: none">1. Children can make 3-digit numbers using place value equipment (no zeros).2. Children begin to make 3-digit numbers with a 0 in the 10s or 1s place using place value equipment.

Make the number

Activity 2

Work in pairs

Things you will need:

- 100s, 10s and 1s place value cards
- Base 10 equipment



What to do:

- Take it in turns to choose a number. One person makes the number using place value cards. The other person makes the number using base 10 equipment.
- Repeat but swap who makes the number using place value cards and base 10 equipment.
- How many numbers can you make?

326

831

555

473

154

617

282

736

962

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

Make the numbers 520 and 603 using place value cards and base 10 equipment.

Learning outcomes:

- I can make 3-digit numbers using place value equipment (no zeros).
- I am beginning to make 3-digit numbers with a 0 in the 10s or 1s place using place value equipment.