## Playing Cards Week - Additive Reasoning Y3/4

## Day 1

- Cut a piece of paper into nine pieces and number them one to nine (or use playing cards ace to nine).
- Use pairs of cards to make different two-digit numbers.

For example, 83 and 17.


- Can you make two two-digit numbers that add together to make 100 ? For example $83+17=100$. How many different ways can you find? What do you notice?


## Notes for adults working with groups of children

- Number lines might help model the relationships for the children and to support them to understand how to find pairs of numbers that total 100.
- Help the children to work and record systematically so that they can see some of the patterns that should emerge and be sure they have considered all possibilities. Encourage the children to describe and explain any patterns they see.


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## Day 2

- Using two pairs of cards create two two-digit numbers. For example, 83 and 17.

- What is the total of your two two-digit numbers? For example the total of 83 and 17 is 100 i.e. $83+17=100$
- What's the largest total you can find using two pairs of your nine cards? What's the smallest total you find?
- What other numbers can you find by adding pairs of two-digit numbers made from your nine cards? Can you make all the numbers between the smallest and the biggest? What do you notice?


## Notes for adults working with groups of children

- Children might like to use Base 10 apparatus to support their thinking.
- Help the children to work and record systematically so that they can see some of the patterns that should emerge and be sure they have considered all possibilities. Encourage the children to describe and explain any patterns they see.


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## Day 3

- Using two pairs of cards create two two-digit numbers. For example, 83 and 17.

- What is the difference between your two two-digit numbers? For example the difference between 83 and 17 is 66 i.e. $83-17=66$
- What's the largest difference you can make using two pairs of your nine cards? What's the smallest difference you can make?
- How many ways can you make the smallest difference? What do you notice?


## Notes for adults working with groups of children

- Number lines might help model the relationships for the children and two bead strings could be used to help the children 'see' the difference.
- Help the children to work and record systematically so that they can see some of the patterns that should emerge and be sure they have considered all possibilities. Encourage the children to describe and explain any patterns they see.


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## Day 4

- Shuffle all the cards. Place them all face down. Choose two. Use them to make a two-digit number and write it down. For example use 8 and 3 to make 83 .

- Reverse the digits to make another two-digit number. For example reverse 83 to make 38 . Add both of your numbers together. For example $83+38=121$
- Choose another two cards and do the same thing. Repeat until you have only one card left. What do you notice? Will this always happen?


## Notes for adults working with groups of children

- Help the children to work and record systematically so that they can see some of the patterns that should emerge and be sure they have considered all possibilities. Encourage the children to describe and explain any patterns they see.

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## Day 5

- Shuffle all the cards. Place them all face down. Choose two. Use them to make a two-digit number and write it down. For example use 8 and 3 to make 83 .

- Reverse the digits to make another two-digit number. For example reverse 83 to make 38 . Find the difference between your pairs of numbers. For example, $83-38=45$
- Choose another two cards and do the same thing. Repeat until you have only one card left. What do you notice? Will this always happen?


## Notes for adults working with groups of children

- Number lines might help model the relationships for the children..
- Help the children to work and record systematically so that they can see some of the patterns that should emerge and be sure they have considered all possibilities. Encourage the children to describe and explain any patterns they see.


[^0]:    Email: LDP-SchoollmprovementTeam@babcockinternational.com
    Website: www.babcockldp.co.uk/improving-schools-settings/mathematics

