

Game of Nine Cards

The Game of Nine Cards focuses on mental mathematics as well as probability concepts and strategic thinking. It focuses on developing computational fluency and flexibility. Suited for students from grades 3-9.

Original source: nctm.org (What is the Name of this Game? By John Mahoney, Mathematics Teaching in the Middle School, volume 11, issue 3, October 2005)

Materials needed:

- 1) Regular playing cards (Ace-9)

Instructions for playing as a partner game:

The goal of the game is to be the first player with three cards that have a sum of 15.

- 1) Lay out the cards from Ace(1)-9 in order in a row, face-up (numbers showing).
- 2) Choose which player will go first (rock, paper, scissors).
- 3) Player 1 chooses a card and then Player 2 chooses a card.
- 4) Players continue to take turns choosing cards until one player has three cards in their hand that add to 15 or all the cards are taken.
- 5) If you have four or five cards in your hand, you can only use a combination of three cards to make 15.

Note: Player can decide whether to show their hands/cards throughout the game or not.

After a few rounds of the game, the teacher can ask questions to promote thinking, computational fluency and flexibility and reflection such as:

- a. Does the first or second player have a better chance of winning? What pattern or strategies do you notice or use?
- b. Is there a “best” card to use that helps players win?
- c. Does someone always win?
- d. Why do you think the sum of 15 is used? (try playing the game with a sum of 14 or 16 and see what you notice)
- e. What are all the different ways to use three card to make 15? How does this help you think about strategies to play this game?

BC Mathematics Curricular Content and Competencies:

- computational fluency develops from a strong sense of number
- addition and subtraction facts to 20
- relationship between addition and subtraction
- use reasoning to explore and make connections
- develop mental math strategies
- develop, demonstrate and apply mathematical understanding through play
- explain and justify mathematical ideas and decisions

Different ways to play:

Adding to 99:

Players use 9 cards with the following numbers: 5, 12, 19, 26, 33, 40, 47, 54, 61

These cards can be made with index cards, writing the numbers on them, or printing the set of cards included here.

Play is the same, except players are trying to be the first with a sum of 99 in their hands with three of their cards.

Connections to other games:

This game with nine cards is connected to other “nine” games such as tic-tac-toe and magic square. How could you investigate the connections?

Create your own game:

What other sets of nine cards could you use for a game? What would the sum with three cards be that players try to get?

1	2	3	4	5	6	7	8	9
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5	12	19	26	33
40	47	54	61	