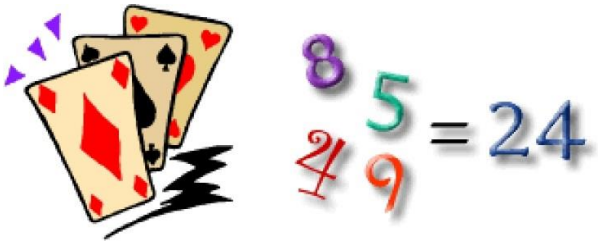
Double Dozen



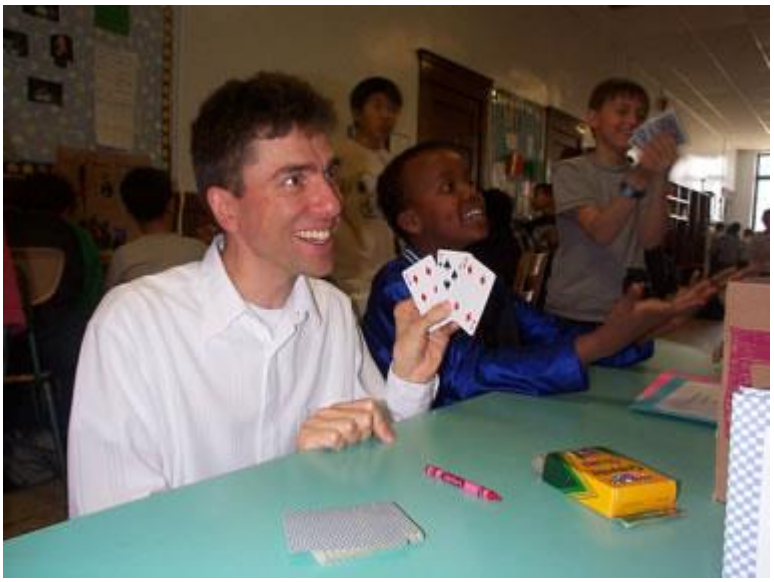
Equipment: A deck of playing cards with Aces = 1 and the Jacks, Queens, Kings and Jokers left to one side.

Number of Players: 2-6

Time: 10 minutes

How to play:

- Choose a dealer. The dealer draws four cards from the top of the shuffled deck and lays them face-up on the table. Using division, multiplication, addition and subtraction, create a mathematical sentence that equates to 24. The first person to create such a sentence says "Double Dozen" and touches the first card in their sentence and then immediately rearranges the remaining cards. If, after about 30 seconds, nobody says "Double Dozen", the dealer removes the cards and deals another four face-up.
- If the girl who says "Double Dozen" makes a correct sentence, she keeps all the cards used in her sentence and the dealer deals cards until four are face-up. If she is incorrect, all the face-up cards are discarded.
- The game continues until the moment that the last card in the deck is drawn. The player with the most cards at the end of the game is the winner.



Double Dozen Puzzles:

- What is the probability that the first two cards shown face-up allow for a correct sentence?
- What is the probability that the two cards allow for a correct sentence if we renamed the game "Dozen"?
- Children from Latvia, Estonia & Lithuania play three different versions of the game. In Latvia it is called "Dozen", in Estonia it is called "Twenty-One" and in Lithuania it is called "Double Dozen". Find four cards that can be made into sentences in all three versions.

Variations:

- Insist that all face-up cards are used.
- If, after about 30 seconds, nobody says "Double Dozen", add one additional face-up card.
- Aim for a different number.
- Use a different set of operators. For example, the concatenate operator, (+), gives the ability to graft numbers together so 1 (+) 5 (+) 8 = 158. You may also choose to permit brackets so that (3+1) x (5+1) = 24 is a sentence. Also try the square function "^2", or the exponent operator, "^", or using the factorial operator, "!". If you are adding new operators, you may wish to remove old ones.

The Math in This Problem:

Playing cards can help kids learn number sense and practice mathematical operations. Using an ordinary deck of playing cards, Double Dozen challenges students with a math game that deals with multiplying, dividing, adding, and subtracting various card values to equal a given number.