



3-D Sudoku

1 or more Player Puzzle Game

A New Dimension to Classic Sudoku!

Summary:

Make a 9 by 9 layout of cards with no repeating numbers or suits in any row, column, or 3 by 3 square. If you are not already familiar with a normal Sudoku puzzle, you will want to try that first to learn the rules. You can find Sudoku puzzles in books and newspapers or look one up on line!

Warning!:

This game is for experienced Sudoku players only. There is a possibility that these puzzles may be too difficult, or even mathematically impossible to complete. The makers of the Janken Deck can not take responsibility for any player losing their mind trying to solve this puzzle!

The Deck:

You will use the Ace, 2 through 9 of the Janken Deck, and Ace, 2 through 9 of a standard deck of cards (with Spades, Hearts, Diamonds and Clubs). You will be playing with 81 cards, 9 cards of each suit and 9 cards of each number. You will also need a table or floor space large enough to make a square that is 9 cards across and 9 cards down.

The First Challenge:

Using the 81 cards, make a 9 by 9 layout of cards where each row, column, and 3 by 3 square have no duplicate numbers or suits. In other words, each row, column and 3 by 3 grid will have all nine numbers and all nine suits.

This may sound easy for the experienced Sudoku player, but remember that you only have one of each card. If you use the Ace of Rock in one part of the puzzle, you can not use it again in a different part of the puzzle.

The End:

Once you have placed all 81 cards and have satisfied all conditions needed for Sudoku, YOU WIN! Take a picture as proof. As of this writing (August 2017) the puzzle has not been solved yet. Maybe you can be the first!



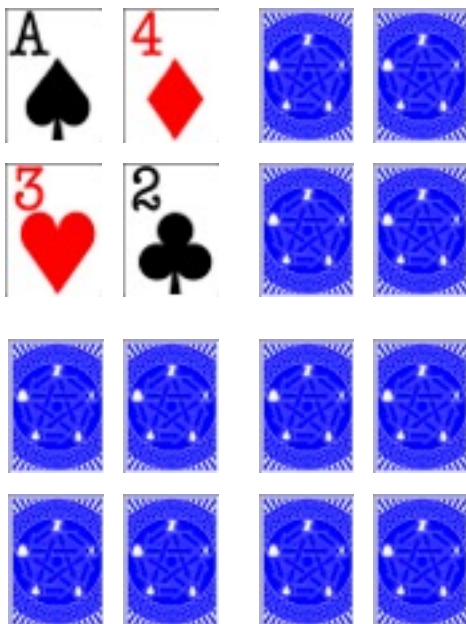
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Variations:

Using an already solved Sudoku puzzle (from a newspaper, book, or elsewhere) See if you can arrange the cards using the same number order but also without duplicating suits. Since there may not be a possible solution without duplicating cards, you may use one of the five Jokers in place of a duplicated card (up to five Jokers). The Joker can only represent one card at a time (it can not be the Ace of Rock in one direction and the 2 of Rock in a different direction). If you need all five Jokers to complete the puzzle you're a beginner. If you can solve the puzzle with no Jokers, you're a 3-D Sudoku Master! Again, be aware: there is no guarantee that these puzzles will have a solution. Play at your own risk and be willing to admit defeat.



4 by 4 Sudoku Puzzle:

As a proof of concept, here is a smaller version of the puzzle. Using just the Ace through 4 of a standard deck, fill in the remaining spaces so that there are no duplicate numbers or suits in any horizontal row, vertical column, or 2 by 2 square.

The sample to the left has four cards in place to get you started.

Can you put the other cards in place to finish the puzzle?

Remember, you can not duplicate any card! The solution is on the next page.



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Mathematics and number theory:

An exciting aspect about the Janken Deck is how it can be explored with math. Just like a deck of cards or Rubik's Cube, there are many billions of combinations but the number is not infinite.

Of all of the ways that 81 cards can be arranged into a square, how many of them will be a solution to the 3-D Sudoku Puzzle? And if there are no possible solutions, how do you go about proving it?

For now these questions are unanswered. If you make any discoveries, please let us know so we can share!

Solution to 4 by 4 Sudoku Puzzle:

A ♠	4 ♦	3 ♣	2 ♥
3 ♥	2 ♣	A ♦	4 ♠
4 ♣	A ♥	2 ♠	3 ♦
2 ♦	3 ♠	4 ♥	A ♣