Math Magic!

Activity 1 - A Fun With Math Card Trick

All you need is a deck of cards and a little bit of math, and you can be on your way to becoming a magician!

Instructions on How to do This Trick:

1. Take a complete ordinary deck of cards (52 cards)

2. Remove the face cards and the tens from your deck. You should have 36 cards left.

Directions: The Math

• Ask your friend to choose a card from the deck (of 36 cards) without showing the card to you. Ask him/her to memorize the card.

Let's say the card is the Six of Hearts

• Ask your friend to secretly multiply the card by two

6 x 2 = 12

• Ask your friend to secretly add three to the result

12 + 3 = 15

• Now ask your friend to multiply the result by five (If your friend can't do the arithmetic in his/her head, then offer him/her a piece of paper and turn around so that you don't see the calculations)

15 x 5 = 75

Can you believe THIS is math?

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- Tell your friend:

(a) if the card is a Club, add one to the result;

(b) if the card is a Diamond, add two to the result;

(c) if the card is a Heart, add three to the result;

(d) if the card is a Spade, add four to the result;

$75 + 3 = 78$

- Ask your friend to tell you the final result.

- Now, in your head, subtract 15 from your friend's answer

$78 - 15 = 63$

- The answer in the previous step tells you which card your friend has. The first digit of "63" tells you the value of the card: Six. The second digit tells you the suit:

If the second digit is one, the suit is Clubs

If the second digit is two, the suit is Diamonds

If the second digit is three, the suit is Hearts

If the second digit is four, the suit is Spades

The second digit of "63" is three, therefore the suit of your friend's card is Hearts. This is how you know that your friend's chosen card was Six of Hearts!

- Tell your friend that your extraordinary magic powers tell you that his card was Six of Hearts!

- Remember to practice the trick a few times before showing it to other people. Try the trick choosing some different cards.

Question:

How does this trick work? Can you figure out the magic secret?

Can you believe THIS is math?