

Math Magic: A Card Trick to Practice Multiplication

Impress your child with a bit of math magic by performing a card trick anchored in addition and multiplication. Sure, this trick may not be *real* magic, but it has some pretty magical results: your kid will want to know every detail of the secret behind the trick, and he'll be digging into math as he figures it out! Help him memorize how to perform it, and you'll have a practicing mathemagician in no time.

What You Need:

- Deck of 52 playing cards with no Jokers

What to Do:

1. Have your child shuffle the cards as many times as he wants. When he's finished, tell him to look at the *bottom* card and memorize it.
2. Have him place the deck on the table, then turn over the top 3 cards.
3. Tell him to deal cards face down below each of the face-up cards. To figure out how many cards to deal, subtract the number on the face-up card from 15 (if it's a face card, use these values: Ace = 1, Jack = 11, Queen = 12, and King = 13). For example, if the card is a 9, he should deal 6 cards under it ($15 - 9 = 6$).
4. Have him put all the cards he dealt in step 3 on the *bottom* of the deck. Keep the 3 face-up cards on the table.
5. Have him add values of the face-up cards together. If there is a 9, a Queen, and a 3 on the table, he should add $9 + 12 + 3 = 24$. Deal out that many cards, then put them on the bottom of the deck.
6. Explain that you can magically force any card to come out of the deck on command. Ask your child for the name of his card (the one he picked in step 1). Let's pretend it was the Ace of hearts.
7. Pretend to do some hocus-pocus as you say, "Ace of hearts, come forth!" Repeat the command, and then smile mischievously.
8. Your child, of course, won't see anything happen, but insist to him that his card did come forth. Have him turn over cards from the top of the deck one at a time. As he does, say, "Here's the first card, here's the second, here's the third, and the Ace of hearts comes fourth!" The fourth card he turns over is his card!



What's Going On?

Each face-up card + the value of the card subtracted from 15 + the value of the card = 16. So? Well, 16×3 face-up cards = 48. Then $48 + 4$ (come fourth) = 52 cards in the deck.

*Adapted from "Mathamazing", the book of brainteasers, tricks, and riddles to make math fun for everyone. By Raymond Blum (New York, NY: Sterling Publishing Co., 2002). www.sterlingpublishing.com
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