

Math Delights Name \_\_\_\_\_ Date \_\_\_\_\_

## Magic-Cards (Base 10) - Instructions

By Joshua Zucker with Nancy Blachman  
Cards with Numbers 0 to 999

Ask someone, whom I'll call Kit, to choose a secret number between 0 and 999. Display one of the three cards with the numbers 0 - 999 and ask Kit to tell you the color of the background behind the number (red, orange, yellow, green, blue, purple, white, brown, pink, or turquoise (light blue)). Repeat this procedure with the other 2 cards. Calculate the secret number as follows: Start off with the number 0 in your head. Find the smallest number on card 1 that has the same background color, and add that number to the sum in your head. Repeat this procedure for the next two cards. After the 3rd card, the sum in your mind is the secret number! With this procedure, you'll find the 1st (100s place), 2nd (10s place), and 3rd digit (ones place) of the secret number.

*Example:* Suppose the player chooses the number 14. On card 1, the background 14 is red. The smallest number with a red background on card 1 is 0 so the number in your head stays at 0. On card 2, the background of number 14 is orange and the smallest number with an orange background on card 2 is 10. So add 10 to the sum in your head to get 10. On card 3, the number 14 has a blue background and the smallest number with a blue background on card 3 is 4. So add 4 to the total in your head, making the total in your head 14. The sum of the numbers on the 3 cards is 14, the secret number!

Calculation:  $\frac{\quad}{100s\ (#1)} + \frac{\quad}{10s\ (#2)} + \frac{\quad}{1s\ (#3)} = \frac{\quad}{\text{Secret Number}}$

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