

Magical Math – “What’s in a Number?”



“What’s in a Number?” can be played like Memory, like Go Fish, or as the Factor-Find game below. Each of these versions emphasizes different skills, but all of them increase the child’s recognition of the visual factorizations on the cards, which builds up an intuitive sense of the characteristics of the numbers—not just larger or smaller and position on the number line, but whether they are prime or composite and, if composite, which primes are within them.

The card set is composed of the numbers 1 to 24, with two of each card. If your child is very young, you may want to put aside the larger numbers for a while, and just focus on 1 through 8 or 12. One of the goals of these activities is to get children away from counting by ones, instead focusing on groups. The larger primes, which are circles, have the number symbols written on them. If you prefer, you can write numbers on a few more cards, like 14, 21, and 22.

Explore: The first step in using these cards to build number sense is to spread them in front of your child and ask her to look for patterns. Which dots are in circles? Which are in triangles? Squares? Pentagons? Which have double dots? Can she find the match for each card?

Memory: Place the cards number-side down in a grid. Each player takes turns flipping over cards and collecting any matches uncovered. All players should focus on watching and remembering any cards flipped over, then the cards should be turned face-down again before the next player’s turn. Younger players could keep flipping over cards until they find a match. Older kids can flip over a set number, like 3, 4, or 5 cards, and collect any matches. Our favorite rule for kids around the age of six is “flip over four cards, if you get a match, you can flip over two more—no more than two matches per turn.”

The player who collects the most matches is the winner.

Go Fish: Shuffle the cards and deal out seven to each player, with the rest of the cards placed in the center of the play area. Each player sets aside any matching cards already in his hand, and then on his turn, he asks the other players for the match to any card he has. If another player has that card, they must pass it to him, and he can set both cards aside. If no one has that card, he must “Go Fish” by drawing the top card from the pile.

The first person to find the matches to all his cards, thus emptying his hand, is the winner.

Factor-Find: Deal six cards to each player (2 - 4 players is best). Place one card face up in the center and put the rest face-down in a stack next to it. The players may look at their cards, but then must place them face-down in a row in front of them.

The object of the game is to be the first to play all of the cards in front of you and empty your “hand.”

The youngest player goes first, and flips over any of his six cards. If the card shares a factor with the face-up card in the center of the table, he may place it on top of that card. If the player’s card doesn’t share a factor with the card on the table, he turns the card back over and must draw another card from the stack in the center, look at it, and place it face-down next to the other six.

Example: A 15 card could match with a 5, 10, or 20 card, OR it could match with any card showing a factor of 3: 3, 6, 9, 12, etc.

Exception: Any prime (2, 3, 5, 7, 11, 13, 17, 19, 23) can be placed on any other prime, since they share the factor of 1. But sharing the factor of 1 is only allowable for the primes. The composite numbers 8 and 9 aren’t a match since the only factor they share is 1. The prime 3 and composite 4 aren’t a match, but 3 and 21 are a match since 3 is a factor of 21 (there are triangles in 21).

Give it a try, and you will see that the kids are scanning the cards for the factors and doing a lot of thinking about composite and prime numbers.