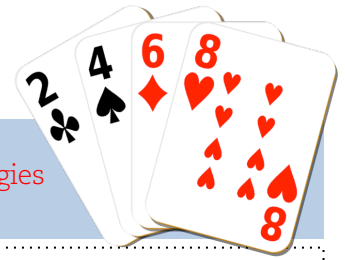


# Multiple Multiples



How familiar are you with the multiples of 2 through 10? In this game you have many opportunities to build strategies to find multiples of a target number.

## Strands:

Number & Quantity	X
Algebra	
Functions	
Geometry	
Statistics & Probability	

## Materials:

- Deck of playing cards with Kings and Jacks removed (use two decks for 4+ players)
- Many tokens

## Where?

Outside	
Inside	X
On-line	
On-site	



**Pre-Game Activity:** Review what it means to be a multiple of a number. List the multiples of certain numbers and show why these are multiples.

### Set-Up:

- Shuffle the remaining cards of the deck. Deal 5 cards to each player.
- Queen = 0. Ace = 1. Use the numbers on the other cards as shown.
- Flip over the top card until you find a 2 or higher. This is the target number, the number for which you will find multiples in the game.
- Take turns, starting with the person to the left of the dealer.

**Object of the Activity:** Combine cards using addition or subtraction to get a multiple of the target number. Familiarize yourself with the multiples of 2 through 10.

### Playing the Game:

#### Round 1

1. On your turn, use addition and subtraction to combine your cards to make multiples of the target number. Each card may be used only once.
2. Place one of the multiples from your hand face up on the table. Take a token. If you use all of the cards in your hand, take an extra token.
3. If you cannot make a multiple of the target number, discard one card.
4. Replace the cards you put down with cards from the deck so that your hand has 5 cards.
5. Your turn ends. Play continues to the left until the entire deck is used.

#### Round 2

6. Reshuffle the deck and deal 5 cards to each player. Turn up the top card to reveal the target number and the starting 'sum' of the round. Your goal is to make multiples of the target number by adding it to the running total of cards that have already been played.
7. On your turn lay down a card and add it to the previous sum. State aloud the sum of all of the cards played so far (including the one you just put down).
8. If the sum of the played cards is a multiple of the target number, state how you know it is a multiple. Take a token.
9. Replace the card with a card from the deck. Your turn ends. Play continues to the left until each player has earned at least 5 tokens.

**To Win:** Play until each player has at least 5 tokens, then the player with the most tokens wins.

### Think About It:

- Is 0 a multiple of the target number? If so, for which target numbers is 0 a multiple?
- What is the relationship between one multiple and the next two multiples?
- What strategies do you want to remember for the next time you play this game?

### Variations:

**Have it Both Ways:** Use addition or subtraction to find multiples in Round 2.

**Sum More than Others:** Use operations of addition, subtraction, multiplication, and division (or any combination) in Round 1.

**More Cards:** Deal out 6, 7, or 8 cards to each player and play as indicated.