

# Zero Sum

Object: to collect the greatest number of cards by reaching the sum closest to zero

Materials needed: one set of *Zero Sum* cards for each group

Number of players: 2–5

## Teacher Preparation

Print out, copy, and cut apart one set of *Zero Sum* cards for each group of 2–3 students. For groups of 4–5 students, use two sets of cards per group. You may want to mount the cards on card stock before cutting them out.

## Game Play

### • **Playing the game**

The deck consists of cards with either a positive number, a negative number, or zero printed on them.

Each player receives three cards. The player on the dealer's left goes first. The players then take turns, going clockwise.

During a turn, a player may either exchange one or two cards for new ones from the top of the deck or keep the three original cards.

After everyone has had a turn, the player whose sum is closest to 0 wins the round and receives everyone else's cards. In case of a tie, players keep their cards and a new hand is dealt. The winner of this second round receives all cards from this hand as well as all cards from the previous hand. The dealer deals a new round, and the game continues until the dealer runs out of cards.

### • **Winning the game**

The player with the most cards at the end of the game is the winner.

### • **Variation**

Each player keeps the cards face up in front of them. Players can see everyone's hand, which may affect their strategies.

## Discussion

Ask students how they decided to discard zero, one, or two cards. Would you discard a card with 0 on it? Why or why not?

Have students explain what their strategy would be if they initially received three cards that were all positive or all negative.

Students may see that getting the sum closest to 0 is the same as getting the sum with the least absolute value.

0

1

2

0

1

2

3

4

5

3

4

5

**6**

**7**

**8**

**6**

**7**

**8**

0

-1

-2

0

-1

-2

**-3**

**-4**

**-5**

**-3**

**-4**

**-5**

**-6**

**-7**

**-8**

**-6**

**-7**

**-8**

**-9**  
        

**9**  
        

**-9**  
        

**9**