



# Dealing with Addition

by Lynette Long, Ph.D.

“A wonderful tool that uses playing cards to teach the addition of whole numbers.” –School Library Journal

## Focus Pocus Odd and Even:

1. Make a chart to show the different possibilities as shown below. Using two base numbers, such as 5 and 6, subtract or add numbers to demonstrate how even and odd combinations play out. For instance:

$6+1=7$	even <i>plus</i> odd equals odd
$6+2=8$	even <i>plus</i> even equals even
$6+3=9$	even <i>plus</i> odd equals odd
$6+4=10$	even <i>plus</i> even equals even
$6+5=11$	even <i>plus</i> odd equals odd
$6-5=1$	even <i>minus</i> odd equals odd
$6-4=2$	even <i>minus</i> even equals even
$6-3=3$	even <i>minus</i> odd equals odd
$6-2=4$	even <i>minus</i> even equals even
$6-1=5$	even <i>minus</i> odd equals odd

$5+1=6$	odd <i>plus</i> odd equals even
$5+2=7$	odd <i>plus</i> even equals odd
$5+3=8$	odd <i>plus</i> odd equals even
$5+4=9$	odd <i>plus</i> even equals odd
$5+5=10$	odd <i>plus</i> odd equals even
$5-4=1$	odd <i>minus</i> even equals odd
$5-3=2$	odd <i>minus</i> odd equals even
$5-2=3$	odd <i>minus</i> even equals odd
$5-1=4$	odd <i>minus</i> odd equals even

2. Ask: What patterns do they see? (When added or subtracted, two odd numbers or two even numbers produce an even number. Whenever an odd number is added to or subtracted from an even number, the result is an odd number.)
3. Use above principle to play the following game:
  - a. Give a deck of cards to each group of six students.
  - b. The dealer draws one card from the deck to determine whether the focus of that hand will be odd or even numbers.
  - c. Then, the dealer gives each player four cards. The goal is to use two cards to equal an even or odd sum, as the focus card indicated. For example, if the focus card is even and a player is dealt the cards 3, 5, 7, and 10, then the player must add two odd numbers to get an even number. The player could make  $3+5=8$  or  $5+7=12$ .
  - d. The cards added or subtracted go in the player's point pile.
  - e. The dealer then gives the player two new cards. The dealer draws a new focus card for each round.
  - f. When the cards in the draw pile are gone, each player counts the cards in his or her point pile. The player with the highest total wins. The game can be played using addition, subtraction, or both.

## CARDegories:

1. Divide the class into groups of four.
2. Students decide on different groupings for categorizing the cards in a full deck.
3. Ask students to list the different variations they discovered and how many cards will be in each group.

Some groupings are shown below:

**Color** (26 red, 26 black)

**Suits** (13 of each)

**Even or odd** (28 odd, 24 even)

**Face cards** (12 face cards, 40 non-face cards)

4. As a class, discuss the groups students found.
5. Ask how many different categories one card can belong.
6. Discuss what, how, and why we categorize other things everyday. (If students cannot come up with ideas, guide them towards the following places to see what we categorize: library, shopping mall, closets at home, parking lot, and school. Suggest the following reasons for categorization: to find things easily, to remember things, to save time, to learn new things, etc..)

## How Many Combinations

1. Have students draw a card (no face cards).
2. Students create as many number sentences as they can that equal the number on their drawn card.
3. Remind students that they can add, subtract, multiply, and divide.

## Greater Than

1. Give a deck of cards (face cards removed) to each pair of students.
2. Each student takes two cards and adds their cards together.
3. The student whose two cards equal the greater total keeps all four cards.
4. The winner has the most cards at the end.

Variation: Play **Less Than**.

## Simon Says Place Value:

1. Divide the class into groups of 4 students.
2. Give each group a deck of cards from which tens and face cards have been removed.
3. Have students each pick one card. This card will be the student's roll for the first round. (Have students hold up their cards for others to see or make larger copies of their cards to be seen more easily.)
4. Start by saying, "Simon says: line up as a 4 digit number."
5. Then add, "Simon says: make the biggest number."
6. The students then arrange themselves to make the biggest number they can. The group with the highest value wins the round. (Other directions might be for the lowest number, the number with the lowest value in the tens place, the number with the highest value in the hundreds place, and so on.)

## Go Fish! Math:

1. Divide the class into groups of two to five players.
2. Dealer shuffles the deck, deals everyone five cards, and places the deck face down as a draw pile.
3. Player to the right of the dealer begins by asking any one of the players for a particular card.
  - a. The asker must use an addition or subtraction problem whose answer is the number desired. (Use aces as ones.) For example, if the player wants a seven, he or she would say, "Do you have a  $3+4$  or a  $9-2$ ?"
  - b. If no one has the number the player wants, the other players say, "Go fish!" The player who requested the card must draw from the pile.
4. Whenever a player gets four cards of the same number, he or she lays them on the table face up and plays again. After there are no more cards in the draw pile, the player with the most four card sets wins.