

## Addition and Subtraction Games

### Odd or Even (Grades 1-3)

Skills: addition to ten, odd and even

Players: 2 or more

Materials: each player has cards (Ace=1)-10, 2 dice

Procedure:

1) Each player arranges their cards as follows.

1	3	5	7	9
2	4	6	8	10

2) Before players begin, they predict which set of numbers they will eliminate first—either the odd or the even set.

3) Players take turns rolling one or two dice and begin eliminating sums of their rolls.

Example: You roll a 2 and a 4 so you turn over 6

4) Players continue to take turns until one player has turned over all of their cards. They receive 10 points for doing so.

5) If the player also made a correct prediction at the start of the game, (odd or even set first) then they earn an additional 5 points.

6) Play continues until 50 or 100 points.

Variation 1: Encourage players to add or subtract the dice before turning over cards.

Variation 2: Have players remove up to two cards per roll.

### Addition War (Grades 1-3)

Skills: addition

Players: 2

Materials: Grades 1-2: cards (Ace=1)-5  
Grades 2-3: cards (Ace=1)-9

Procedure:

- 1) Deal out the deck evenly between each player.
- 2) Each player turns over two cards and adds them together.
- 3) The highest sum gets all the cards.
- 4) If there is a tie (players have the same sum), WAR is declared. Each player deals out three more cards face down and then turns over two more cards. These two cards are added together. The highest sum wins all of the cards.
- 5) Play continues until one player has collected all of the cards.

Variation: Vary the number of cards to modify the level of difficulty.

### Subtraction War (Grades 1-3)

Skills: subtraction

Players: 2

Materials: cards (Ace=1)-10

Procedure:

- 1) Deal out the cards evenly between players.
- 2) Each player turns over two cards and subtracts the smaller number from the larger number.
- 3) The player with the smaller answer wins all four cards.
- 4) If there is a tie, WAR is declared. Each player deals out three more cards face down, and then turns over two more. Subtract. The player with the smallest number wins all cards.
- 5) Play continues until one player has collected all of the cards.

Variation: Vary the number of cards to modify the level of difficulty.

### Addition Snap (Grades 2-6)

Skills: immediate recall of addition facts to 18

Players: players of equal skill level

Materials: cards (Ace=1)-9

Procedure:

- 1) Deal out the deck of cards evenly between players.
- 2) Each player turns over a card at the same time.
- 3) Players then add the two together as quickly as possible and say the sum out loud.
- 4) The player who gives the correct answer first collects both cards.
- 5) Play continues until one player collects all of the cards.
- 6) If there is a tie, players leave their cards down and let the pile build. Play resumes until one player gives a correct sum before the other and takes all of the accumulated cards.

### Subtraction Snap (Grades 2-6)

Skills: immediate recall of subtraction facts

Players: players of equal skill level

Materials: cards (Ace=1)-10

Procedure:

- 1) Deal out the deck evenly between players.
- 2) Each player turns over a card at the same time.
- 3) Players subtract the smaller number from the larger number of the two cards.
- 4) The first player to give the correct difference out loud collects both cards.
- 5) If there is a tie, players leave their cards down and let the pile build. Play resumes until one player gives a correct difference before the other and takes all of the accumulated cards.

Variation: For three players, two players are assigned as the addition cards. The third player will be the one subtracted.

Example:

Player 1	Player 2	Player 3
9	5	3

$$9 + 5 = 14 \quad 14 - 3 = 11$$

### 3 Addend Snap (Grades 2-6)

Skills: addition of 3 addends

Players: 3 of equal skill level

Materials: cards (Ace=1)-6

Procedure:

- 1) Deal out the cards evenly between players.
- 2) Players then turn over a card at the same time.
- 3) The first person to correctly add them all together and say the sum out loud collects all three cards.
- 4) If there is a tie between all players, all players keep their own cards.
- 5) If two players have a tie, they keep their own cards and the third player's cards are removed from the game.
- 6) Play continues until one player loses all their cards. The other two players count their cards to determine a winner. The player with the most is the winner.

Variation: Play with two players. Divide the cards and alternate turning over three cards from their hand. Whoever says the correct sum first collects all the cards. Players continue alternating turning over the cards. The player who collects all of the cards is the winner.

### Let it Roll (Grades 3+)

Skills: addition

Players: 2 or more

Materials: gameboard, 2 dice, paper, pencil

Procedure:

- 1) Players create their own gameboards.  
2 3 4 5 6 7 8 9 10 11 12
- 2) Player 1 rolls the dice, adds them together, and then crosses off the sum.
- 3) Only one number can be crossed off and combinations are not allowed.
- 4) Player 2 then takes their turn.
- 5) If a player rolls a number already crossed off that player is out.
- 6) Play continues until both players are out or if one player gets all of their numbers crossed off.
- 7) To determine the winner each player adds the remaining numbers on their gameboard. The player with the lowest sum is the winner.

### Family Fact Feud (Grades 3 +)

Skills: addition facts to 18

Players: 2

Materials: cards (Ace=1)–9

Procedure:

- 1) Teacher or players decide which facts to practice. (ie. +3, +5, +9, etc.)
- 2) Once the constant addend is determined that card is placed between the two players.
- 3) Players then divide the cards evenly between themselves.
- 4) Each player turns over one cards and adds that card to the constant addend in the middle.
- 5) The player with the highest sum collects both cards (players verbalize the math sentence).
- 6) If there is a tie (same sum) WAR is played. Each player deals out three more cards face down and then turns over a card. The turned over card is then the addend to the addend. The highest sum wins all of the cards and play continues until one player has collected all cards.

### Nine Plus (Grades 3 +)

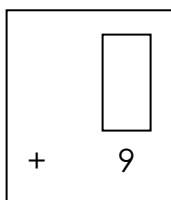
Skills: addition facts, adding with 9

Players: 1–2

Materials: cards (Ace=1)–9, **gameboard**

Procedures:

- 1) Each player has a gameboard and a pile of cards face down. Example of board below:



- 2) The player takes one cards and puts it in the space on the gameboard. (Plus nine rule: the answer in the ones place will be “one less” than the card on the board.)
- 3) Players record their math sentences or verbalize them.
- 4) Play continues until you say stop.

Variation: For two players: each player has a gameboard and a pile of cards. Follow the rules of Addition War or Addition Snap.

### Doubles Snap (Grades 2–6)

Skills: addition facts to 18

Players: 2 of equal skill level

Materials: cards (Ace=1)–9

\*\*Teaching Tip–Learning the doubles helps students tremendously with difficult addition combinations. For example, if a students know  $7 + 7 = 14$ , then we want them to realize that  $7 + 8$  is really just a double plus one more.  $(7 + 7) + 1 = 15$ . We use the following nicknames for the most difficult doubles to help with recall.

$6+6=12$  Farmer’s Double (12 eggs)

$7+7=14$  Valentine’s Double (Feb. 14)

$8+8=16$  “Sweet 16” or Sweetheart Double

$9+9=18$  Adult or Grown Up Double

Procedure:

- 1) A common pile is placed between the two players.
- 2) A card is turned over and the players double it to find the sum.
- 3) The first player to say the correct answer out loud collects the card.
- 4) Play continues until one player collects all of the cards.
- 5) If there is a tie, the card is left on the table and play continues until one player says the correct answer before the other and collects all of the accumulated cards.

Variation: To solidify the rule of double plus one, have players double and then add one to find the answer.

### Double Trouble (Grades 3 +)

Skills: adding/subtracting to 18, adding double digits

Players: 2 of equal skill level

Materials: cards (Ace=1)–9, die

Procedure:

- 1) A common pile is placed between players.
- 2) A card is turned over and the players double it to find the sum.
- 3) The die is rolled and the smaller number is subtracted from the larger.
- 4) The first player to say the answer aloud wins both cards.
- 5) Play continues until the common pile is finished.
- 6) The player with the most cards wins.
- 7) If there is a tie, the card is left down to let the pile build. Play resumes until one player says the correct answer before the other and takes all of the accumulated cards.

### The 18<sup>th</sup> Hole (Grades 3 +)

Skills: multiple addend addition

Players: 2, or teacher vs. Whole group

Materials: 3 dice per player, **gameboard**, pencil

Procedure:

- 1) Players draw their own gameboard  
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
- 2) Player 1 rolls all dice, adds them together, then crosses off the sum on the gameboard. Only one number can be crossed off and no combinations are allowed.
- 3) Player 2 then takes a turn.
- 4) If either player rolls a number already crossed off, they receive a strike (X).
- 5) Players continue alternating turns.
- 6) The game ends when all players have struck out (three strikes) or when one player gets their entire gameboard crossed off.

Scoring for Grade 3: If both players strike out, the player with the most numbers crossed out wins.

Scoring for Grades 4 and up: Players total the numbers left uncrossed. The smallest number wins.

Variation: To increase the difficulty, players may cross off combinations and use both addition and subtraction.

### Complimentary Fish (Grades 2 +)

Skills: adding and subtracting combinations

Players: 3 or more

Materials: cards (Ace=1)–Queen (Jack=11, Queen=12)

Procedure:

- 1) Deal five cards to each player and the remaining cards are placed face down in a deck.
- 2) The dealer chooses which fact family they will work on in the first round. If the dealer calls out “sevens” then all players are trying to find combinations that total seven.
- 3) Player 1 may ask another player if they have a five to add to their two. If so, then player 1 lays down these two cards and draws two cards from the deck to replenish their hand. Player may continue their turn until unsuccessful in finding a match.
- 4) Player 2 then takes a turn. For example, they may ask for an eight to combine with an Ace for a difference of seven. If that player does not have an eight then player number two must “Go Fish” and draw another card from the deck.
- 5) The next player may now proceed.
- 6) Play continues until all the cards have been used.
- 7) Players count up their combinations and the player with the most cards is the winner.

### Adding Buddies (Grades 3 +)

Skills: adding 3 digit numbers

Players: 2

Materials: cards (Ace=1)–9, paper, pencil, calculator

Procedure:

- 1) Player 1 turns over 3 cards and makes a 3 digit number turning over the cards just as they are.
- 2) Player 2 does the same.
- 3) Both players independently find the sum of the two numbers and compare answers.
- 4) If they both get the correct answer, they score 1 pt. each. If the answers don't match they are checked on a calculator. If one player is correct then that person scores the point, otherwise no points are scored for the round.
- 5) Play continues until a set number of pts. is reached.

Variation: Try multiplication, subtraction, decimals.

### Battle to Zero (Grades 2 +)

Skills: Subtracting 3 digits with regrouping

Players: 2

Materials: 2 dice, **gameboard**, pencil

Procedure:

1. Player 1 rolls the 2 dice and adds finds the sum of the numbers.
2. Player 1 then subtracts the sum from 199.
3. Player 2 checks the subtraction.
4. Player 2 then takes a turn.
5. The first player to get to zero wins. They don't have to have exactly zero.

Variation: Change the number in the running total box at the top of the gameboard.

### Add It Up! (Grades 2 +)

Skills: Adding 3 digits with regrouping

Players: 2

Materials: 2 dice, **gameboard**, pencil

Procedure:

1. Player 1 will roll the 2 dice and make a double digit number.
2. Player 1 then rolls the dice and makes a double digit number.
3. Player 1 then rolls again, and adds the new two digit number to the previous one.
4. Player 2 checks player 1's answer.
5. Continue playing and adding to the running total until 1 player reaches the target number of choice. I recommend starting with 200.

Variation: Increase target number.

### Roll and Write (Grades K-2)

Skills: Adding by counting on from the largest number

Players: Independent/Partners

Materials: 2 number cubes or dice, pencil, paper

Procedure:

1. Player(s) take turns rolling number cubes.
2. Player writes two number sentences using the numbers rolled.
3. Player rings the number they counted on from.
4. Have each player explain why they counted on from that number.

### Start to Finish (Grades 1-5)

Skills: finding sums, differences, products or quotients depending on what you want your students to do

Players: Whole class/Independent/Partners

Materials: gameboard, paper, pencil

\*Preparation: Laminate gameboards to reuse.

Procedure:

1. Provide a gameboard with sums and differences recorded in each box.
2. Students write a math fact that corresponds with each answer.
3. As soon a student finishes, he/she puts the pencil down.
4. First person to fill in their board wins.

Variation: Require students to write more than 1 number sentence for each sum or difference.

Gameboard:

Start							Finish
1.	2.	3.	4.	5.	6.	7.	8.

### Five Towers (Grades K-2)

Skills: Adding groups of numbers

Players: 2

Materials: 2 dice per student, pop cubes

Procedure:

1. Player 1 rolls the dice and adds the numbers on the dice to see how many cubes to connect for the first tower.
2. Player 2 does the same.
3. Play continues until each player has created 5 towers.
4. When both players have built five towers, they count the number of cubes in each of their towers to determine who has the most cubes altogether and how many more.
5. Students record their answer.
6. Continue for 3 rounds.

### How Many Sums? (Grades 2-5)

Skills: finding sums and differences for a set of numbers

Players: Individual/Partners

Materials: whiteboard, pencil/paper

Procedure:

1. Give students a set of 5 or 6 numbers.
2. Challenge students to find all the possible sums if they add two or more of the numbers and record their answers.

Ex. 19 21 15 17 13

$$15 + 13 = 28$$

$$21 + 17 = 38$$

$$21 + 15 = 27$$

$$17 + 13 = 30$$

Etc...

Variation: Challenge students to find all the differences.

### Shake and Spill (Grades K - 2)

Skills: writing equations

Players: 1 or 2

Materials: 1 cup per student, 1 set of two-colored counters per student, paper

Procedure:

1. Students draw a tic-tac-toe grid.
2. Assign different combination target numbers for each pair, depending on what they can handle. For example, you might want some children to work on sets of 5 counters while others are working on sets of 10.
3. Encourage students to predict what they think they will see when they shake and spill the counters. For example, how many counters will be yellow and how many red when they shake and spill.
4. Put counters in the cups and have students take turns shaking and spilling. Students record their results in the tic-tac-toe grid, writing equations for each.

Example:

3 red, 2 yellow $3 + 2 = 5$	1 red, 4 yellow $1 + 4 = 5$	4 red, 1 yellow $4 + 1 = 5$

### Empty the Bowl (Grades 1-2)

Skills: subtraction from 20

Players: 2

Materials: 20 cubes or tiles per student, 1 die per pair, 1 bowl per pair

Procedure:

1. Put the 20 cubes or tiles in the bowl.
2. Demonstrate the game by asking for a volunteer to come up and roll the die.
3. On the board, write roll 1, and record the number shown on the die.
4. Have your volunteer remove that number of objects from the bowl that's shown on the die.
5. Repeat the process until the bowl is empty, continuing to record each roll and subtracted number. You don't need the exact number to remove the last objects from the bowl.
6. Then put children in pairs and have them play the game, recording their rolls.

Example:

Roll 1 - 5

Roll 2 - 4

Roll 3 - 1

Roll 4 - 5

Roll 5 - 5

Roll 6 - 5

It took 6 rolls to empty the bowl.

### Race for a Dollar (Grades 1-3)

Skills: adding money

Players: 2

Materials: no more than 30 pennies, 5-6 dimes and nickels, a few quarters, 1 dollar bill, 1 pair of dice

Procedure:

1. Player 1 rolls the dice, finds the sum of the 2 numbers, and takes the corresponding amount of money in coins of his/her choice.
2. Player 1 decides if he/she wants to make any trades and then passes the dice to player 2, who repeats the steps.
3. The first person to get coins with \$1.00 wins.
4. You and your students can decide the rule for ending the game. Possibilities include requiring a roll that gives the winner exactly \$1.00 or a roll that gives \$1.00 or more.

### Spills the Beans (Grades 2-3)

Skills: adding basic sums and subtracting from 50 or 100.

Players: 2

Materials: **gameboard**, 1 cup, 2 beans, paper, pencil

Procedure:

1. Put the two beans in a cup.
2. The first player spills the beans onto the game board.
3. The player adds the numbers the beans landed on. If the bean lands on a line or off the board, it can be thrown again.
4. Using scratch paper, the player subtracts the answer from 50. For example: The player spills beans on a 5 and a 2. The player says the sum is 7 and then subtracts that number from 50.  $50 - 7 = 43$ .
5. After each player spills the beans, his or her answer is subtracted from their last number on their score sheet.
6. Players take turns spilling the beans and subtracting until one player reaches zero.

Variations: Play to 100 or use 3 beans!

### Salute (Grades 2-5)

Skills: missing addends

Players: 3

Materials: deck of cards (Ace = 1, K = 0, J = 11, Q = 12)

Procedure:

1. One player is the "Caller." The caller shuffles the cards and allows the other 2 players to draw a card from the deck without looking at the card.
2. The players show their cards to the caller.
3. The caller announces the sum of the cards and says "Salute."
4. The 2 players face each other, placing their card to their forehead.
5. Upon looking at the opposing player's card, and knowing the sum of the two cards, each player tries to quickly name the missing addend (number) on their own card.
6. The player that says the correct addend first wins the round and collects the cards.
7. The player with the most cards at the end of the game is the winner.

### Spin a Number 1-10 (Grade K)

Skills: moving counters with numbers on a spinner

Players: 2-5

Materials: **gameboard**, 1 counter per player, paperclip

Procedure:

1. Each player puts a counter on the arrow labeled START on the path.
2. Players take turns.
3. Each player spins and moves his/her counter that number of times on the game mat.
4. The first player to reach the square marked END is the winner.

### Top It (Grade K)

Skills: comparing numbers

Players: 2

Materials: deck of cards (remove face cards)

Procedure:

1. Each player takes a card from the top of the deck, turns it over, and says the number on the card.
2. The player who has the larger number takes both cards. If the 2 cards show the same number, each player takes another card from the top of the deck. The player with the larger number then takes all the cards facing up.
3. The game is over when all the cards have been taken. The player with more cards wins.

**199**

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**Battle to Zero**

The object of the game is to get to 0 before your partner.

Roll the dice. Take the two numbers and add them.

Then subtract number in your running total in the boxes.

Your partner checks to make sure you subtracted correctly. Then it's their turn.

**199**

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### ADD IT UP!!

The object of the game is to get to the ending number before your partner.

Roll the dice. Take the two numbers and make a double digit number.

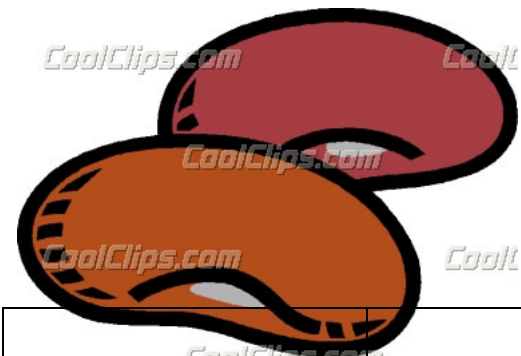
It's your choice. Then add the number to your running total in the boxes.

Your partner checks to make sure you added correctly. Then it's their turn.

**500**

**500**

# Spill the Beans



5	3	2	4
6	4	0	1
2	3	1	8
0	2	3	4
9	1	4	7

