

PLAYING CARD FRACTION GAMES

FRACTION WARS

Identifying fraction names and number value 2 players

Materials: Deck of cards Ace - 9 and Jokers (remove 10, J, Q, K) Note: Ace = 1, Jokers = 0

To play:

- ◆ Shuffle the cards and divide between players.
- ◆ Players turn over two cards each, the first being the numerator (top) and the second the denominator (bottom.)
- ◆ Players say the name of their fraction out loud and the player with the larger (greater) fraction takes all four cards. This is determined by finding the common denominator of both fractions.
- ◆ In the event of a tie, each player deals out two more cards to make a new fraction. The player with the greater fraction collects all the cards.
- ◆ Play continues until one player has collected all of the cards.

Example: Player 1 Player 2
 3, 4 4, 6
 3/4 4/6
 $3/4 = 9/12$ $4/6 = 8/12$
 Player one would earn the cards.

Variation: Players form only proper fractions by making the smaller number the numerator and the larger number the denominator.

THAT'S ONE WHOLE NUMBER!

Adding fractions to form a whole number 2- 4 players

Materials:

Deck of cards Ace—10 (remove Jokers, J, Q, K)

To play:

- ◆ Shuffle the cards. Deal six cards to each player.
- ◆ Stack the remaining cards facedown in a pile.
- ◆ The goal of the game is for players to use four of their cards to form two fractions whose sum is 1. A fraction is formed by positioning one card above another.
- ◆ Player 1 takes the first turn. If successful, he/she earns a point and places the four cards in a discard pile. The player draws four new cards and the turn ends.
- ◆ If player 1 is unable to create two fractions whose sum is 1, he/she draws a card from the pile. The player can either keep the card or discard it. If the player keeps the card, the player must discard a different card. If the player can now create two fractions whose sum is 1, the player does so, and earns a point. If not, the turn ends.
- ◆ Play passes to the next player. Players continue to take turns. When the draw pile runs out, shuffle the discard pile and reuse it as the draw pile.
- ◆ The first player to earn 5 points wins.

$$\begin{array}{|c|} \hline \text{A} \\ \hline \end{array} + \begin{array}{|c|} \hline 6 \\ \hline \end{array} = 1$$
$$\begin{array}{|c|} \hline 3 \\ \hline \end{array} + \begin{array}{|c|} \hline 9 \\ \hline \end{array}$$

TWO OUT OF THREE

Forming and comparing fractions 2+ players

Materials: Deck of cards Ace-10 (remove J, Q, K, Jokers) Note: Ace = 1

To play:

- ◆ Shuffle the deck and deal each player three cards.
- ◆ Each player uses two of his/her three cards to form the smallest possible proper fraction.
- ◆ The pairs of cards are set down in fraction form (numerator on top, denominator on the bottom.) The values of the fractions are compared, and the player with the smallest fraction wins a point.
- ◆ Players keep their third card, and are dealt two more for the next round.
- ◆ After 10 rounds, the player with the most points is the winner.

2 or 22

Adding fractions with $\frac{1}{2}$ 2+ players

Materials: Deck of cards, paper, pencil Note: Ace = 1 or 11, Joker = 0, Jack, Queen & King = $\frac{1}{2}$

To play:

- ◆ The object of the game is to be the first player whose score is closest to either 2 or 22.
- ◆ Shuffle the cards and place them in a face down pile.
- ◆ To start, players take turns taking the top card from the deck, forming a hand of cards.
- ◆ Players continue to take turns taking a card from the pile, or a player may stop at any time.
- ◆ When all players have stopped taking cards, each player reveals his/her hand and the value of the cards held.
- ◆ The player with the card value closest to either 2 or 22 (over or under) wins a point. In the event of a tie, both players receive 1 point.
- ◆ The first player to earn 10 points wins the game.

Variation: Change the value of the cards so that black cards are positive integers and red cards are negative integers.

MAKE A BUCK

Addition of decimals 2 players

Materials: Deck of cards Ace—9 and Jokers only—remove face cards Note: Ace = 1, Joker = 0

To play:

- ◆ In this game Aces = .01, Twos = .02, etc. Jacks = .11, Queens = .12, and Kings .13.
- ◆ The object of the game is to earn points by collecting cards whose totals equal 1.00.
- ◆ Shuffle the cards and deal 10 cards to each player.
- ◆ Players take turns drawing and discarding one card at a time until the cards have all been used or one person has a total of 1.00.
- ◆ The first player to accumulate 10 cards whose total is 1.00 wins one point. If no player has 1.00 when all the cards have been used, the player closest to 1.00 wins $\frac{1}{2}$ point.
- ◆ The player with the highest score after 10 rounds wins the game.

GO LOW

Decimal values., strategy 2+ players

Materials: Deck of cards Ace—9 and Jokers, Paper and pencil

Note: Ace = 1, Joker = 0

To play:

- ◆ The goal of the game is to create the smallest possible number, consisting of a whole number and a 3-digit decimal number.
- ◆ Each player draws a grid as shown: 
- ◆ Shuffle the cards and turn over 1 card.
- ◆ Each player writes the number in any empty space on their grid.
- ◆ Continue to turn over cards and writing the numbers down until all of the sections are filled.
- ◆ Each player reads their number. Note: 3.152 should be read as three and (not *point*) one hundred fifty two thousandths.
- ◆ Compare the numbers. The player with the smallest number earns a point.
- ◆ The first player to earn three points wins the game.

Variation:

- ◇ Try to form the largest number.
 - ◇ Players each draw their own cards, working with a separate set of numbers.

DUELING DECIMALS

Adding decimal numbers 2+ players

Materials: Deck of cards Ace—9 (10, J, Q, K, jokers removed), Paper, pencil

Note: Ace = 1, Black cards represent whole numbers, Red cards represent decimal numbers

To play:

- ◆ Divide the cards into red and black.. Shuffle each deck.
- ◆ Deal each player four black cards and two red cards.
- ◆ Stack the remaining cards facedown in two piles, black on the left, red on the right.
- ◆ Without looking at their cards, players place them as follows:
- ◆ Players turn over all their cards.
- ◆ Each player adds the two decimal numbers.
- ◆ The player with the greatest sum earns 1 point.
- ◆ Players place the used cards in a discard pile and play the next round the same way. When all cards have been used, the discard pile is shuffled and reused.
- ◆ The first player to earn 10 points wins.

Variations:

- ◇ Change the number of cards dealt.

FIND A FRACTION

Create & calculate fractions 2 - 4 players

Materials: Deck of cards Ace - 9 (remove 10, Jokers, J, Q, K) Note: Ace = 1

To play:

- ◆ Shuffle the cards and deal out 4 to each player.
- ◆ Each player uses to numbers on the 4 cards to create a fraction equation with the largest possible whole number answer. For example, if a player is dealt 2, 3, 5 and 6 the player could create $\frac{2}{3}$ of 6 (with the 5 unused) which gives an answer of 4. If a player has been dealt 2, 4, 5 and 7 they could create $\frac{5}{7}$ of 42 which is 30.
- ◆ The score for each player is the answer that they have created.
- ◆ After 3 or 5 rounds, the player with the highest total is the winner.

SIMPLY FUN

Simplifying fractions 2 players

Materials: Deck of cards Ace - 9 and Jokers (remove 10, J, Q, K) Note: Ace = 1, Joker = 0

To play:

- ◆ Shuffle the cards and divide into 2 face down piles, one for each player.
- ◆ Players sit next to each other. Decide which player will be creating the numerator and which will create the denominator.
- ◆ At the same time each player turns over two cards and place them down. The numerator player places his pair of cards on top and the denominator player places his cards on the bottom.
- ◆ Players compete to be the first one to name the fraction in simplest form. For example:

$$\begin{array}{cc} \boxed{7} & \boxed{2} \\ \boxed{2} & \boxed{8} \end{array} \quad \frac{72}{28} = 2 \frac{4}{7}$$

- ◆ The first player to say the correct answer wins the cards. The player with the most cards wins.

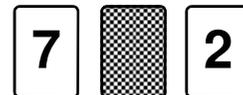
DECIMAL AIM

Decimal concepts 2—6 players

Materials: Deck of cards Ace - 9 and Jokers (remove 10, J, Q, K) Note: Ace = 1, Joker = 0

To play:

- ◆ Shuffle the cards and place the pile face down.
- ◆ Decide how many rounds will be played.
- ◆ At the start of each round, turn over the top card. This is the number to aim for in that round.
- ◆ Each player is dealt 3 cards, and chooses 2 of them to form a number as close as possible to the target number. The left card represents a whole number, and the right number a decimal, for example, 7—2 could be 7.2 or 2.7. The player with the number closest to the target scores a point.
- ◆ Hint: The unused card can be used to represent the decimal point:



Variation: Deal each player 4 cards to form a number with 2 decimal places.