

Zero In

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Grade Level: 4-9

Description: A card game using fractions.

Objective: To be the first player to be able to lay down all cards in a book or books, each having a value of zero. The first player to score 25 points is the winner.

Resources/Materials:

The deck should contain 52 cards of the form below:

* 25 cards; 5 each of the fractions $\frac{1}{3}$, $\frac{2}{3}$, $\frac{3}{3}$, $\frac{2}{4}$, and $\frac{4}{4}$.

* 18 cards; 6 each of the fractions $\frac{1}{4}$, $\frac{1}{2}$, and $\frac{2}{2}$.

* 7 cards of the fraction $\frac{3}{4}$.

* 1 card each of the fractions $\frac{4}{3}$ and $\frac{3}{2}$.

Number of Players: 2 to 6

Rules:

1. Select a dealer.
2. The dealer shuffles the deck and deals 7 cards to each player.
3. The remaining cards are placed face down in the center of the table to form the stock pile and top card is turned face up beside the pile from the discard pile.
4. Each player then checks his hand to see if he has any cards which may be combined, using any of the four basic operations, into books having a value of zero. He may use any combination of operations and grouping in arranging his cards in books with a value of zero.
5. Multiplication by zero is not permitted.
6. Play starts with the person to the left of the dealer and moves clockwise.
7. Any player may draw from the discard pile or draw the top card from the stock pile.
8. After each draw a player must discard a card face up on the discard pile, a card from his/her hand.
9. Play continues until someone ZEROS-IN by discarding one card on the discard pile and plays the remaining seven cards in a book or books,

each having a value of zero. The other players may then lay down any books which are contained in their hands.

10. After all of the players have laid down their book(s), any player may challenge any of his opponents regarding the construction of their book(s). When challenged, a player must explain the operations and grouping he/she used in making book(s). If the challenged player's book is incorrect, he/she must give the challenging player all of his/her books. If the challenged player's book is correct, the challenger must give all books to the player he incorrectly challenged.

11. How hard/easy is it to check all the books? If a book is incorrect but goes unchallenged, it is regarded as a correct book and scored accordingly.

12. If a player incorrectly ZEROS-IN and is subsequently challenged, he/she loses his/her book(s), even though they are incorrect, to the challenging player (see #3 of Scoring). He/she then must retire from the play of that hand and play continues until another player ZEROS-IN.

13. The first player to accumulate 25 points is the winner.

Extension 1:

1. A player receives 5 points for a ZERO-IN plus 1 point for each of the books he plays. (See 12 above)

2. All players receive 1 point for each book they correctly play.

3. All players receive 1 point for each book they receive from an opponent via a correct challenge even though that book is incorrect.

4. The player with the largest book receives a bonus of 2 points. (No points are awarded under this rule if there is a tie.)

Extension 2:

1. If a player can DOUBLE-ZERO-IN (play all 7 cards from his hand as well as the card which he draws), he/she is awarded 10 points plus 1 point for each book which played.

2. Award points on the basis of the number of cards correctly played rather than scoring for books.