



The Number Rack

Games



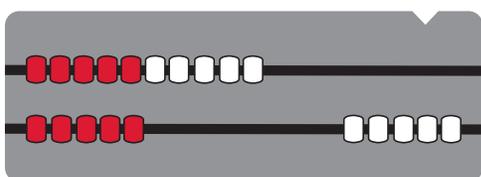
The MATH LEARNING CENTER

Bidding Sliders

Whoever slides the last bead in the top row to the right side wins. To move beads, though, players bid—using beads in the bottom row—and whoever bids more on each turn earns the right to slide 1, 2, or 3 beads in the playing row from the left side to the right side. [Watch a sample game!](#)

Get Ready to Play

- Players share a student number rack for this game.
- Move all beads in the top row to the left.
- Divide the beads in the bottom row so that each player has 5. Slide all the red beads to the left for one player and all the white beads to the right for the other player.



Initial Game Setup

On Your Turn

- 1 Bid for the right to make a move. You can move only if you bid more than the other player.

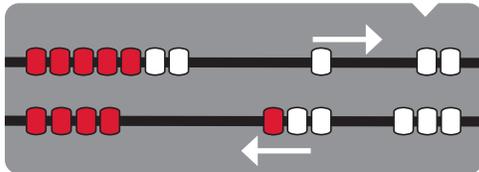
To start the game, Player A has the tiebreaker advantage, so if both players bid the same number of beads, Player A can decide to invoke the advantage and take that move; or, they can decide to not invoke the advantage (keeping it for future use), and Player B would take that move. If the advantage is invoked, the player who invoked it makes the move, but then the advantage transfers to the other player for future use.

Note: A player can bid 0 on their turn, if they want to forfeit the right to move and just collect the other player's bid.

- 2 If you outbid your opponent, slide the number of beads that you bid from your side to your opponent's side in the bottom row.

- 3 Also, make your move by sliding 1, 2, or 3 beads in the top row to the other side of the rack.

For example, if Player A bids 2 and Player B bids 3, then Player B gives 3 beads to Player A in the bottom row and then makes a move of 1, 2, or 3 beads in the top row.



I outbid you with 3 beads, and then I moved 1 bead in the top row.

- 4 If you have no beads remaining in the bottom row, you must bid 0 beads on that turn.

Note: It's possible for both players to bid 0, and a player could use the tiebreaker advantage to take the move.

Ending the Game

When all beads in the top row have been moved to the right, the game ends. The player who moved the last bead wins!

Nim

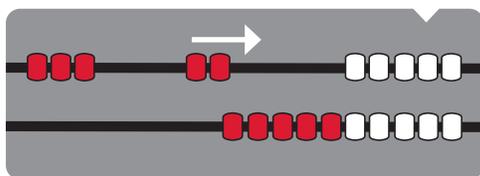
Players take turns sliding 1 or 2 beads to the other side, and the player who slides the last bead to the other side wins.

Get Ready to Play

- Share a student number rack for this game.
- Move all beads in the top row to the left. (Move the beads in the bottom row to the right to show that they will not be used.)

On Your Turn

- 1 Slide 1 or 2 beads in the top row from the left to the right.
- 2 Say how many beads you moved, and how many remain.



I moved 2 beads to the right, and 3 beads remain on the left.

Ending the Game

When all beads have been moved to the right, the game ends. The player who moved the last bead wins!

Variations

- The player who moves the last bead to the right loses instead of wins. How does this change your strategy?
- Players may move a different number of beads on each turn. For instance, instead of just 1 or 2 beads, players can move 1, 2, or 3 beads on each turn; or, maybe players are limited to moving either 1 or 3 beads on each turn but not 2.
- Use both rows of beads. Players can move any number of beads on a turn, but beads can be moved from only one row in a given turn. (That is, a player cannot move some beads from the top row and some beads from the bottom row on the same turn.) The player to move the last bead wins.

Oddly

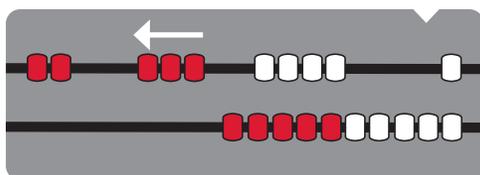
One player plays for an even number, and the other player plays for an odd number. They take turns sliding 1, 2, or 3 beads from the middle to their side of the rack. The even player wins if both sides end with an even number of beads; the odd player wins if both sides end with an odd number of beads.

Get Ready to Play

- Share a student number rack for this game. Move all beads in the top row to the middle of the rack. (The beads in the bottom row will not be used.)
- Decide if you will be the odd or even player.
- Decide if you will slide beads to the right or left side of the rack.

On Your Turn

- 1 Slide 1, 2, or 3 beads in the top row from the middle to your side of the rack.
- 2 Say how many beads you moved, and how many are now on your side of the rack.



I moved 3 beads to my side, and I know have 5 beads on my side of the rack.

Ending the Game

When all beads have been moved from the middle, the game ends. The odd player wins if there are an odd number of beads on each side; the even player wins if there are an even number of beads on each side!

Variation

Use both rows of beads. Players can move 1, 2, or 3 beads from either row on a turn, but beads can be moved from only one row in a given turn. (That is, a player cannot move some beads from the top row and some beads from the bottom row on the same turn.)

The odd player wins if there are an odd number of beads in all four piles at the end of the game; the even player wins if there are an even number of beads in all four piles. It's a draw if there are two piles odd and two piles even.