

Game Show

Level B

Many viewers complained about the game show called *Take Two*, so the producers changed the show's name and rules. The new show is called *Pick Up Coins*.

They also changed the number of coins from 9 to 22 and changed the rules so on a turn a player could choose to pick up either one coin or two coins.

The new rules are: Start with 22 coins. The players take turns. On a turn, a player must take either one or two coins away. Then it is the other player's turn. The second player takes either one or two coins away. The game continues with alternating turns. The player who picks up the last coin loses. The other player wins.

Determine a strategy for playing this game.

Explain a strategy that may ensure you win the game.

Is this a fair game? Explain your reasoning.

