Spinning Odds and Evens

Summary

Students will explore probability by playing a game of chance and determining if it is a "fair" game.

Main Core Tie

Mathematics Grade 2
Strand: OPERATIONS AND ALGEBRAIC THINKING (2.OA) Standard 2.OA.3

Materials

    Paper
    Pencil
    Paper clip or spinners
  - Odds and Evens handout
    (pdf)
Additional Resources
Book

  - *No Fair!*
    by Caren Holtzman; ISBN 0-590-92230-0
    Two children play several games of chance trying to figure out what is mathematically fair.

Intended Learning Outcomes

2. Become mathematical problem solvers.
3. Reason mathematically.

Instructional Procedures

Invitation to Learn
How many of you like to win at playing games? Has anyone ever played a game that wasn't fair? What are the aspects of a fair game? Today you will determine if a game is fair. Then you will design your own game and try to make it fair.
Instructional Procedures

    Pass out *Odds and Evens* handout with paper clips. (Even though spinners look different, they are the same.)
    Explain that the students will determine whether or not the game is fair.
    Using the spinner, or pencil and paper clip, play the game several times.
    Explain in writing whether or not the game is fair. If it is not fair, design a game that would be fair.

Extensions

Ask the students if they can design a game using dice that is fair. Have students use dice to design a game that is fair. What numbers are rolled most often? What numbers are rolled least often?

Assessment Plan

Students should be able to report the game is not fair. There are more even sums than odd. Even plus even has an even sum. Odd plus odd has an even sum. Odd plus even has an odd sum.

Authors