Math 6 - Act. 21: Spinning Probability

Summary
Students will apply basic concepts of probability to design spinners that match a specific set of clues.

Group Size
Small Groups

Materials
    Worksheets
    Pencils
    Crayons
    Rulers

Background for Teachers
A certain probability can be expressed as a ratio (3 out of 8), as a fraction (3/8), as a percentage (3 divided by 8 or 37.5%), or as a decimal (.375). The first number (3) represents the portion of the whole that are your chances, while the other number (8) represents all the possible chances. For instance, if there are four different colored balls in a bag, your chances of drawing out one certain color would be 1 out of 4, 1/4, 25%, or .25. The "Invitation to Learn" activity models the activity for the cooperative learning groups to later follow.

Intended Learning Outcomes
4. Communicate mathematically.

Instructional Procedures
Invitation to Learn
Make an overhead spinner by copying the overhead, putting a thumbtack with point upwards through the center of the overhead's circle, and laying a paperclip over the tack. Display the spinner and tell the class that the spinner determines their prize for a contest. Use think-pairshare to ask the group the following:
    What are your chances of winning a pencil? Express your chances three ways.
    What is your chance of winning a ball?
    What is your chance of winning a yo-yo?
    Which do you have more chances of winning, a book or a ball? How do you know?
    Which do you have more chances of winning, a pencil or a ball? Use fractions to prove your answer?
Instructional Procedures
    Pass out the "Student Answer Sheet" to each student, and a "Student Clue Set" to each group. Each person in the group will have one turn to read the clues. The group will discuss together until they can agree on a spinner design to meet the clues. Then each person will draw the spinner on his or her own paper.
    Each group will pass two of their "Student Answer Sheets" to another group. Then each group will compare their own spinner designs with another group's spinner designs.
Curriculum Integration
The study of probability is linked to the study of genetics. There are some gambling subjects that could also be discussed.

Extensions

Possible Extensions

Have each student write a clue set. The four clue sets produced by a group could be passed to another group to solve.

Homework & Family Connections

Give each student a spinner as used in the Invitation to Learn activity. Have them try spinning it to see if the odds they predicted are really true.

Assessment Plan

This activity has a built-in assessment because each student will produce an answer sheet with spinners designed to show their understanding.

Bibliography

The idea for this activity came from Grognet, Jameson, Franco, & Derrick-Mescua in *Enhancing English Language Learning in Elementary Classrooms, Study Guide* (Delta Publish Company).

Authors

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