CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
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Project Number
J1208

Project Title
Tails Up

Abstract

Objectives/Goals
How many times do you have to drop ten quarters, while re-dropping all the ones that land on heads until you get all tails? Also, do the results vary if you use pennies, nickles, dimes, or fifty-cent coins?

Methods/Materials
My materials were Lego's, ten quarters, ten pennies, ten nickels, ten dimes, ten fifty-cent coins, and a rular. My methods were: firstly, I built a platform seventeen inches high with Lego's. Secondly, I placed the quarters at the edge of th Lego structure. Thirdly, I pushed all of the quarters off of the structure at the same time. Fourthly, I recorded how many quarters landed with the tails side up. Fifthly, I re-dropped all of the coins that landed with the heads side up. Then, I repeated steps two to five until all of the quarters landed with the tails side up. After that, I repeated steps two to six using pennies, nickels, dimes, and fifty-cent coins. Finally, I cleaned up.

Results
The average number of times dropped were: quarters, four; pennies,five; nickeld, five; dimes, five; and fifty-cent coins, four.

Conclusions/Discussion
The conclusion of my results was that the averages are constant. The typical number of times dropped for quarters is four. Four and five tenths, rounded to five, is the standered number of drops for pennies. The common number for nickels is also five, rounded from four and seven tenths. The normal number of drops is four and eight tenths, or five, for dimes. Finally the average number of times dropped for fifty-cent coins is four.

Summary Statement
I dropped ten quarters and re-dropped all the ones that landed on heads until I got all tails and I saw if the results varied if I used pennies, nickels, dimes and fifty-cent coins.

Help Received
Mother helped get supplies