## 962-L1-370 Susie M. Lanier\* (slanier@gasou.edu), P. O. Box 8093, Statesboro, GA 30460, and Sharon M Barrs (sbarrs@gasou.edu), P. O. Box 8093, Statesboro, GA 30460. Probability Involving a TV Game.

The purpose of this demonstration is to use a "real life" situation to help students learn about counting strategies, equally likely and non-equally likely events, probabilities, and simulations. The PLINKO game, featured on CBS's THE PRICE IS RIGHT, provides an entertaining environment for exploring these mathematical topics. Players drop their chips in one of nine slots at the top of the board. The chip bounces off pegs and lands on a dollar amount ranging from \$0 to \$10,000 at the bottom of the board. As a chip hits a peg not located on the outer boundary, it has an equally likely change of falling to the right or the left. If the peg is located on the outer boundary, the chip is forced to fall so that it remains in play on the board. There are many mathematical questions that can be asked about this game. How many paths are there to the \$10,000 slot? Can we use this number to determine the probability that you will win \$10,000? What are the theoretical probabilities for each dollar amount? Where should you place the chip to increase your chance of winning \$10,000? A PLINKO board can be made easily using a peg board and pegs. Hence, a class can "play" the game and estimate the probabilities. The game can also be simulated on a computer or a programmable calculator. (Received September 12, 2000)