Name(s)	Project Number
Andrew S. Widmer	**22798**

Project Title

How Accurate Is the Bell Curve?

Abstract

Objectives/Goals

The objective was to determine if the use of a Gaussian probability device actually follows a repeatable| predictable model of a bell curve.

Methods/Materials

I constructed a Gaussian device by affixing 12 one inch slats equidistant along the bottom edge of a 1 foot X 2 foot piece of pegboard creating 12 compartments to catch falling marbles in. The remainder of the area above these compartments had wooden dowels inserted into the pegboard holes to allow the marbles falling from a centered funnel at the top to strike and fall into the compartments below randomly.

Results

With each release of 200 marbles, 50% would fall into the 2 center compartments, 34% in each of the adjacent 3 sides to the 2 center slots, and 16% would fall into each of the 2 left or 2 right outside slots. These results consistantly repeated within 5% each trial.

Conclusions/Discussion

I have concluded that the use of this Gaussian probability device does allow for a repeatable model of data to construct a bell curve with. I can predict with reliability that each trial of marble drops made will fall under the predicted bell curve.

Summary Statement

A Gaussian probability device can be used to produce a repeatable, predicatable bell curve model.

Help Received

My grandfather helped me construct the Gaussian device. My mother assisted me with the construction of the display board.