CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
Joshua W. Grondalski

Project Number
22183

Project Title
Rat Race!

Abstract

Objectives/Goals
I think each time a rat would go through a maze, the running time would be faster than the previous time. Each rat will learn to go through each new maze easier and faster each time it is put through a trial.

Methods/Materials
Three young female rats were used as the test subjects. A 3 foot 2½ inch by 4 foot plywood board, with a checkerboard pattern of 3 x 3 inch squares cut into it, was used as a base for the maze. Sheet metal 5 inches in height of various lengths (multiples of 3 inches) were used for the walls. This allowed easy changing of the maze. I drew five different maze designs on graph paper. Each maze design has twenty turns and ten dead ends. The start and the finish for each of the five mazes rotated so they were not located in the same spot for each maze. Special treats were placed at the finish line each trial run. I decided to have each rat have ten trials in each maze over a five day period. Each trial time was recorded in my log book.

Results
The data shows that each time a rat ran through the maze, her time was improved. With the exception of a few trials, each rat improved its clocked running time through each new maze.

Conclusions/Discussion
I saw that rats improved their trial times each time through the maze. They also improved their times with each new maze faster than the previous one, for the most part. I learned that rats have a very good learning capacity or short-term memory and can memorize things easily.

Summary Statement
Three rats ran through 5 different mazes to test their learnig ability.

Help Received
Grandpa & Dad helped with maze, Mom helped with project display