CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY

Name(s)
Tanner Clark

Project Number
J0605

Project Title
Build Your Legos, Build Your Brain!

Abstract

Objectives/Goals
This project asks the question #Does playing with Legos every day improve boys# math scores?#

Methods/Materials
Ten fifth grade boys were selected from two different classes. One class was an advanced/proficient class; one class was a basic class. Of the ten boys chosen from each class, five became the test group and five became the control group. Ten original Lego sets were designed using Lego Digital Designer. Both classes were given a pretest. Each day for ten days, boys from the experimental group from each class were given a different Lego set to build at home each night. At the end of the ten day building period a post test was given.

Results
Boys in the control group from the basic class outperformed the experimental group from the same class. Boys in the experimental group from the proficient/advanced class outperformed the control group from the same class.

Conclusions/Discussion
Though the results of the initial experiment were inconclusive, enough information was gathered from the process to provide guidelines for establishing further controls for the experiment when it was repeated. The experiment was repeated using boys from two sixth grade honors math classes. Post test scores were much lower than pretest scores for both the experimental and the control group. However, post test scores for the experimental group did not decrease as much as post test scores for the control group. Even though all scores went down between the pretest and the post test, boys who played with Legos had less of a drop in their post tests scores, indicating that playing with Legos had a positive effect on their learning.

Summary Statement
My project is about establishing a connection between building with Legos and improving math scores.

Help Received
My mom helped me type the report. Mrs. Denbaugh and Mr. Baggett, two teachers, provided the Saxon Math test generators for me to use, Mrs. Denbaugh, Mrs. Sachs, and Mrs. Reisland provided time and/or students for the experiment.