CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
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Project Number
22773

Project Title
Is Brighter Better?

Abstract

Objectives/Goals
The objective of this experiment is to determine if there will be a better bond strength with the laser light cure or the high intensity visible light cure.

Methods/Materials
Obtain: Extracted teeth; Dental stone; Orthodontic brackets; Orthodontic cement; Power Pac Visible light curing light; Optilux high intensity visible light curing light; Optilux visible light curing light; Pulley; Fishing wire; Wheat; scale.
Steps: Obtain materials; place teeth in stone base; place brackets on tooth with light cured orthodontic cement; cure cement with first light; test strengths; record weights needed to break bond; repeat with other lights having 15 trials with each sample. Graph, analyze, conclude and communicate results.

Results
My hypothesis was proved correct after I did my experiment. The laser light cure held an average of 4949 grams. The high intensity visible light cure had held 3028 grams. The visible light cure held 4127 grams.

Conclusions/Discussion
The laser light cure held the most amount of mass with an average of 4949 grams. The high intensity visible light cure had held 3028 grams and did the worst while the visible light cure held the second best, 4127 grams. If I ever did this project again, I would add more trials or add a variatoion(soda-pop on some teeth, etc.). This experment worked out well and I feel that the results are accurate.

Summary Statement
The purpose of this experiment is to determine if there will be a better bond strength with a laser light or high intensisity visible light cure.

Help Received
My sister helped with display board; My Mom helped type; My Dad helped with trials and tooth preparation.