CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY

Name(s)
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Project Number
J1820

Project Title
The Effect of Weight and Shape on Buoyancy

Abstract

Objectives/Goals
The objective is to find out the effect of weight and shape on buoyancy.

Methods/Materials
Modeling clay was shaped into three different weights and four different shapes (sphere, pyramid, cube and hull). Each was attached to a spring scale and lowered into a beaker of water. The force in newtons was recorded first out of the water and after being immersed. The volume of water displaced by the object was also recorded. This procedure was repeated 30 times in water, as well as immersing the objects in oil and in vinegar. The entire process was repeated for all three liquids, changing the substance from modeling clay to playdough.

Results
When changing the weight of the object, the buoyant force increased as the weight increased. When changing the shape of the object, the buoyant force remained the same except for the hull shaped object.

Conclusions/Discussion
My hypothesis was supported by the data because the results have shown that the weight will have an effect on buoyancy, but the shape will not unless shaped as a hull. These results support Archimedes Principle of buoyancy.

Summary Statement
My project is about the effect of weight and shape on buoyancy.

Help Received
Used lab equipment at Thomas Jefferson Middle School under the supervision of Mrs. Shannon Harris.