CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY

Name(s)
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Project Number
J0815

Project Title
Higher Altitude Thin Air

Abstract

Objectives/Goals
The purpose of my project is to see the change of pressure in a container with increasing altitude and the container will act as a pair of lungs.

Methods/Materials
1-2 litter soda bottle empty ,2-16 oz water bottles, rubber cement,coat hangers,electrical conduit wrap,tire pressure gauge

I placed an air gauge on a air tight 2 litter soda bottle. Started at Hollister Ca 289 ft of elevation up to a altitude on Sonora Pass of 9,624 feet in elevation. At different elevations I measured the building air pressure in my test vessel and charted the results.

Results
Results were mixed. The 2 liter bottle did not expand as much as I had expected due to the thickness of the bottle. The smaller thinner walled plastic bottles expanded as predicted with impressive visual effects

Conclusions/Discussion
My hypothesis was correct. Some people have had a hard time breathing at altitude but usually will adjust to the higher altitude. Through my research that i've done people may have other medical difficulties such as not getting enough oxygen to the brain,faster heart beat,hyperventilation,stroke,heart attack,pulmonary embolism and swelling of the brain tissue these serious effects will usually happen at above 12,000 feet

Summary Statement
Why High Altitude air is thinner?

Help Received
Mother Helped Type report, Dad helped me build the mechanics of the project