CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY

Name(s)
Mohammed H. Siddiqui

Project Number
J0829

Project Title
Never Lose Track of Time

Abstract

Objectives/Goals
How does the construction of a magnetic clock affect its efficiency in comparison to a battery operated clock?

Methods/Materials
I used a mechanical pendulum clock, 2 bar magnets, 1 cylindrical antioc magnet, one battery-operated clock with used batteries, and a timer.

A. 1. First, I must construct a magnetic clock
2. I start by using a mechanical pendulum clock as a basic foundation of the magnetic clock
3. After this, I attached the antioc magnet to the pendulum, and I placed 2 bar magnets with equal force and same size on either side of the pendulum.
4. I then adjusted the positions of the magnets to provide the most efficient pendulum movements due to the repulsion
theory
B. 5. I now have my construction ready; therefore I proceed to the actual comparison part.
6. I begin with taking out the battery-operated clock and inserting old batteries (for the reason of testing faster)
7. I then synchronize both the pendulum clock and the battery- operated clock
8. I have 3 trials, all out of a time period of 5 minutes
9. I time how long it takes each clock to come to a complete halt
10. I write down my results, and compare both clocks# efficiencies

Results
From my experiment, out of a total 5 minutes, my magnetic clock worked approximately one minute every trial. Each consecutive oscillation of the pendulum took longer. I discovered that during the first, second, and third trial the pendulum#s first oscillation took approximately 1 second. Later the pendulum oscillations took longer.

Conclusions/Discussion
A battery- operated clock is more efficient than a magnetic clock. The results refute my hypothesis, because the battery- operated clock worked 5 minutes out of 5 minutes, in contrast the magnetic clock worked for approximately 1 minute. Some reasons for the ceasing of the clock's progression could be the force of gravity, insufficient power by the magnets, or wrong positioning of the magnets. Therefore, the

Summary Statement
My project is about creating a clock, designed to never stop working and revolutionize the world by using magnets for everyday purposes, including clocks.

Help Received
Aunt helped purchase necessary items for project. (presentation necessities)