Name(s)
Jedediah A. Fitzgerald

Project Number
J0107

Project Title

We're Ready for Liftoff: Examining the Effects of Hovering Heights on Produced RPM's

Abstract

Objectives/Goals
My goal for my project is to determine at which hovering height, over which terrain will a helicopter produce the least amount of RPM's.

Methods/Materials
For my experiment I used one (1) Craftsman tape measurer, one (1) Blade XC2 Helicopter, one (1) Blade XC2 remote control, one (1) stroboscope, a 35x25 square of river rock, a 35x25 square of asphalt, and a 35x25 square of grass. I hovered the helicopter at the variable height, over the designated terrain, taking measurements with the stroboscope and recording my results.

Results
My results showed that, on average, the .609 meter hover over grass produced the least amount of RPM's, the 1.22 meter hover over asphalt produced a middle amount, and the 1.83 meter hover over river rock produced the most RPM's.

Conclusions/Discussion
In conclusion, I discovered that to lessen the amount of RPM's produced, you should fly your helicopter low over smooth, level surfaces such as asphalt or grass.

Summary Statement

I chose this project because I wanted to lessen the amount of RPM's produced by a helicopter in order to save fuel.

Help Received

My mother took readings with the stroboscope, Carrie Given and Mrs. Lopez-Lickey, science teachers, helped with papers.