Name(s)	Project Number
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Project Title

Riding on Air: What Surface Does a Hovercraft Ride Over the Fastest?

Abstract

Objectives/Goals
The object of my project was to determine what surface a hovercraft would ride over the fastest. The surfaces chosen for the experiment were cement, grass, asphalt, rough dirt, and wet sand. The hypothesis of this experiment was that the cement would produce the fastest speed.

Methods/Materials
In order to conduct the testing, a hovercraft was built out of plywood and heavy plastic. A leaf blower was used as the engine for the hovercraft. A distance of 4.5 meters (fifteen feet) was measured over each of the five surfaces to measure feet per second and convert to miles per hour (mph). The hovercraft was ridden by an adult and a child over the five surfaces and timed. The tests were repeated by the same two people, five times over each surface, for a total of fifty trials.

Results
The hovercraft traveled at 1.02273 mph over the 4.5 meters, averaged between the adult and child's times. But riding over the wet sand, the hovercraft traveled 2.045 mph for 4.5 meters, the fastest time of the trials. Asphalt was the next fastest surface with a time of .681 mph over the same distance. In this experiment the hovercraft did not travel over the grass or the rough dirt at a measurable speed.

Conclusions/Discussion
The wet sand proved to be the fastest surface for the hovercraft to travel over. The smoother the surface the faster the hovercraft traveled. While the times for the adult were one to two seconds slower than the child's times, the speed results were the same. This experiment proved that the smoother the surface, the faster the speed of the hovercraft.

Summary Statement

My project was to determine what surface a homemade hovercraft would travel over the fastest.

Help Received

My father helped cut the plywood for the hovercraft.