

Graham Robbins

*Launch!*

The purpose of my experiment is to find a way to make the ammunition go further.

The first thing I did was research on catapults and Newton's laws. I made a catapult out of Lincoln Logs, Duct Tape, and Legos. I experimented with different materials to drop on the catapult. I tried blocks of Legos and a stack of circle magnets, but I decided to use a metal weight. Then, I launched the catapult from the heights of 24 in. and 36 in. I measured the drop height using a measuring tape. Then, I measured the launch distance from the end of the catapult to where the ammunition touched the ground. Then, I recorded my results. I averaged the results for the 24 in. drop and the 36 in. drop. After that, I made graphs to mark the distance traveled by the ammunition. I decided to find out the percent of change between the 24 in. launches and the 36 in. launches. I designed my board to display my results.

When an object is dropped from 36 inches instead of 24 inches, there is a 35.3% increase in distance of the ammunition. The variables the height of the object that I will drop to launch the catapult.

My conclusion is that the higher you drop the object that launches the catapult, the farther the ammunition will go. This is true because the higher you drop the object from, the more time it has to accelerate. Also, the distances that the ammunition traveled are varied because the angle that I dropped the object from changed, and like the sweet spot on a baseball bat, the catapult launched the ammunition further when the angle was right.