



Colorado Science and Engineering Fair

2024 Individual Project Abstract Form

Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.

Title of Project: Crazy Catapults

Finalist's Name: Emma McNerney

School and City: Burlington Middle School

Sponsor's Name: Michael Steach

Category: Engineering (ENGR)

Division: Junior (6th - 8th grades)

Abstract (250 words or less):

Abstract For Crazy Catapults

My project "Crazy Catapults" is a project focusing on if the shape of the base of a catapult will affect the distance the catapult can launch a small projectile (Marshmallow). Using Geometry and Engineering I will be aiming to prove that the shape of a structure will affect how well said structure works. My research will be pertinent, not only in the building of catapults but in the building of many other structures. In order to do this I built three model catapults, each with a different base. I then proceeded to launch a marshmallow three times from each and recorded the distance. I also averaged each catapult three launches to determine which catapult was the most effective. This yielded the following results; model catapult one launched an average of 5m 13cm, model catapult two launched an average of 3m 70.8cm, and model catapult three launched an average of 3m 12.4cm. This led me to the conclusion that model catapult one had the best base for a catapult. Model catapult one had a triangle base. Model catapult two had a square base, and model catapult three had a tetrahedron base. A tetrahedron is a three sided pyramid. This shows my hypothesis to be correct. The shape of a base of a catapult does affect how far said catapult can launch a small projectile.

I hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I also attest that the above properly reflects my own work.

Finalist's Signature:

Date:

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES of all of these forms to your Regional Fair Director with you Finalist Verification/Permission Form. A signed copy of this form must be included in your notebook.