**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: Does the size of marble affect the speed of a Newton's cradle?

Finalist's Name: Kacianna Ford

School and City: Craver Middle School, Colorado City

Sponsor's Name: Bethany Bak

Category: Physics & Astronomy (PHYS)

Division: Junior (6th - 8th grades)

Abstract (250 words or less):

Many people have either seen or heard of a Newton's Cradle, but most don't understand why it moves or why it stops. In my case, I wondered if the size matters in one of these unique structures. I tested this and I found that size does matter. I built three Newton's Cradles all in the same way so I could test this out. After research and testing I found out that the size and weight does affect the way the cradle works. My hypothesis was that the smallest ones were going to last the longest. I later found out that the biggest ones were actually the best ones to use if you want it to last longer.

*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: Kacianna Ford Date: 3-3-2024

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 o 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.