

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: The Change in Energy of Bouncing Balls

Finalist's Name: Emmett Wiedenheft

School and City: Southern Hill Middle School, Boulder, Colorado

Sponsor's Name: Peter Laird

Category: Physics & Astronomy (PHYS)

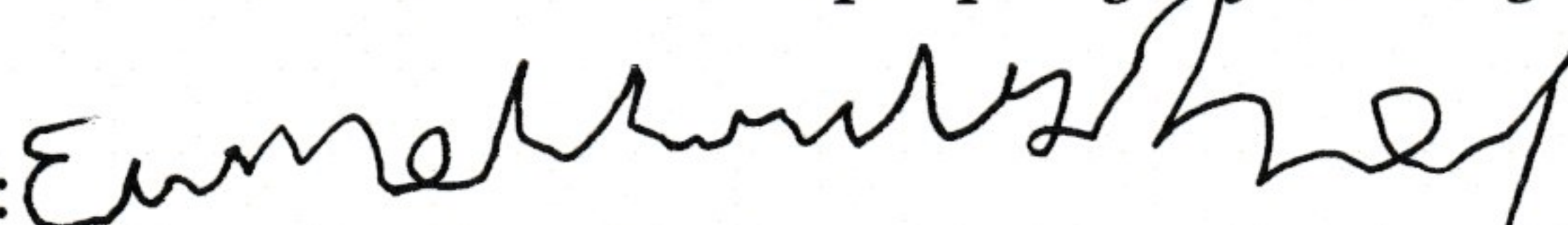
Division: Junior (6th - 8th grades)

Abstract (250 words or less):

I play different sports and was wondering how the transfer of energy affects a ball's bounce height. My experiment was to measure the transfer of Potential Energy to other types of energy when a ball bounces. The different balls (kickball, volleyball, basketball, baseball) were dropped from a consistent height with a release mechanism onto a hardwood floor to eliminate as much difference in each drop as possible.

My results were that the kickball bounced the highest likely because it was hollow and made of rubber so when it bounced it had elastic potential energy from compressing when it hit the ground. The baseball bounced the least, likely because it was filled with cork and the outside was leather which doesn't bounce well in my experience.

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: 2/27/20

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.