Colorado Science and Engineering Fair

2025 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: 12 Gauge vs 20 Gauge

Finalist's Name: Emmett Barger

School and City: Mancos Middle School

Sponsor's Name: Christopher Barger

Category: Physics & Astronomy

Division: Junior (grades 6 - 8)

Abstract (250 words or less):

My question was 12 Gauge vs 20 Gauge by the testing of bb spread accuracy and knockdown power at the ranges of 20, 30, and 40 yards. My hypothesis was both sides. I thought that the 12 gauge would have a better bb spread at farther ranges however I thought that the 20 gauge would have a better knockdown power and better accuracy. I did my work at the Durango outdoor gun club using headphones and safety glasses. My source of error is wind and weathering such as rain, snow etc. I found out that the 12 gauge had a wider bb spread at farther ranges however other than that the 20 gauge did better through accuracy at farther distances and it performed better through knockdown power.

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.**