



## 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 Effect of Humidity and Stem Length on Transpiration of White Carnation Flowers.

Finalist's Name: Ashton Power

School and City: Heritage Heights Academy, Aurora

Sponsor's Name: Linda Power

Category: Plant Sciences (PLNT)

Division: Junior (6th - 8th grades)

Abstract (250 words or less):

This research evaluates the effect of humidity and stem length on transpiration as measured by the uptake of color dye into carnation flowers. Humidity was created by placing a bag directly over one of the flowers in each set of stem lengths. Stems were cut to 6-inch and 18-inch. We visually compared them every 30 minutes for 5 hours until color change was no longer observed. As hypothesized, the flowers with 6-inch stem were noticeably more saturated than the longer 18-inch stems. The bags (for humidity) also reduced the uptake of dye into the flower. This means that humidity decreased the transpiration of dye through the xylems. Altogether, these results indicate that transpiration can be affected by various factors such as humidity and stem length.

*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.