



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: Light Wars: The Impact of Light Source on Plant Growth

Finalist's Name: Zuneirah Shahid

School and City: Crescent View Academy, Aurora

Sponsor's Name: Kamran Shahid (Parent), Amal Atwah (Teacher)

Category: Plant Sciences

Division: Junior (grades 6 - 8)

Abstract (250 words or less):

Have you wondered what fuels a plant's growth journey? Is the embrace of natural sunlight required or could an artificial lighting source serve as an adequate substitute? Plants rely on light to grow through the process of photosynthesis but do all light sources contribute to the process equally? In this experiment, I will compare light from the natural source of sunlight to artificial light and their impact to plant growth. Through observation and measurement, my analysis could help shed light on which source is the most effective in promoting growth and overall plant appearance. I hypothesize that plants will grow better and faster with natural light compared to artificial light. Specifically, I think that the plants exposed to natural light will have a larger overall size footprint and will also appear healthier.

The experiment is relevant to real-world challenges and opportunities. As people migrate and as urbanization expands, outdoor space has become more limited. As such, many people are turning to indoor gardening and other techniques to grow plants. Additionally, there is such variety around the world for climate and sunlight exposure that people are looking for new ways to grow plants that require specific conditions. Understanding the properties of natural sunlight and researching how artificial light could reproduce those properties could help people develop efficient lighting systems to grow plants under restrictive conditions.

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.**