



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: Debunking the Bath

Finalist's Name: Skyler Kechter

School and City: Liberty school, Joes CO

Sponsor's Name: Linda Fogale

Category: Chemistry

Division: Junior (grades 6 - 8)

Abstract (250 words or less):

This project is about determining if epsom salt solutions can draw metal ions through a semipermeable membrane, simulating the removal of toxins and other materials through the skin. The method for this project was applying multiple solutions to a chamber to see if the vitro-skin would allow certain sized particles to fit through. This was tested by hydrating the skin, cutting it into the appropriate sized pieces and latching the skin in the frame so the liquid wouldn't move it. Non-Absorbable cotton was put in the bottom of the chamber so the liquids wouldn't leak. Each solution was tested three times, only if the first two tests looked completely different. The results are that big particles like silver cannot fit through vitro skin, while epsom salt tries to draw it to the other side. Smaller particles like calcium chloride will fit through the skin, so movement is seen. What was learned is that metal ions with big particles will not be able to be drawn through a semipermeable membrane, but metal ions with small particles will. Epsom salt is beneficial in some ways but it is more effective at doing some things than others. Overall the data from this project supported the hypothesis.

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.**