



## 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: Salt or Sink

Finalist's Name: Neave Henschel

School and City: Hi-Plains

Sponsor's Name: Dakota Malone

Category: Earth & Environmental Sciences

Division: Junior (grades 6 - 8)

Abstract (250 words or less):

How much salt does it take to make objects float? I will be using eggs as my object, and I will see how much salt it takes to float the egg. I hypothesize that it will take a 1:3 ratio of salt to water. The steps I followed include: Step 1, get 5 eggs. Step 2, make a stock solution of 1 cup of salt dissolved in 5 cups of water. Step 3, make a two-fold serial dilution of the stock solution as follows: Cup 1 100% stock solution, cups 2-4, varied dilutions, and Cup 5, plain tap water. Step 4, calculate the ratio of salt to water for each cup. Step 5, test an egg in each solution to see if it will float and record data. Step 6, repeat test with each egg. Step 8, expand the experiment by using the previous data to narrow down the ratio. All 5 eggs floated slightly in cup #2. All the eggs fully floated in cup #1. Cup #1 was 100% stock solution and cup #2 was 50% of the solution in cup #1 and water. I expanded the experiment to find a more absolute level of density needed in the water. I tested only cups #1 and #2 again. All the eggs fully floated in cup #1. For cup #2 I added more solution each time until the egg floated. The result showed that the buoyancy level for this experiment is somewhere between 1:6 and 1:10 salt to water.

*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.**