Name(s)	**Project Number**
Christina A. Sun	**J1923**

Project Title

Salinity on the Hatching Rate of Brine Shrimp

Abstract

Objectives/Goals
I am investigating the effect of salinity on the hatching rate of brine shrimp. I hypothesized that the highest population of hatched brine shrimp nauplii would occur at 33 parts per thousand (ppt), the second highest population at 120 ppt, and the lowest population at 15 ppt.

Methods/Materials
A brief procedure of the experiment is as follows:
Set up aeration and heating system in three containers of fresh water.
Add salt to each container, composing solutions of 15 ppt, 33 ppt, and 120 ppt.
Stir 3g of decapsulated brine shrimp nauplii cysts into each container.
Let the mixtures sit for 24 hours.
For each container, dilute samples and multiply the number of hatched nauplii by the amount of dilutions for an approximation of hatched nauplii. Record data.
Repeat trial four more times.

Results
The average results for each salinity are as follows:
The 15 ppt had an average population of about 353,700. The 33 ppt had an average population of about 240,900. The 120 ppt had an average population of about 6,000. The 15 ppt continually yielded the highest nauplii population of all three salinities, while the 120 ppt continually yielded the lowest population of nauplii.

Conclusions/Discussion
The results of the experiment did not support my hypothesis. On an average, the nauplii population was highest at 15 ppt, second highest at 33 ppt, and lowest at 120 ppt. This shows that the strain of nauplii cysts I utilized was familiar with a lower salinity than that of typical seawater salinity and the Great Salt Lake, Utah's salinity.

Summary Statement

I am investigating the effect of salinity on the hatching rate of brine shrimp to recognize which salinity yields a higher population of brine shrimp.

Help Received

Used equipment at Cabrillo Marine Aquarium's Aquatic Nursery under the supervision of Kiersten Darrow and Cora Webber; Father helped design display board.