## Project Title

**Culturing Strains of Volvox to Become Acclimated to a High Level of Salinity**

### Objectives/Goals

The objective of this experiment was to determine if we could culture a strain of Volvox, normally freshwater algae, to become adjusted to a saltwater environment.

### Methods/Materials

We obtained our Volvox Aureus from Centennial High School, which also supplied the experimental equipment, and initially exposed them to a wide range of Instant Ocean concentration, from .006g/ml to .014 g/ml, to monitor their sensitivity towards a salt-water environment. After this analysis stage, we exposed the algae to increasingly higher levels of salt concentration. Light transmission and absorbency, as well as visible observations were recorded daily.

### Results

The data shows that after a period of adaptation, the Volvox was able to survive in an environment it did not expect. We cultured strains to .11 g/ml and .18 g/ml, and they continued to have growth in spite of increasing levels of salinity.

### Conclusions/Discussion

Sensitivity to the salt water might be limited by the time given towards adaptation before increasing the level of salinity. An experiment conducted over a longer amount of time with a less aggressive schedule might procure different results. It was determined that Volvox could be cultured to survive as well as those in freshwater, when the salt concentration was at .11 g/ml and .18 g/ml.

### Summary Statement

Strains of freshwater Volvox algae were cultured to become acclimated to oceanic conditions.

### Help Received

Volvox strains obtained through Mrs. Houseman. Mrs. Houseman advised us throughout project. Lab equipment used from Centennial High School.