



Journal of Student Research on Puget Sound

The collected reports of the student scientific explorations aboard the *SV Carlyn*

Salish Sea Expeditions is a catalyst for students in their inquiry of Puget Sound through boat based-scientific exploration.

There will be more plankton at the surface and less salinity at the surface.

**St. George School - 5th Grade
Seattle, Washington**

Spring 2007

Salish Sea Expeditions
647 Horizon View Pl. N.W.
Bainbridge Island, WA 98110

phone: 206.780.7848
www.salish.org



School: St. George
Dates: May 24 – 25, 2007
Grades: Fifth Grade
Teachers: Claire O'Donnell

I. Title

There will be more plankton at the surface and less salinity at the surface because zooplankton eat phytoplankton and phytoplankton get their energy from the sun, and salinity sinks to the bottom because of gravity.

II. Abstract

Why and how did we choose the prediction?

We had learned a little about the different tools that we could use on the boat and what they were used for. Then we got into groups and brainstormed questions that we thought were interesting and that could be done using the tools we had learned about. Then we shared our top questions with the rest of the class. There were 12 questions we thought we could do on Carlyn. Some of the questions couldn't be answered in just two days though so we crossed those ones off our list. Then we voted on our top two favorites and made 1 prediction out of the top two questions. We also made the prediction because we wanted to learn where more plankton live, closer to the surface or deeper down in the water. We wanted to test for salinity because we all really liked the niskin bottle, that's the tool used to collect water samples.

III. Introduction

Our Prediction: IF we test the salinity and plankton at different depths, THEN there will be more plankton at the surface and less salinity at the surface, BECAUSE zooplankton eat phytoplankton and phytoplankton get their energy from the sun and salinity sinks to the bottom because of gravity.

-The entire 5th grade contributed to writing this prediction!

Our class spent May 24th and 25th on an overnight science field trip on a boat called Carlyn. The boat is run by Salish Sea Expeditions. For two weeks before the trip we learned about the scientific method, about the tools that we would use on the boat, and we developed our own prediction to test while we were on Carlyn. In our journals and in this report we hope to share with you our trip experiences and our scientific findings!

IV. Experimental Design

How did we test our prediction?

The tools we used were the niskin bottle, phytoplankton net, zooplankton net, refractometer, and a sifter.

When we wanted to catch plankton we put the nets in for four minutes at a time with a special bottle at the end of the net. We collected samples from just below the surface and we collected samples from ten meters deep. Then we transferred the plankton into graduated cylinders and waited for the plankton to settle down so we could measure what we got by the lines on the cylinder.

We used the niskin bottle to collect water samples. We collected samples from the surface and from ten meters down. When we got the samples we used the refractometer to help us to find the salinity.

-Dana, Roy, and Nina

V. Results

We made a graph to show what we found:

Depth	Phytoplankton	Zooplankton	Salinity
0 meters	28ml	1ml	35ppt
	55ml	26ml	35ppt
10 meters	30ml	1ml	32ppt
	42ml	8ml	33ppt

ml = milliliter

Ppt = parts per thousand

What do our findings mean?

Our data doesn't support our prediction because the level of phytoplankton at 0 meters and at 10 meters are barely different and we thought there would be more phytoplankton at the surface.

We think we could have deployed the plankton nets deeper, maybe to 30 meters. Maybe there's still a lot of sun at 10 meters deep and we would see more of a difference between how much plankton live at the surface and at 30 meters deep. We also spilled some of the plankton, this might have ruined some of our results. If we extended our trip maybe we could have gotten more samples, if we had more samples maybe our results would tell us more. We were also wrong about

the saltiness of the water being more as you get deeper. It looks pretty much the same, maybe even a little more at the surface than deeper down.

-D'Nesha, Jade, and Brian

VI. Cruise Summary

What happened on our research cruise?

Cruise Track: 1st We left Anacortes
2nd We went through Guemes Channel
3rd We past the south of Cypress Island
4th We past Blakely and Decatur Islands
5th We went to Lopez Island
6th Then we headed back to Anacortes

Sailing: There were four sails on Carlyn, but we only used three. We used the jib, the mizzen, the main sail. It was fun raising the sails, we worked in groups and Dave and Lal helped too. We all had a chance to steer the boat is we wanted.

Fun Facts and Stories: We learned three new games; Nafia, Slapity-slap-clap, and Big Booty. We read storied like the Kraken, the SeaDragon, and Queen Amenra. We also sang the Penguin Song!

-Xylen, Matt, and Ellen