CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY

Name(s)
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Project Number
J1304

Project Title
How Low Will Plankton Go?

Abstract

Objectives/Goals
Our objective was to find the abundance of plankton at different depths of the ocean and if the depths affected the amount of Zooplankton and Phytoplankton in each sampled depth and area.

Methods/Materials
We came up with a device that would be able to collect water from different depths of the ocean without collecting water from other depths as well.It is two check valves connected with a pipe.It works by when dropping the device into the ocean the upward push of water pushes the check valves up and when you stop at the depth you want your upward pull keeps the valves closed until you open the bottom valve above your container.We used a 55ft rope with 5 knots in it every 10ft.We would measure our depths by holding a knot at the surface and dropping the device straight down until we felt a tug.We used plastic containers labeled with areas, surface, and the depth in feet.These helped us stay organized.Our boat was provided by our parents who so took us out and watched us collect our data.Our laser was provided by a family friend who works at UCSB.He helped us count the density and the amount of particles in each sample.This was our fluid count.He provided materials needed in the lab.Our microscope and slides, for our static plankton count, were provided by our parents. This count showed each kind of plankton in each sample.

Results
We found that Phytoplankton does live towards the surface because they need the sunlight to do photosynthesis because they are like a plant.We found that the smaller Zooplankton live right below them because phytoplankton is their source of food but, we found that the even larger Zooplankton live right below the smaller Zooplankton eating them. Then the larger marine animals eat fish which feed on plankton.

Conclusions/Discussion
we concluded that Plankton, while being at the bottom of the food chain, is the main source of marine life.Our project expands our knowledge of microbiology because from this experiment we learned that even though our hypothes was right, we can never really be sure about where they live.This is because they are living organisms, they eat, breathe, and move due the the currents and being able to swim.You can never be sure if you are going to land in an area full of plankton or two inches away from it. We found that there was never a certain kind of plankton in one area, both kinds were in each sample.We recorded both, but used the most common.

Summary Statement
Our project was to see how mcuh Zooplankton and Phytoplankton there was at different depths of the ocean.

Help Received
Used Lab equipment at USCB under the supervision of Dr. Vojislav Serdanov; Head of the Research Department of physics.