LAB: Phytoplankton Responses During an Upwelling Cycle *(Student)*

QUESTION: How Does Phytoplankton Respond During an Upwelling Cycle?

HYPOTHESIS: _____

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PROCEDURES:

Open the Data Sheet and use the directions (provided in the PowerPoint presentation) to generate graphs illustrating the changes in Nutrient data and Chlorophyl data across the 3 Stations.

DATA COLLECTION: (Copy and paste your data table and graphs below.)

DATA ANALYSIS: Analyze your data set and graphs to respond to the following analyses questions.

1. At what depth are Silicates at their highest concentration?

2. Is there an observable trend in the Silicates data set? If so, describe the observed trend in Silicates across the 3 stations.

3. At what depth are Nitrates at the highest concentration?

4. Is there an observable trend in the Nitrates data set? If so, describe the observed trend in Nitrates across the 3 stations.

5. At what depth did we observe the highest concentration of Chlorophyl A?

6. Is there an observable trend in the Chlorophyl A data set? If so, describe the observed trend in Chlorophyl A across the 3 stations.

7. The phytoplankton's response to upwelling is:
   A. Immediately observed in the data set.
   B. More apparent on Day 2 of the upwelling event.
   C. Identical to the abundance of nutrients available during the upwelling event.

8. At what depths of the ocean does most primary productivity occur? Why?

9. At what depth of the ocean are most of the nutrients found?

10. How does ocean upwelling support primary production?

11. Describe the relationship between primary productivity responses to the upwelling of nutrients in the ocean.

Summary of Findings/Conclusion: Use these key words in the Summary Statement: aquatic food web, biogeochemical cycle, nutrients, photosynthesis, primary productivity, upwelling, and upwelling cycle. Be sure to include data to support your findings.