



**Cue Plankton: Ocean
Timekeepers
Worksheet**

Name: _____

Date: _____

Directions: please supply the five graphs in this activity as an attachment to this worksheet.

CTD Data

- 1. At approximately what depth does the pycnocline begin on your graph?**
a. 800 meters b. 10 meters c. 130 meters

- 2. What is the temperature at 100 meters at Hydrostation "S" on May 21st?**
a. 20 °C. b. 15 °C c. 18 °C

- 3. Is the ocean temperature warmer or colder at 200 meters when compared to the surface?**
a. colder b. warmer

- 4. Please circle true or false:**
At 1000 meters water is both colder and more dense?
a. True. B. False

Fecal Pellet Production Data

- 5. What is your recorded average fecal pellet volume (mm³) across all of your time points?**

- 6. According to your graph at what time point are the most fecal pellets of *P. xiphias* recovered?**
- a. 9AM b. 2AM c. 10PM
- 7. According to your graph and supporting data, how many pellets were produced from copepods netted from shallow water?**
- a. 5. b. 26. c. 21
- 8. Based on these data, is fecal production by *P. xiphias* peaking at daylight or nighttime hours?**
- a. daylight b. nighttime

Discussion (one-page)

Why is it important to analyze the timing of zooplankton migration and how do particles, like fecal pellets, bring carbon into the twilight zone and beyond? Outline and explain two reasons why this process is important?