

NAME: _____

CLASS/ PERIOD: _____

DATE: _____

See-Think-Wonder

Look at the pictures from three ecosystems (coral reef, kelp forest, and Antarctica) and describe what you see in the pictures, what the pictures make you think about, and what the pictures make you wonder about.

<i>Ecosystem</i>	See	Think	Wonder
Coral reef			
Kelp forest			
Antarctica			

NAME: _____

CLASS/ PERIOD: _____

DATE: _____

Abiotic and biotic factors

Abiotic (nonliving) factors	Biotic (living) factors
1.	1.
2.	2.
3.	3.

Photosynthesis in the ocean

1. Where does most of our oxygen come from?
2. What are examples of producers in the ocean?
3. Draw and label a picture of photosynthesis in the ocean. Include the words: carbon dioxide, sunlight, water, oxygen, and glucose.

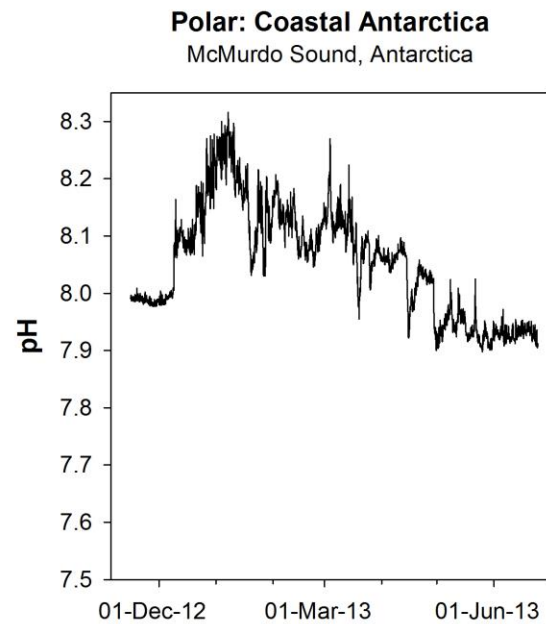
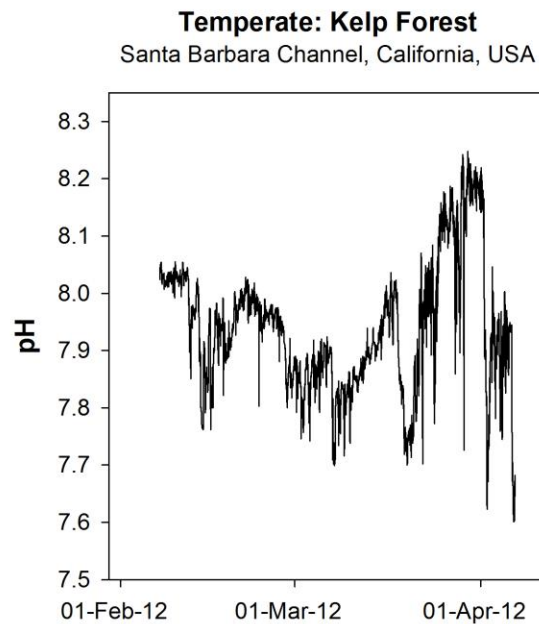
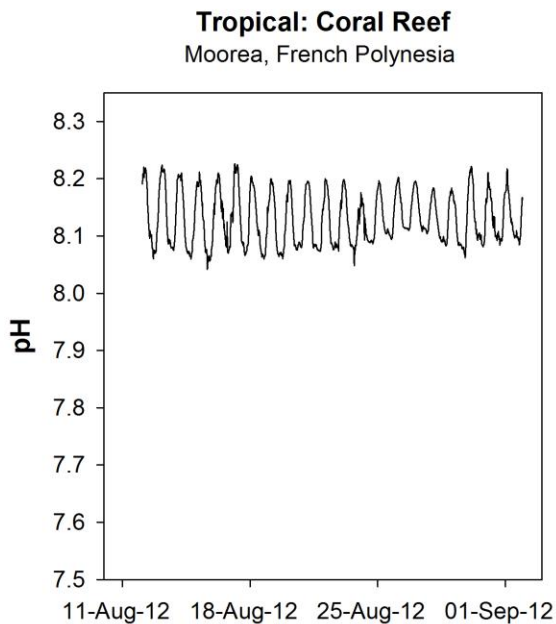
NAME: _____

CLASS/ PERIOD: _____

DATE: _____

Ecosystem comparison of pH levels

Understanding graphs The three graphs represent actual pH data collected from three different ecosystems: tropical, temperate, and polar. This is called time-series data.



- What do the *X* and *Y* axes represent?

X axis _____

Y axis _____

- The *Y* axis is the same across all three graphs and the *X* is different for each graph. What does this mean?

- What is the range for the *Y* axis (pH units)? _____

NAME: _____

CLASS/ PERIOD: _____

DATE: _____

- What is the range for the X axis (number of days)? _____
- How might different times or seasons of the year affect the pH levels of that ecosystem?

- Do you think the time of day impacts what the observed pH was?

Graph interpretation

- What is the range of pH for each ecosystem? You can use a ruler to estimate.

Antarctica: _____

Kelp forest: _____

Coral reef: _____

- How do the graphs differ numerically (ranges of pH, highest and lowest values)?

- What ecosystem has the biggest shift in pH? _____
- What ecosystem has the most regular, or repeatable, pH level?

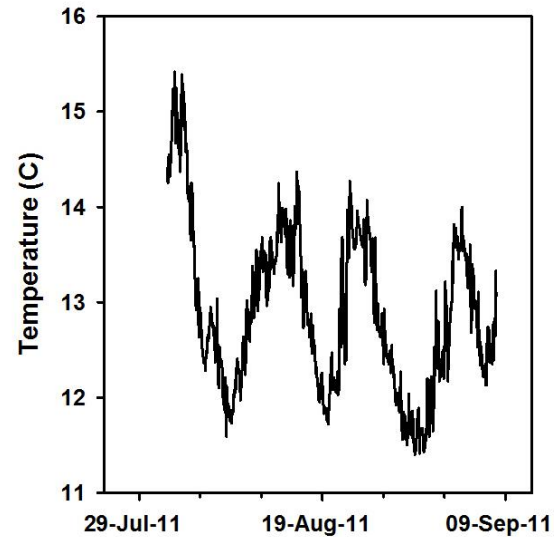
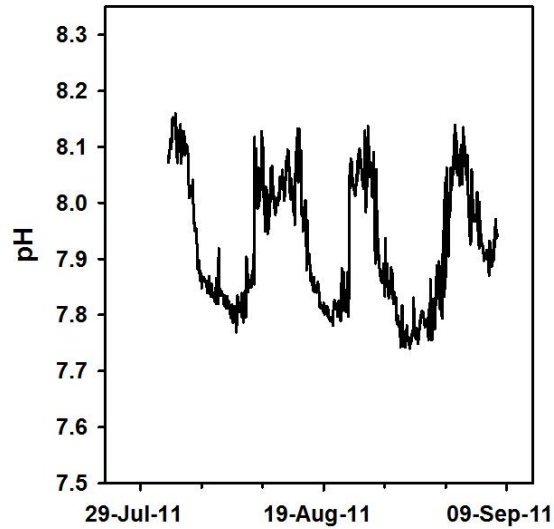
Mystery Graph

NAME: _____

CLASS/ PERIOD: _____

DATE: _____

These graphs are from the same location. The graph on the left is for pH, and the graph on the right is for temperature.



Describe the pH variability on the mystery graph (pH range, pH max, etc.).

Describe temperature variability on the mystery graph (temperature range, maximum temperature, etc.).

NAME: _____

CLASS/ PERIOD: _____

DATE: _____

Hypothesize which ecosystem these pH data came from and describe the evidence behind your reasoning.

What could be the biotic and abiotic sources of pH variation in this graph? Explain your reasoning.
