

Name _____

AP BIOLOGY EXAM ONE

FREE RESPONSE QUESTION

The element carbon is contained in all organic compounds.

- (a) **Discuss** the role of photosynthesis and cellular respiration in carbon cycling in the biosphere.
- (b) For THREE of the following, **predict** and **explain** the effect on the carbon cycle if:
- decomposers were absent
 - deforestation occurred
 - volcanic dust accumulated in the atmosphere
 - the average ocean temperature increased
- (c) **Explain** how increased CO_2 in the atmosphere results in greater acidification of oceans and **describe** the effect on marine organisms. **Include** in your discussion TWO examples of how human activity can increase atmospheric CO_2 .