Analyzing Photosynthesis and Respiration

During photosynthesis, green plants use carbon dioxide and water to produce food in the form of glucose. During respiration, the glucose is broken down to be used as energy by the plant. As the glucose is broken down, oxygen is released by the plant. Carbon dioxide, oxygen, and water form a continuous cycle during these two processes.

Figure 1

Study the diagram of the carbon cycle that is shown in Figure 1. Then answer the questions, based on the diagram and your knowledge of photosynthesis and respiration.

1. The concentration of CO₂ in the atmosphere remains at a stable 0.004 percent. Which two processes keep this concentration stable? 

2. Plants depend upon the activities of animals for a continuing supply of which substance?

3. Which process removes CO₂ from the atmosphere?

4. Which process adds CO₂ to the atmosphere?

5. Into which organic compound does photosynthesis convert the carbon of CO₂?

6. After plants are eaten by animals, what process changes the carbon in these organic compounds back to CO₂?