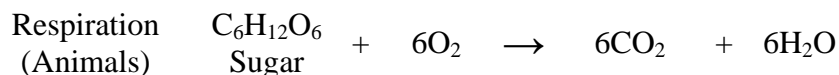
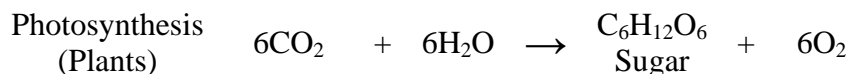


Are you what you eat? [u](#)

Page 1: **Rose's Recollections** Case Study Problem No. 1 C-643 Intermediary Metabolism



Among the things that stuck in Rose's mind from her fuzzy memories of high school biology was that photosynthesis and respiration were opposite processes. She still remembered the equations:



Only when her friend Tony said that every carbon atom in a person's body came from photosynthesis did it strike her that, "she might be sweet, but she wasn't pure sugar." Although her statement of the problem amused her, her sudden awareness of something she didn't understand bothered her a bit, but not enough to look up anything. Several weeks later during an organic chemistry lecture on the synthesis of nylon, it dawned on her that maybe all the carbon atoms in her clothing, whether made of natural or synthetic fibers, came ultimately from photosynthesis.

1. What do you think of Rose's speculation?
2. Is what Rose remembered from high school biology a reasonable representation of the relationship between photosynthesis and respiration? How could you modify the model to accommodate Tony's assertion?
3. As a group, reconstruct as much as you can remember about the process of photosynthesis.
4. Based on the discussion of the above items, identify and make a list of issues on which your group is uncertain, disagrees about, or needs more information.