MODIFICATIONS BY MELISSA HASWELL

Making connections

1. Review the illustrations in the extension activity, which describe the fermentation of lactose in the large intestine of a patient who is not lactase persistent. Then answer the following questions:
2. Why does fermentation occur in the large intestine and not the small intestine?
3. Explain the role of the brush border (microvilli) of the small intestine in digesting lactose in a person who is not lactose intolerant.
4. Explain how the creation of hydrogen gas leads to bloating.
5. In the space below, explain in a short paragraph, or diagram, how the hydrogen gas will move from the large intestine to the lungs so that it can be exhaled. Be sure to include the role of the blood
6. If large amounts of lactose are consumed, undigested lactose also builds up in the large intestine leading to other recognizable side effects of lactase-deficient patients, such as diarrhea. In the space below, explain how the unabsorbed lactose pull fluid into the large intestine. Be sure to include the following terms in your answer: osmosis and osmolality (note: use your textbook to look up the definition of these terms).