**Cellular Respiration Practice**

1. The site of aerobic cellular respiration is the a) nucleus b) ribosome c) chromosome d) mitochondrion

2. Organisms make energy readily available by transferring the chemical bond energy of organic molecules to a) mineral salts b) adenosine triphosphate c) light energy d) nitrogenous wastes

3. Which of the following processes releases the greatest amount of energy? a) the oxidation of one glucose molecule to lactic acid molecules b) the oxidation of one glucose molecule to carbon dioxide and water molecules c) the conversion of two glucose molecules to a maltose molecule d) the conversion of one glucose molecule to alcohol and carbon dioxide molecules

4. The energy released from the anaerobic respiration of a glucose molecule is less than that released from the aerobic respiration of a glucose molecule because a) fewer bonds of the glucose molecule are broken in anaerobic respiration than in aerobic respiration b) more enzymes are required for anaerobic respiration than for aerobic respiration c) anaerobic respiration occurs 24 hours a day while aerobic respiration can occur only at night d) anaerobic respiration requires oxygen but aerobic respiration does not require oxygen

5. In the summary equation below, which process produces the lactic acid?

   \[ \text{Glucose} \rightarrow 2 \text{ lactic acid} + 2 \text{ ATP} \]
   
a) dehydration synthesis b) enzymatic hydrolysis c) fermentation d) aerobic respiration

6. Green plants use molecular oxygen for a) ATP production during anaerobic respiration b) ATP production during aerobic respiration c) light absorption during photosynthesis d) the hydrolysis of starch during intracellular digestion

7. Which activity is an adaptation that enables an earthworm to live on land? A) secretion of mucus, which moistens the skin b) production of nitrogenous waste products c) oxidation of glucose with the aid of enzymes d) digestion of food sequentially in a one-way tract

8. Vigorous activity of human voluntary muscle tissues may result in the production of lactic acid. Insufficient amounts of which gas would result in the buildup of lactic acid in muscle cells? A) carbon dioxide b) nitrogen c) oxygen d) hydrogen

9. In human beings, anaerobic respiration of glucose is a less efficient energy-releasing system than aerobic respiration of glucose. One reason is that in anaerobic respiration a) lactic acid contains much unreleased potential energy b) water contains much released potential energy c) oxygen serves as the final hydrogen acceptor d) chlorophyll is hydrolyzed into PGAL molecules