**Name:**_____

**Unit 5 Study Guide:**

**Plant Parts and Reproduction:**

1. What are the two specialized tissues in plants and what do they each transport?
   Xylem: To transport water from the roots to the leaves!
   Phloem: To transport organic molecules like sugar up the plant
2. Why would leaves need to be flat?
   To increase the sunlight absorption needed for photosynthesis.
3. What is the male reproductive part of a flower? What does it carry?
   Stamen carries pollen.
4. What is the female reproductive part of a flower? What does it carry?
   Carpel/Pistil - eggs
5. What do plants inhale from the atmosphere?
   $CO_2$

**Pigments and Photosynthesis:**

1. What are pigments? What do they do with light?
   Substances that absorb or reflect light
2. How do you read an absorption spectrum?
   Where the curve peaks, light is absorbed and the color is not visible. Where the curve dips the light is being reflected.
3. Which colors of light do plants use (absorb)? Which colors of light do plants reflect?
   Absorb: reds and blues
   Reflect: Greens and yellows
4. What is the equation for photosynthesis?
   $6CO_2 + 6H_2O + \text{energy} \rightarrow C_6H_{12}O_6 + 6O_2$
5. What is the energy storage molecule made in photosynthesis? What type of macromolecule is that molecule?
   Glucose: carbohydrate
6. What is the gas released from plants during photosynthesis?
   $CO_2$
7. What are the two reactions in photosynthesis called?
   Light independent and light dependent reactions
8. Where does the light-dependent reaction occur? What happens?
   Thylakoid: Uses water and light to release oxygen and pass along high energy hydrogens
9. Where does the light-independent reaction occur? What happens?
   Stoma: uses $CO_2$ and the high energy hydrogens to make glucose
10. What are the 3 environmental factors that affect the rate of photosynthesis?

$CO_2$ concentration, light intensity, and temperature

**Cellular Respiration:**

1. What types of organisms do cellular respiration?
   Plants and animals
2. What is the equation for cellular respiration?
   $C_6H_{12}O_6 + O_2 \rightarrow CO_2 + H_2O + \text{ATP(energy)}$
3. What are the reactants of cellular respiration?
   $C_6H_{12}O_6 + O_2$
4. What are the products of cellular respiration?
   $CO_2 + H_2O + \text{ATP(energy)}$
5. Where does cellular respiration take place?
   mitochondria
6. What do yeast do in an anaerobic (no oxygen) environment?
   Alcoholic Fermentation
7. What makes your muscles sore when you run out of oxygen?

Lactic acid fermentation

8. What makes your muscles sore when you run out of oxygen?
   Lactic acid
9. Which products of cellular respiration are not used but released and are considered waste?
   Carbon Dioxide and Water
10. What does BTB (bromothymol blue) indicate?
    Turns yellow in the presence of $CO_2$