Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Period \_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**PHOTOSYNTHESIS**



 1. What kind of organisms have photosynthesis?

 \_\_\_\_\_***plants and algae***\_\_\_\_\_\_\_\_\_\_\_

 2. Where does the energy come from for photosynthesis?\_\_***sun***

 3. What is the main product of photosynthesis? \_\_***glucose***\_\_\_\_\_

4. What useful gas is released to the air during photosynthesis? \_\_\_\_\_***oxygen***\_\_\_\_\_\_\_\_\_\_

GIVE A CHEMICAL DEFINITION OF PHOTOSYNTHESIS using these chemical element symbols **C H O** which stand for Carbon, Hydrogen, and Oxygen.

7. ***light***

 ***energy***

9.

 6CO2 + 6H2O + C6H12O6 + 6O2

 Reactants PRODUCTS

10. In which plant part does photosynthesis take place? \_ ***leaves***\_\_\_\_\_\_\_\_\_

 (The answer is NOT chloroplasts.)

11. What do chloroplasts do? \_make \_\_\_\_\_\_***glucose***\_\_\_\_\_\_\_\_

12. What happens to the energy from the sun? ***Light energy is transformed into chemical energy.***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13-17. Sketch a plant and place arrows in the sketch showing the photosynthesis cycle. Label arrows with the chemical symbols you used in 5-9 above.

**H2O**





light energy



**CO2**



**O2**



**C6H12O6 and**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Period \_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**CELL RESPIRATION**



 1. Cell respiration takes place in what organelle? \_\_***mitochondrion***

 2. Cell respiration requires what gas to be present? ***oxygen***\_\_\_\_

3. 3. Cell respiration uses what food? \_\_\_***glucose from food we eat***

4. Cell respiration produces what waste and side product? ***\_\_CO2 + H2O***\_\_\_\_\_\_\_\_\_\_\_

5. Cell respiration accomplishes what (main product)? \_\_\_\_***energy--ATP***\_\_\_\_\_\_\_\_\_\_\_\_

GIVE A CHEMICAL DEFINITION OF CELL RESPIRATION using these chemical element symbols **C H O** which stand for Carbon, Hydrogen, and Oxygen.

 C6H12O6 + 6O2 6CO2 + 6H2O + ATP (energy)

 PRODUCTS

REACTANTS

10. Why do you need plants for energy? ***Plants give us O2 and sugar to convert to energy***.

11-15. Sketch a stick figure and place arrows in the sketch showing the cellular respiration cycle. Label the arrows with the chemical symbols you used in 5-9 above.



**O2**



**H2O**

**CO2**



**ATP (energy)**

**C6H12O6**

