**Photosynthesis & Cellular Respiration and Cycles of Matter Review**

1. Define the following:

	1. Heterotroph
	2. Autotroph
	3. Photosynthesis
	4. Cellular respiration
	5. Fermentation
	6. Evaporation
	7. Transpiration
2. Where does all of the energy needed by living things originally come from?
3. What molecule provides energy for most cell activities? \_\_\_\_\_\_\_\_\_\_\_
4. What is a reactant?
5. What is a product?
6. What are the reactants and products for photosynthesis?
7. What are the reactants and products for cellular respiration?
8. What type of organism(s) does photosynthesis occur in? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. What organelle does photosynthesis occur in? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. How are photosynthesis and cellular respiration similar? (Give 2-3 reasons)
11. How are photosynthesis and cellular respiration different? (Give 2-3 reasons)
12. How do plants use the sugar produced during photosynthesis?
13. What would happen to the amount of sugar a plant makes if the amount of carbon dioxide were reduced?
14. If you were to set up an experiment testing the color of light on plant growth, what would be the best set up?
15. Using your knowledge of light, energy, and plants, explain why the following statement is incorrect, “*Plants are green and therefore grow best under green light.”*
16. What type of organism(s) does cellular respiration occur in? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
17. What organelle does cellular respiration occur in? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
18. Cellular respiration breaks down \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to release energy.
19. How many molecules of ATP can be produced from cellular respiration? \_\_\_\_\_
20. When no oxygen is present, what happens?

1. How do yeast and some bacteria produce energy? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What are the TWO possible products of fermentation?
3. Why should you stretch after a workout?
4. Explain how we (humans) indirectly use the energy from the sun.
5. In the photosynthesis/bromythymol blue lab, what gas made the solution turn green/yellow?



1. Explain why the solution with the plant turned blue after a few hours under the light?



1. If the jar with the plant above were put in the dark, what color would the solution turn and why?
2. Describe how carbon is cycled through the biosphere.

1. How do producers get carbon from the carbon cycle?

1. How do consumers get carbon from the carbon cycle?

1. What are some reservoirs (storage areas) of carbon?

1. How is nitrogen cycled through the biosphere? Where are large amounts of nitrogen stored?

1. Describe how water is cycled through the biosphere.