**Biology EOC Review: Page 2: Biochemistry and the Cell**

**BIOCHEMISTRY:**

1. What is the function of a **carbohydrate**?
2. What are two examples of carbohydrates?
3. What elements can be found in a **lipid**?
4. Give TWO examples of **proteins**.
5. Which **biomolecule** carries genetic information?
6. Fill in the following chart:

|  |  |
| --- | --- |
| **BIOMOLECULE** | **Monomer** |
| Carbohydrate |  |
| Lipid |  |
| Protein |  |
| Nucleic Acid |  |

1. Sketch an ATP molecule.
2. What is the purpose of ATP?
3. What do enzymes do?
4. Sketch an enzyme with a substrate-label each.
5. In what organelle does cellular respiration occur?
6. What are the reactants of cellular respiration?
7. What is the purpose of cellular respiration?

**THE CELL:**

1. Which type of cell are bacterial cells?
2. What is the plasma membrane made of?
3. What do ribosomes do?
4. In which organelle does photosynthesis occur?
5. What is homeostasis?
6. Diffusion and osmosis are (circle one) active transport/passive transport
7. Diffusion is the movement of particles from a \_\_\_\_\_\_\_\_\_\_\_\_ concentration to a \_\_\_\_\_\_\_\_\_\_\_ concentration.
8. What is the ONLY substance that moves during osmosis?
9. If a cell is placed in salt water it is in a \_\_\_\_\_\_\_\_\_\_\_\_tonic environment and will \_\_\_\_\_\_\_\_\_\_\_\_\_.
10. Why do your brain cells act differently from your skin cells if they have exactly the same DNA sequences?
11. True or false: viruses can contain DNA.
12. Which process uses tRNA (circle one): DNA replication, transcription, or translation?
13. When during the cell cycle is DNA replicated?
14. Name this stage of mitosis: 
15. If the diploid number of a given cell is 10, how many chromosomes does that cell have after
	1. Mitosis?
	2. Meiosis?
16. What is cancer?
17. What is the purpose of meiosis?
18. 1 round of mitosis creates \_\_\_\_\_\_\_\_\_cells that are genetically \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; 1 round of meiosis creates \_\_\_\_\_\_\_\_\_\_\_ cells that are genetically \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.