Chapter 2 Study Guide

Fill in the chart showing how each macromolecule acts in a cell

| | Monomer | Function in Cell | Example | Elements |
|--------------|---------|------------------|---------|----------|
| Lipid | | | | |
| | | | | |
| | | | | |
| | | | | |
| Carbohydrate | | | | |
| | | | | |
| | | | | |
| | | | | |
| Nucleic Acid | | | | |
| Nucleic Acid | | | | |
| | | | | |
| | | | | |
| | | | | |
| Protein | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

2. Label the following reaction with reactant and product

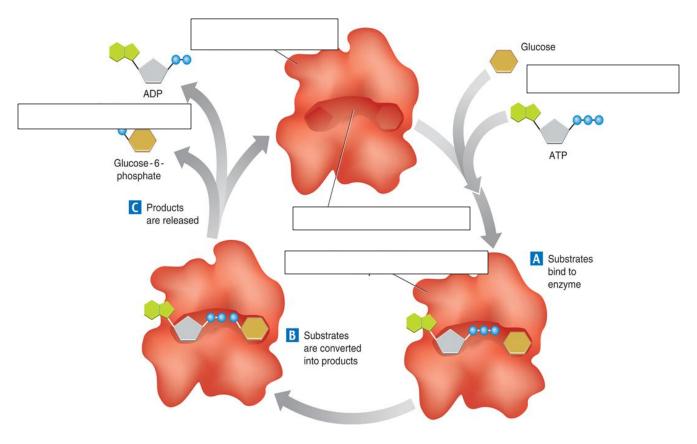
 $2H_2 + O_2 \rightarrow 2H_2O$

3. Draw a picture showing an analogy of a Monomer and Polymer

4. Draw and label 3 ways carbon is unique

5. Using the Lock and the Key Analogy for Enzymes. List all the ways a lock is like a substrate and all the ways a key is like an enzyme

- 6. Describe how the hand and the glove analogy fit for an enzyme.
- 7. List the 4 macromolecules and the indicators that were used in our Chemicals of Life lab. For each macromolecule indicate which indicator identified it and what color the indicator changed the solution.



For each box fill in one of the following terms: **Enzyme, product, reactant, active site, enzyme-substrate complex.**

- 8. The name of the energy that starts as reaction:
- 9. Enzyme ______ activation energy to speed up reactions.
- 10. Enzymes are this type of macromolecule: _____
- 13. List three things that effect enzyme activity
- 14. Although there are limited number of amino acids, many proteins exist because the

_____ and the _____ of amino acids is different.