**REVIEW GUIDE FOR AP BIOLOGY BIOCHEMISTRY AND ENZYME EXAM**

You should be able to:

* Draw water molecules and the hydrogen bonds between them.
* Explain all of the properties of water that are due to its ability to form hydrogen bonds (capillary action, ice floats, etc.)
* Explain what pH means and indicate which solution has more H+ ions based on their pHs
* Understand dehydration and hydrolysis reactions
* Explain what buffers do
* Compare and contrast the structures and properties of saturated and unsaturated fatty acids
* Explain the four levels of protein structure and what types of bonds/interactions are responsible for each level of structure
* Compare and contrast the structures of DNA and RNA
* Know how heating affects proteins and DNA
* Recognize a peptide bond and know how it forms
* Recognize amino acids, phospholipids, fatty acids (saturated and unsaturated), monsaccharides and polysaccharides; know which elements are most commonly found in each
* Know why and how a single amino acid substitution in a protein can affect its structure
* Explain how enzymes work using correct terminology
* Explain the processes of competitive inhibition and noncompetitive inhibition and how they work
* Describe different factors that affect the rate of enzyme catalyzed reactions
* Explain how feedback inhibition helps maintain homeostasis