READ the assigned text which is mostly the appendix material. IF you need to find more information on acids, proteins, fats and so on, there are a number of good websites that have this info. Two websites worth looking at if you need more help is the Biology Project at the University of Arizona (http://www.biology.arizona.edu/biochemistry/biochemistry.html) and a website for AP biochemistry (http://www.queenoflab.com/biochem/terms.html).

I think it will be very helpful if you can understand more than the vocabulary. The best way to prepare is to look at each bullet and then read up on that topic from the BOOK. Take notes and answer the question or discuss the information out loud.

Don't forget all of the reading material is important, not just the class notes!!! Some of the test questions will come from the required reading and may not have been directly discussed in class!!!!

Water, acid and base:
- Understand the key properties of water in biological systems. What are the chemical properties of water that make it important?
- How does the structure of water impact heating water and forming gas?
- Know the basic definition of an acid and base and relate the proton/hydroxide ion concentration to pH

Macromolecule basics:
- What is a polymer and monomer? What is the chemical reaction involved in creating and breaking apart polymers like proteins and carbohydrates?
- Be able to identify simple sugars, complex sugars, fats, fatty acids – saturated and unsaturated, amino acids and proteins by their structure (a guaranteed set of test questions).
- Know what an emulsifier is and what these molecules do in cooking.
- Understand the definition of an amphipathic molecule

Carbohydrates:
- Know each of the simple and complex carbohydrates, what KINDS of foods you find each in and any special characteristics of the sugars.
- For disaccharides and polysaccharides – KNOW the individual (monomer) sugars which make up each of these carbohydrates.
- What are the roles of complex carbohydrates in food and uses in cooking?
- Relate the difference in simple and complex carbohydrates in terms of good and bad sugars (think blood sugar levels).
- Understand the difference between starches (digestible) and fiber (non-digestible) in terms of the molecular structure. Also be able to explain the different types of fiber in terms of nutrition and cooking.

Lipids (fats and fatty acids):
- Know the difference between fats (triglycerides) and fatty acids.
- Relate the differences in saturated and unsaturated fatty acids in terms of bonds, melting points and interactions.
- Explain the differences between a cis and trans fatty acid in terms of shelf life, impact on structure (shape) of the fatty acid and health risks.
- Describe where you are most likely to find saturated and unsaturated fatty acids.
- What is a smoke point?

Proteins:
- What are the four main chemical groups around the central carbon of an amino acid?
- Know how amino acids form proteins
- Explain the differences between a primary, secondary and tertiary structure of a protein
- Describe the forces which keep a protein in its native tertiary shape and how heat and acid defeat these forces.
- Be able to explain why we care if a protein is native or denatured?
- What is an enzyme? Is an enzyme different than a protein?
- What properties do proteins bring to food and cooking?