

## ***STUDY GUIDE CHAPTER 3***

1. There will be 15 multiple choice questions based on the following topics:
  - proteins, lipids, and carbohydrates \*\* (lots of questions with lots of details)
  - oil and water
2. Know terms such as:
  - organic                      - polar                      - water-soluble                      - saturated
  - inorganic                      - non-polar                      - not water-soluble                      - unsaturated
3. Know all about carbohydrates!
  - monosaccharide, disaccharide, polysaccharide (definitions and diagrams)
  - know the chemical formula for glucose (and for carbs in general)
  - be able to draw the glucose diagram from memory
  - know the examples of carbohydrates:  
glucose, sucrose, lactose, fructose, cellulose, glycogen, starch, chitin
4. Know all about lipids!
  - know the definitions of triglyceride, phospholipids, and steroids
  - be able to identify the diagrams: triglyceride, phospholipids, steroid, fatty acid
  - know the examples of lipids:  
animal fat, vegetable oils, adipose, cell membrane, cholesterol, sex hormones
  - know the difference between saturated and unsaturated fatty acids
5. Know all about proteins!
  - identify the diagram of an amino acid (know the parts of the amino acid)
  - know the 8 types of proteins:    hormonal, receptor, contractile, structural, enzymes, antibodies, storage, transport
  - be able to write an essay about all 4 levels of protein structure
  - be able to draw diagrams of all 4 levels of protein structure
  - know how to determine if an "R" group is polar or non-polar
6. Know all about dehydration synthesis and hydrolysis reactions!
  - draw 2 small molecules joining together to form a larger molecule
  - draw a large molecule splitting into 2 smaller molecules
  - know what happens to the water molecule in each type of reaction
7. Know all of these pictures (in addition to all of the ones listed above):
  - saturated fatty acid                      - amino acid
  - unsaturated fatty acid                      - steroid
  - monosaccharide                      - phospholipid
  - disaccharide                      - triglyceride
  - polysaccharide                      - glycerol
8. Be able to write an essay about your food nutrient lab. Be familiar with all 4 indicators used. Be familiar with the procedure and results of the lab.