http://fcelter.fiu.edu/schoolyard/

Metabolism

I.
   a. Define metabolism
   b. What is a metabolic pathway?
   c. Compare/contrast catabolism and anabolism

II. Energy
   a. Define energy
   b. Contrast kinetic with potential energy
   c. How do we measure kinetic energy?
   d. What is chemical energy and where is it found?
   e. What is thermodynamics?
      i. First law?
      ii. Second law?
   f. Define entropy and its importance
   g. Compare/contrast endergonic with exergonic reactions
   h. What is energy coupling and how is it used?

III. ATP
   a. What is ATP? How is it used?
   b. How is ATP made?
   c. Define phosphorylation
   d. What is photophosphorylation?
   e. How is ATP recycled?

IV. Enzymes
   a. How do enzymes act as catalysts?
   b. Outline the significance of activation energy in a chemical reaction
   c. Describe the structure and function of enzymes
   d. How are enzymes “substrate specific”?
   e. What are the effects of temperature and pH on enzymes?
   f. What are cofactors? How do they compare with coenzymes?
   g. Contrast competitive and noncompetitive inhibitors.
   h. Explain allosteric regulation of an ezyme
   i. What is coopertivity in enzymes?
   j. Explain feedback inhibition in a metabolic pathway.