Learning Objectives
Chapter 21 – Enzymes and Vitamins

- What does it mean to say that an enzyme is a biological catalyst?
- What kind of molecules are enzymes (usually)?
- How do enzymes function to increase reaction rates?
- Can enzymes make reactions happen that wouldn’t have happened without the enzyme?
- What is the ending for the name of an enzyme?
- You should be able to match the name of an enzyme with a description of what the enzyme does.
- What is the difference between a simple enzyme and a conjugated enzyme?
- What is a cofactor? A coenzyme? An apoenzyme? A holoenzyme?
- What are vitamins? What is their role in enzymatic reactions?
- What are the characteristics of water-soluble vitamins? Which vitamins are water-soluble?
- What are the characteristics of lipid-soluble vitamins? Which vitamins are lipid-soluble?
- What is the active site of an enzyme? What are the characteristics of the active site that allow certain substrates to bind there?
- You should be able to outline the steps of enzyme-catalyzed reactions.
- What is enzyme specificity? You should be aware of the different kinds of specificity that enzymes have.
- What is the difference between the lock and key model of enzyme substrate binding and the induced fit model?
- What are the four factors that affect enzyme activity? How do those factors affect enzyme activity? (and why do they affect enzyme activity?)
- What is an inhibitor? How does it inhibit enzyme action?
- What are the two major kinds of inhibition? What are the differences between the two? How are these types of inhibition overcome or reversed?
- What is irreversible inhibition? How does it occur?
- What is an allosteric enzymes? How is it regulated?
- What is feedback control?
- What are zymogens? Why are some enzymes produced as zymogens? How are zymogens converted to active enzymes?
- What are diagnostic enzymes used for?