

31. What is another possible test for lipids? What does a positive test look like?
32. Which reagent is used to test for protein? What color is this reagent prior to reaction? What color does it turn in the presence of protein?
33. What color do starches (complex carbs) turn for a positive test?
34. What color do simple sugars turn for a positive test?
35. What color do proteins turn for a positive test?
36. What color do lipids turn for a positive test?

**SPI 3210.1.5 – Identify how enzymes control chemical reactions in the body (Not much in your book - some in chapter 2.2 and some in 3.2 - Use your notes.)**

37. What is the induced fit model of enzyme activity?
38. What is the lock and key model of enzyme activity?
39. What does an enzyme do for a reaction? How (be specific)?
40. What is a catalyst? In what way is an enzyme a catalyst?
41. What type of macromolecule is an enzyme?
42. What factors can increase the rate of enzyme activity?
43. What factors can decrease the rate of enzyme activity?
44. Why is it important for the human body to have enzymes?

**SPI 3210.1.7 – Predict the movement of water and other molecules across selectively permeable membranes. Cell Transport(chapter 5)**

45. What is diffusion?
46. What is osmosis?
47. Define the following terms and state what would happen to a cell placed in each type of solution
  - a. isotonic.
  - b. hypotonic.
  - c. hypertonic
48. What is turgor pressure?
49. What is plasmolysis? What causes it?
50. How are turgor pressure and plasmolysis related?

**SPI 3210.1.8 – Compare and contrast active and passive transport (chapter 5)**

51. Distinguish between diffusion, facilitated transport and active transport?
52. What molecule provides energy for active transport?
53. Why might a molecule need to use active transport to enter a cell?
54. What types of molecules can enter a cell using diffusion?
55. How do ions get across a cell membrane?
56. What does the term semi-permeable mean? How does it relate to transport across a cell membrane?

**SPI 3210.3.3 Compare and contrast photosynthesis and cellular respiration in terms of energy transformation**

57. What is the overall equation for photosynthesis?
58. What are the parts of photosynthesis? What happens in each stage?
59. What is the purpose of the light reactions?
60. What is the purpose of the Calvin Cycle?
61. What is the overall equation for cellular respiration?
62. What are the parts of cellular respiration? What happens in each stage?
63. How is the electron transport chain similar in both photosynthesis and cellular respiration? How does it

differ?

64. What types of cells do photosynthesis? Cellular respiration?
65. What is the main source of energy for biological organisms?
66. What is the energy molecule of the cell? What does it look like?
67. How are the products and reactants of photosynthesis and cellular respiration related (be specific. List the reactants and products of each)?
68. What is the purpose of water at the end of the electron transport chain in cellular respiration? What molecule does it make?
69. During which part of cellular respiration is the majority of the energy made?
70. Which molecules donate electrons to the electron transport chain in cellular respiration?
71. What is the proton gradient? What does it have to do with ATP formation in photosynthesis and cellular respiration?
72. For what purpose is the ATP made in photosynthesis used?

**SPI 3210.3.2 distinguish between aerobic and anaerobic respiration**

73. What is the difference between aerobic and anaerobic respiration?
74. What is glycolysis? What does it have to do with fermentation?
75. What is fermentation?
76. List two different types of fermentation and organisms that would complete this process.
77. What is the advantage of fermentation?

**SPI 3210.1.6 Determine the relationship between cell growth and cell reproduction**

78. During the cell cycle and mitosis, what occurs with the chromosomes of the cells?
79. Which phase of the cell cycle ensures that identical copies of the parent cell DNA are made for the daughter cells?
80. What is diploid? Haploid?
81. What is a chromatid?
82. How do the chromosomes of eukaryotes and prokaryotes differ?
83. What is binary fission? In what type of cell does it happen?
84. What is a spindle fiber? What is its purpose?
85. How many cells are produced in mitosis? How do the daughter cells compare to the parent cell.
86. What are the phases of mitosis? What happens in each phase?

**SPI 3210.4.6 Describe how meiosis is involved in the production of egg and sperm cells.**

87. What is meiosis?
88. How many cells are produced in meiosis? How do the daughter cells compare to the parent cell.
89. What are the phases of mitosis? What happens in each phase?
90. How many cell divisions are there in meiosis?

**SPI 3210.4.7 Describe how meiosis and sexual reproduction contribute to genetic variation in a population**

91. What is crossing over?
92. What is independent assortment of chromosomes? How does it relate to the variation found in sex cells?
93. What are the cells produced in meiosis called?
94. What are autosomes?
95. What is a karyotype?