Name _____ Date _____ Period _____
Bio-Chem                                                                    Reading Notes
**DIRECTIONS**: Please paste this sheet in on the left side of your notebook and answer the questions to the right, in complete sentences when appropriate. These notes are DUE Monday May 22, 2017.

**Regulating the Cell Cycle**
Reading Questions Pages 286- 291

1. What are cyclins and how are they important in the cell cycle? Cyclins are what type of macromolecule?
2. What happened when scientists injected a cell with cyclins?
3. What are internal and external regulatory proteins?  Give an example of each
4. What is apoptosis?  Give an example of how this aids in embryonic development.
5. What is cancer?  Why is cancer in the mitosis section of the book?
6. Metastasis means what?
7. What are two therapies now used for cancer?
8. What is Fluorescence Microscopy?  Where did this discovery originate?

**Cell Growth Division and Reproduction**
Reading Notes 277-282: (to middle of page to cytokinesis pg 282)

1. What type of reproduction is mitosis?
2. What are the 4 phases of mitosis?
3. In what phase does the cell spend most of its time in?
4. Make a T- chart comparing asexual reproduction to sexual reproduction
5. How are Eukaryote DNA and Prokaryote DNA similar/ different?
6. What is the asexual production called in prokaryotes
7. What are the three periods of Interphase?
8. What is interphase?
9. The "M" phase is composed of what?
10. What is cytokinesis?

**Cell Differentiation**
Reading Questions Pages 292-297

1. How do cells become specialized for different functions?
2. What are stem cells?
3. What type of cells can become anything in the body?  How can they do this?
4. Give examples of cells that are totipotent, pluripotent, and multipotent.   How are each of these type of cells different?
5. Make a Venn Diagram of how adult and embryonic stem cells are alike and different
6. Make a T-Chart to explain the PRO's and CON's of stem cell research.
7. What is the difference between *pluripotent, multipotent* cells? Give an example of each