

## ***STUDY GUIDE CHAPTER 10***

1. There will be 15 multiple choice questions based on the following topics:
  - DNA replication, transcription, translation, ribosomes, cell cycle
  - enzymes, DNA, RNA, codons, proteins, mutations
  - lytic virus experiments involving phosphorus and sulfur
2. Know all the important vocabulary:

sugar-phosphate backbone, DNA replication, helicase, DNA polymerase, ligase, Chargoff's rules, 3 types of RNA, transcription, RNA polymerase, translation, hydrogen bonds, start codon, stop codons
3. Know the 3 differences between DNA and RNA.
4. Know the 3 ways that RNA is processed between transcription and translation.
5. Draw and discuss DNA replication. Know why it is called ***semi-conservative***. Include all of the enzymes. BE VERY DETAILED!!!
6. Draw and discuss the process of transcription. BE VERY DETAILED!!!
7. Draw and discuss the process of translation. BE VERY DETAILED!!!
8. Know the difference between point and frame-shift mutations. Know which is usually more harmful.
9. Perform the following conversions:
  - I give you a strand of DNA. You give me the other strand.
  - I give you a strand of DNA. You give me the mRNA strand.
  - I give you a strand of mRNA codons. You give me the tRNA anti-codons.
  - I give you a strand of mRNA. You give me the list of amino acids.
10. State the ***GOAL*** and ***LOCATION*** of replication, transcription, and translation.
11. Know the 3 parts of each nucleotide. Know how the "backbone" is formed. Draw it.
12. Be familiar with all of the DNA activities we did in class. This also includes probes and genetic engineering.
13. Be able to answer all of the questions on the chapter 10 problem set.
14. Understand what is meant by 5' and 3'. Know how this affects replication and transcription.
15. Spell out each abbreviation: DNA, RNA, A, T, C, G, U. ***SPELLING COUNTS!!!*** 😊