Biology Semester 1 Study Guide Name:_____

- 5. Tell whether each statement below is true or false about enzymes. If it is false, correct it so it's true.
 - a. _____ Enzymes are used up during a reaction.
 - Corrected: _____
 - b. _____ Enzymes lower the activation energy of a reaction.
 - Corrected: _____
 - c. _____ Enzymes bond to the active site on a substrate molecule. *Corrected:*
- 6. What cellular organelle produces energy? _____
- 7. What cellular organelle makes proteins?
- 8. What cellular organelle moves proteins and other substances through the cell?
- 9. Label the parts of the cell below:



- 10. What type of molecule makes up the cell membrane?
- 11. What is the function of the cell membrane?
- 12. Label each of the following as present in prokaryotic cells (P), eukaryotic cells (E), or both (B):
 - a. nucleus
 - b. ribosomes

- d. cell membrane
- e. cytoplasm _____
- c. mitochondria _____ f. chloroplasts

13. Identify each image below as either hypertonic, hypotonic, or isotonic.

a. ______ b. ______ c. ______ Lysed H_2O H_2O 14. List three ways RNA is different from DNA:

b.	b.
c	c
 i. What DNA sequence would be complementary to G C A T T G?	 5. What DNA sequence would be complementary to G C A T T G?
i. In a cell, the amount of guanine always equals the amount of	 5. In a cell, the amount of guanine always equals the amount of
2. List three examples of mutagenic factors that can alter DNA. a. b. c. c. c. d. what type of mutation occurs when one nucleotide is replaced by a different nucleotide? d. d. a. mRNA: b. c. reference d. mRNA: c. reference a. mRNA: c. reference d. mutation matching the spaces below. a. mRNA: c. reference d. mutation matching the spaces below. a. matching the space of the space	 7. List three examples of mutagenic factors that can alter DNA. a
a.	a.
b	 b
c	c.
8. What type of mutation occurs when one nucleotide is replaced by a different nucleotide? 9. What base is complementary to adenine in a molecule of RNA? 9. What base is complementary to adenine in a molecule of RNA? 9. Write the function of each type of RNA in the spaces below. a. mRNA: b. tRNA: c. rRNA: c. rRNA: j. During transcription, j. In humans, having freckles (F) is dominant to not having freckles? j. In humans, having freckles (F) is dominant to not have freckles? j. During transcription, j. Ta parent with the genotype of the children WITHOUT freckles? j. Describe the genotype of the children with a parent with the genotype and what percent of the children with a parent with the genotype and what percent of their children will show the dominant phenotype? j. Tallness (T) is dominant to shortness (I) in pea plants. Write the genotype that is heterozygous for tallness. j. A	 3. What type of mutation occurs when one nucleotide is replaced by a different nucleotide?
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a. mRNA:	 a. mRNA:
b. tRNA:	 b. tRNA:
c. rRNA:	 c. rRNA:
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 7. What is a phenotype?	c. What color are the offspring represented by box 2?
 3. What process do forensic scientists use to make millions of copies of DNA?	7. What is a phenotype?
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