

Name: _____

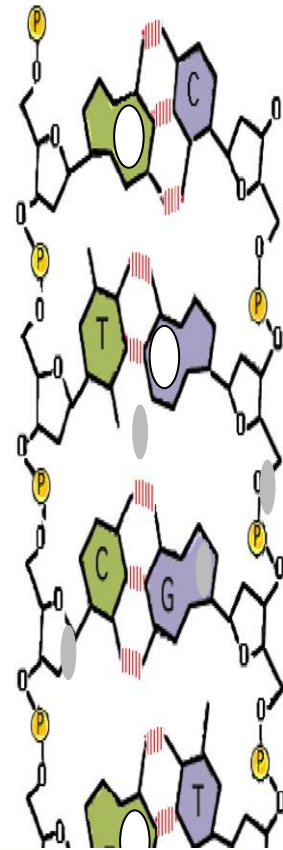
Pd. _____

Date: _____

DNA Replication & Cell Division Review

Directions: Complete each sentence.

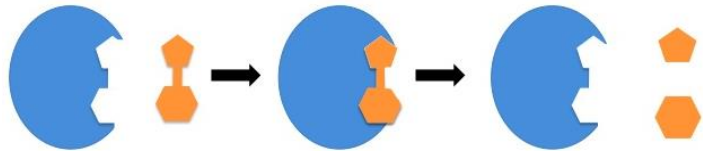
1. Guanine, _____, thymine, and _____ are the four _____ in DNA.
2. In DNA, guanine always forms hydrogen bonds with _____.
3. The process of _____ produces a new copy of an organism's genetic information, which is passed on to a new cell during mitosis.
4. The double coiled, "staircase" shape of DNA is called a _____.
5. What type of bond does the enzyme DNA Helicase break down bases? _____
6. In a eukaryotic cell, where is the DNA found and replicated? _____
7. Label the **nucleotides** (A, T, G, C) in the DNA molecule on the right:



_____ = _____
 _____ = _____

8. Circle one entire nucleotide. What are the 3 parts of a nucleotide?

9. Label the enzyme, substrate, and products below. Describe the effect the enzyme has on the substrate.



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10. Briefly describe the steps of DNA Replication

- a. _____
- b. _____
- c. _____

11. Which enzyme is responsible for “unzipping” the DNA double helix?

12. Name the enzyme that builds DNA during replication: _____

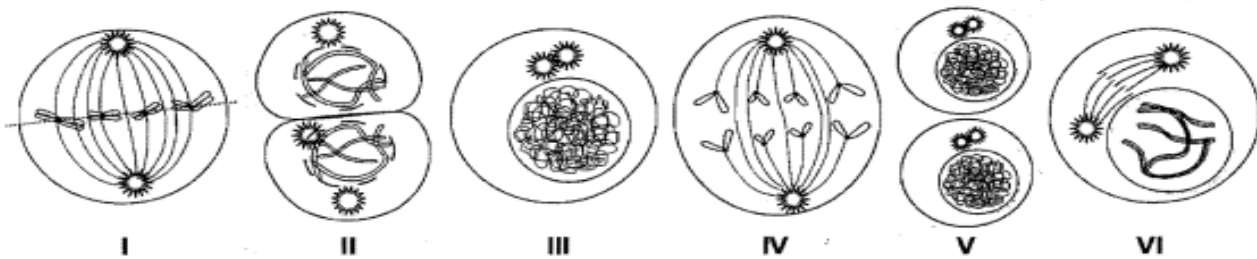
13. If the sequence of one single strand of DNA is 5' C-A-A-G-T-A-G-G-C-T 3', what is the sequence of the complementary strand?

14. What is the purpose of mitosis?

15. What is created in

mitosis? _____

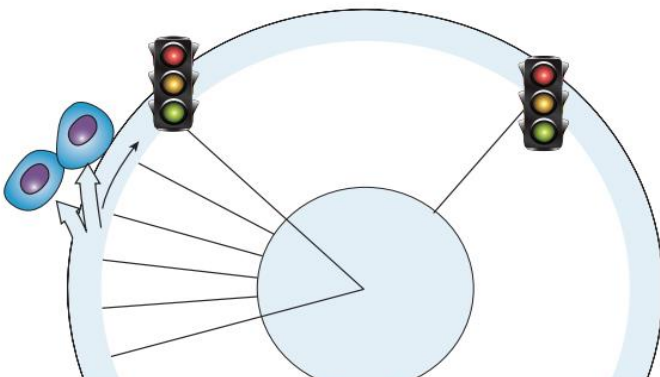
16. What occurs in the S-phase? Where in the cell does this occur?



17. In the diagram above, what number depicts each phase?

- a. Interphase _____
- b. Prophase _____
- c. Metaphase _____
- d. Anaphase _____
- e. Telophase _____
- f. Cytokinesis _____

18. Fill in the sections of the Cell Cycle Wheel using the following: G1, S, G2, Prophase, Metaphase, Anaphase, Telophase, Cytokinesis.



19. What do the stop lights in the diagram represent?

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- ii. 20. What are cancer cells? Explain why cancer cells form.
