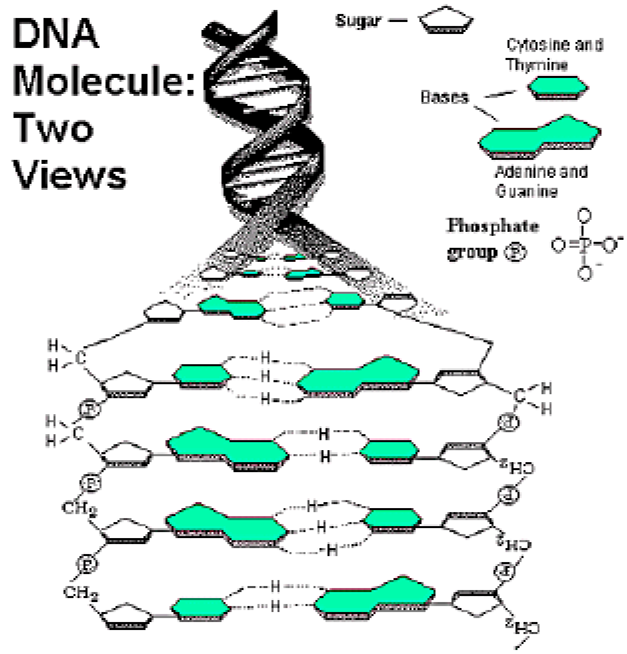
NAME:______________________________________ TOC #_________

DNA Structure Worksheet

~~Use your DNA Structure notes and Chapter 12 to answer these questions~~

1. What do the letters DNA stand for?



2. DNA is a **polymer**, which means that is made up of many repeating single units (**monomers**).
What are the monomers called?

3. The "backbone" of the DNA molecule is made up of two alternating components, what are these?

4. There are four different variations of these monomers (four different bases), what are the names of those bases?

5. These bases are of two different types of molecules: purines and pyrimidines. Purines have

_____________________ ring(s) in their structure, and pyrimidines have _____________________ ring(s) in their structure.

6. The two bases that are purines are ___________________ and ______________________. These bases are comprised of __________ rings.

7. The two bases that are pyrimidines ___________________ and ______________________. These bases are comprised of __________ rings.

8. Based on this information, scientist could predict that the base _____________________ pairs with

_____________________ and the base _____________________ pairs with _____________________ in the formation of the DNA molecule.

This is called ***complementary base pairs****. Thus one strand of DNA is complementary to the other strand (opposite/matching).*

9. The bases are paired by _____________________ bonds along the axis of the molecule.

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10. Draw the basic structure of a nucleotide with its three parts.

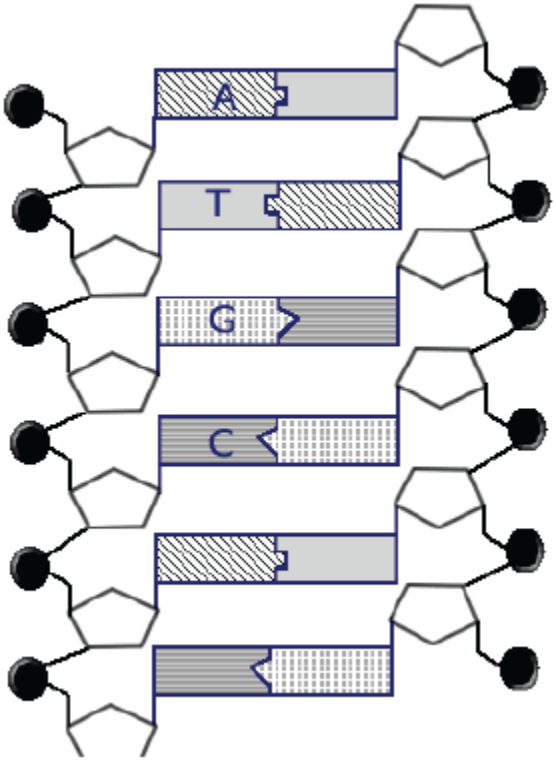
11. Write the complementary sequence to following DNA strand:

A A T T C G C C G G T A T T A G A C G T T

| | | | | | | | | | | | | | | | | | | | |

12. **Use the image at the right to complete the follow:**

Circle a nucleotide.
Label the sugar and phosphate.
Label the bases that are not already labeled



13. On the Following Page, color the DNA structure.

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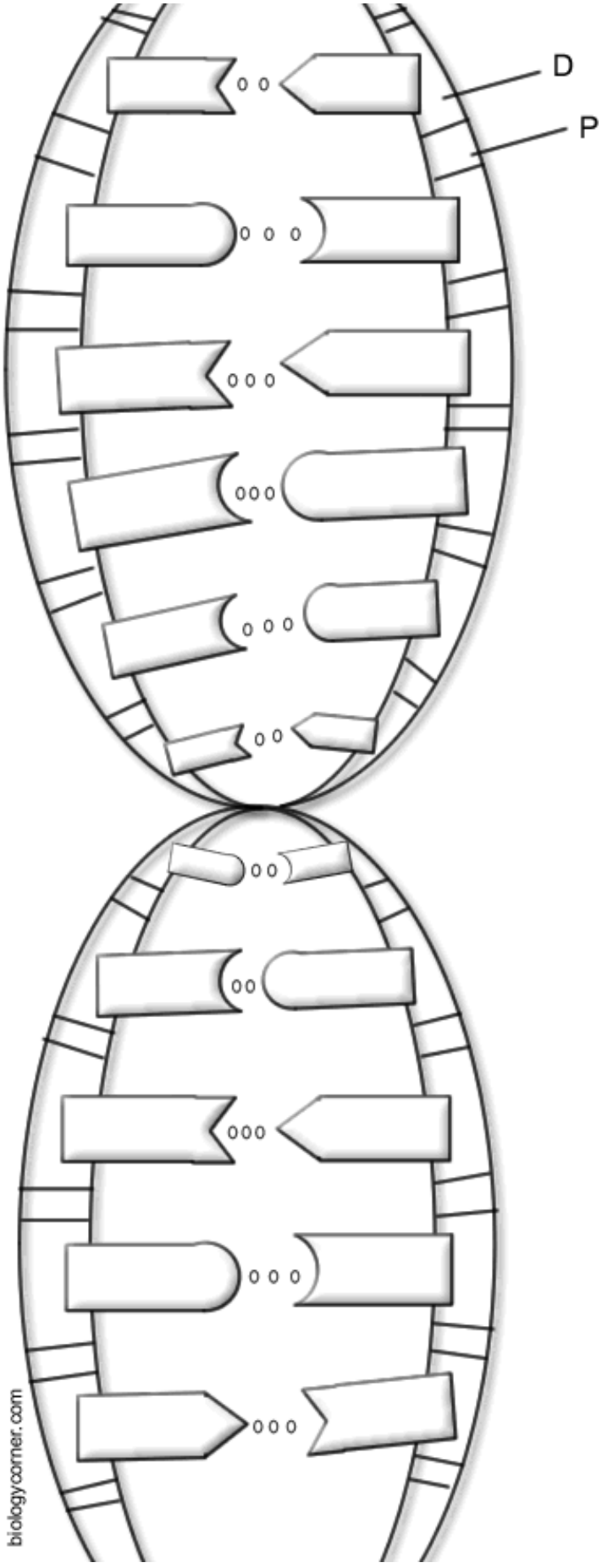

Step 1:

Color Each Deoxyribose sugar RED

Color Each Phosphate group BLUE

Step 2:

Color the thymines ORANGE.

Color the adenines GREEN.

Color the guanines PURPLE.

Color the cytosines YELLOW.

Step 3:

Color the _____ hydrogen bonds between A and T BLACK

Learve the ____ hydrogen bonds between G and C WHITE