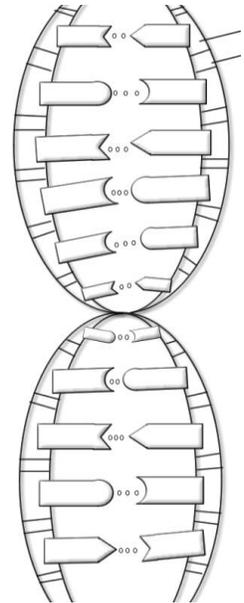


# DNA Review Worksheet

1. What does DNA stand for? \_\_\_\_\_
2. Where in a cell is DNA found? \_\_\_\_\_
3. What is the difference between chromatin and chromosomes?
4. How many PAIRS of chromosomes does a human have in their skin cells? \_\_\_\_\_ In liver cells? \_\_\_\_\_
5. A segment of DNA that codes for a protein is called a \_\_\_\_\_.
6. What are the three parts of a DNA nucleotide? Label the three parts of a DNA nucleotide

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

7. What 4 bases make up DNA molecules? \_\_\_\_\_
8. Scientifically, describe the shape of a DNA molecule. \_\_\_\_\_
9. What type of bond holds together the nitrogen bases? \_\_\_\_\_
  - a. How many hydrogen bonds are found between A-T? \_\_\_\_\_ C-G? \_\_\_\_\_
10. What scientists are credited with the "base-pairing" rules?
  - a. \_\_\_\_\_
11. What are the base pairing rules? Label the bases in the diagram on the right →



12. Write the complementary strand to this DNA molecule on the line.

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

- \_\_\_\_\_
13. What is the importance of the order of base pairs in a DNA molecule? (Hint: what might happen if the order of the base pairs were changed?)
  14. When does DNA replicate? \_\_\_\_\_
  15. The order of nitrogen bases (A,T,C,G) determines the type of \_\_\_\_\_ that is assembled. (hint: what are DNA sequences, instructions for?)

# DNA REPLICATION: CREATING CONTINUITY WITHIN ORGANISM, GENERATION and LIFE

1. **Chargaff's rule** states that the DNA of any species contains equal amounts of \_\_\_\_\_ & \_\_\_\_\_ and also equal amounts of \_\_\_\_\_ & \_\_\_\_\_

2. In DNA, thymine is complementary to \_\_\_\_\_; cytosine is complementary to \_\_\_\_\_

3. Number the steps of DNA replication in the correct order (1, 2, 3)

\_\_\_\_\_ Daughter strands are formed using complementary base pairing.

\_\_\_\_\_ DNA unwinds

\_\_\_\_\_ The DNA of the daughter strands winds with its parent strand.

4. Write the complementary sequence for the following DNA strand:

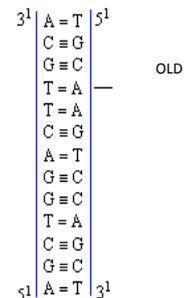
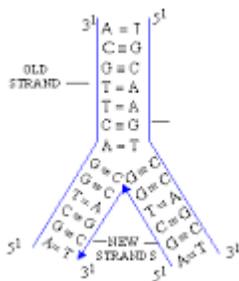
**CCT AAG TCT CGA ATA CCC GGT TAC**

\_\_\_\_\_

5. The two sides of the DNA helix are held together by \_\_\_\_\_ bonds.

6. Write out the complete name for DNA: \_\_\_\_\_

7. Put the diagrams of DNA replication below in the order in which they would occur during DNA replication.



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_