Biology S137 Name_____
Andrianopoulos/Friel/McHugh/McCloud/Shoub Date _____ Per. 1 2 3 4 5 6 7 8

DNA Replication

I have summarized the three steps in DNA replication below. Use this information as well as the information gathered in your notes to answer the questions that follow.

STEP 1: The double helix unzips (with helicase) down the middle as base pairs separate.

STEP 2: DNA polymerase adds the correct complimentary nucleotide to each exposed strand.

STEP 3: A complimentary strand is created for each original strand in the double helix.

Questions:

1. Fill in the correct complimentary base for each of the following bases found in DNA.

	Complimentary Base
a. guanine	_____
b. adenine	_____
c. thymine	_____
d. cytosine	_____

2. Which of the four bases above are purines? Look in your text book for a picture of the bases. Purines are single ringed structures.

_____

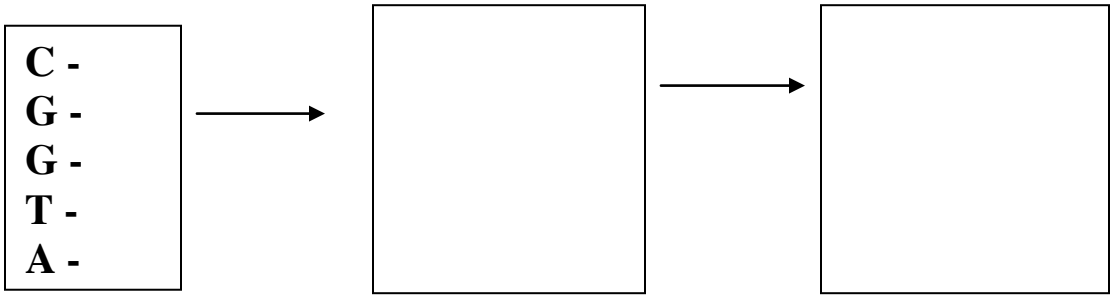
_____

3. Which of the four bases above are pyrimidines? Look in your text book for a picture of the bases. Pyrimidines are double ringed structures.

_____

_____

4. Draw a picture of the result of each step of DNA replication below. I have given you the sequence of one strand of DNA in the first box. Begin by filling in the complimentary bases for the second strand in the box.



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DNA Replication

Replicate the following DNA molecules. Use a different color pens (or pencils) to show the difference between the original and new strands of DNA.

1.

-AT-
-CG-
-CG-
-GC-
-AT-
-TA-

2.

-CG-
-CG-
-GC-
-AT-
-AT-
-TA-

3.

-TA-
-TA-
-CG-
-GC-
-CG-
-AT-

4.

-TA-
-GC-
-AT-
-CG-
-TA-
-CG-

5.

-CG-
-TA-
-GC-
-TA-
-AT-
-CG-