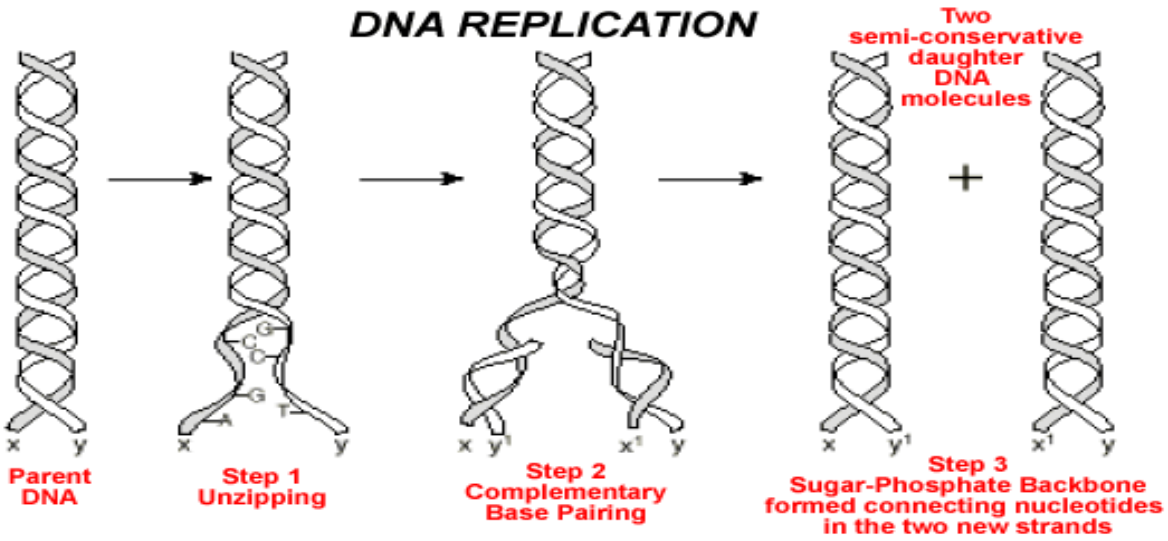
Name: _____Class Period: ____Date: _____

Practice with DNA Replication



Step 1: The Double Helix unwinds and the 2 halves "up-zip" with the help of an enzyme called **Helicase**.

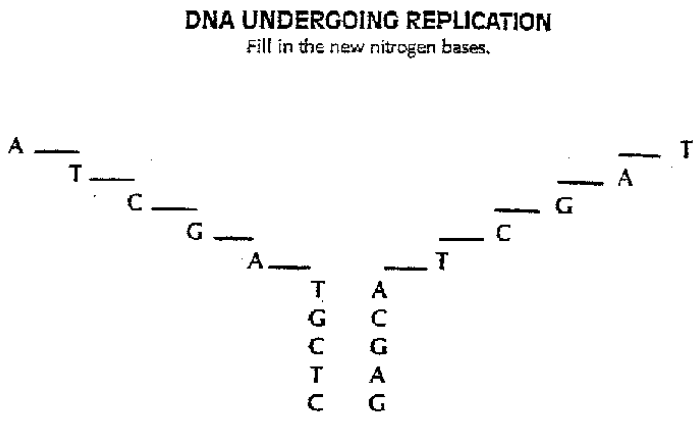
Step 2: Complementary base pairs are inserted into the unzipped DNA strand matching bases on the parent strand by an enzyme called **DNA polymerase**.

Step 3: DNA reforms double helix. The result is two EXACT copies of the original strand of DNA.

Step 1: Original Strand of DNA

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

Step 2: DNA Undergoing Replication



1. Fill in the new nitrogen bases **above** to begin the complementary base pairing.

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2. Below show the base pairing that results in the new strands of DNA. (**Step 3)**

STRAND #1	STRAND #2
A_____	_____T
T_____	_____A
C_____	_____G
G_____	_____C
A_____	_____T
T_____	_____A
G_____	_____C
C_____	_____G
T_____	_____A
C_____	_____G

3. How do these new strands compare to each other?

_____

4. How do these new strands compare the original strand?

_____

5. What is the building block of a DNA molecule?

_____

6. What are the names of the enzymes that help in the process of replication?

_____

7. The point at which two strands of DNA are separated to allow replication of each strand is called_____.

8. List and describe the three steps of DNA Replication
   a. Step 1:

      _____
   b. Step 2:

      _____
   c. Step 3:

      _____