Biology Honors – Ch. 10 **NAME:_____**

DNA Replication Practice Worksheet

Concepts:

- DNA is composed of nucleotides and is shaped like a double helix, with strands running antiparallel
- Bases always form complementary base pairs (adenine with thymine and cytosine with guanine)
- Complementary base pairing enables DNA to replicate, or copy itself
- DNA replication involves three steps and each step uses a specific enzyme
- There is a leading strand and a lagging strand for each replication fork
- The lagging strand is made from Okazaki fragments

PART A

Complete the following strand of DNA by placing the letter of the correct nitrogenous base on the line provided

5'	C	C	A	G	T	A	G	T	T	*3'*
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

If the DNA molecule above, were the parent strand of DNA, when the strands are split for replication, which strand would be the template for the leading strand? Why?

_____

_____

PART B

1. Why does DNA need to replicate?

_____

2. How do base-pairing rules make DNA replication possible?

_____

_____

5. Explain three main steps in the process of DNA replication. Name the enzymes that go with each step (HINT: There are 4 main enzymes, 2 of them go with the second step).

a. _____

_____

b. _____

_____

c. _____

_____

6. What are Okazaki fragments? Why are they needed?

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