

Molecular Genetics

Section 2 Replication of DNA

Main Idea _____

Details _____

Scan Section 2 of the chapter. Write three questions that come to mind from reading the headings and the illustration captions.

1. _____
2. _____
3. _____

Review Vocabulary

Use your book or dictionary to define *template*.

template

New Vocabulary

Use your book or dictionary to define the following terms. Then look through the section to find a sentence with each term. Write the sentence.

semiconservative replication

DNA polymerase

Okazaki fragment

Section 2 Replication of DNA (continued)

Main Idea _____

Details _____

Semiconservative Replication

I found this information on page _____.

Describe *semiconservative DNA replication.*

Model	During replication, the parental strands	The new DNA molecule is composed of
Semiconservative replication		

Sequence and model *each step in the replication of a DNA molecule. Write about what happens, and draw a DNA molecule going through each step. In the last box, describe and draw the products of replication.*

A.	B.
C.	D.

Analyze *how a DNA molecule acts like a template.*

Section 2 Replication of DNA (continued)

Main Idea _____

I found this information on page _____.

Details _____

Complete the table below on the role of each protein in DNA replication. The first one has been done for you.

Protein	Stage of DNA Replication	Activity
DNA helicase	unwinding	unwinds and unzips the DNA
DNA ligase		
DNA polymerase		
RNA primase		
Single-stranded binding protein		

Comparing DNA Replication in Eukaryotes and Prokaryotes

I found this information on page _____.

Contrast the differences between prokaryotic and eukaryotic DNA replication.

	Eukaryotes	Prokaryotes
Number of origins for DNA replication		
Where replication takes place in the cell		

SUMMARIZE

Analyze how the activity of DNA polymerase is consistent with Watson and Crick's model of semiconservative replication.
