



Name

Period

Date

**SECTION**  
**8.3**

DNA REPLICATION  
**Study Guide**

**KEY CONCEPT**

DNA replication copies the genetic information of a cell.

**VOCABULARY**

replication	DNA polymerase
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**MAIN IDEA:** Replication copies the genetic information.

1. What is DNA replication?

\_\_\_\_\_

2. Where does DNA replication take place in a eukaryotic cell?

\_\_\_\_\_

3. When is DNA replicated during the cell cycle?

\_\_\_\_\_

4. Why does DNA replication need to occur?

\_\_\_\_\_

5. What is a template?

\_\_\_\_\_

6. If one strand of DNA had the sequence TAGGTAC, what would be the sequence of the complementary DNA strand?

\_\_\_\_\_

**MAIN IDEA:** Proteins carry out the process of replication.

7. What roles do proteins play in DNA replication?

\_\_\_\_\_

8. What must be broken for the DNA strand to separate?

\_\_\_\_\_

9. Why is DNA replication called semiconservative?

\_\_\_\_\_

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CHAPTER 8  
From DNA to Proteins

## Section 8.3 STUDY GUIDE CONTINUED

Use words and diagrams to summarize the steps of replication, in order, in the boxes below.

<b>10.</b>	<b>11.</b>	<b>12.</b>
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**MAIN IDEA: Replication is fast and accurate.**

- 13.** Human chromosomes have hundreds of \_\_\_\_\_, where the DNA is unzipped so replication can begin.
- 14.** DNA polymerase has a \_\_\_\_\_ function that enables it to detect errors and correct them.

**Vocabulary Check**

- 15.** Explain what DNA polymerase is by breaking the word into its parts.

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- 16.** Write a short analogy to explain what replication is.

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**Be Creative**

- 17.** People sometimes like to display bumper stickers that relate to their trade or field of study. For example, a chemist may have a bumper sticker that says “It takes alkynes to make the world.” Then, chemists or other people who know that an alkyne is a molecule that contains carbon atoms joined by a triple bond get a nice little chuckle out of the play on words. Use your knowledge of DNA replication to write a bumper sticker.

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