



Name

Period

Date

SECTION

8.3

DNA REPLICATION

Reading Guide

KEY CONCEPT

DNA replication copies the genetic information of a cell.

VOCABULARY	
replication	DNA polymerase

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?

READING GUIDE, CONTINUED

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

10.	11.	12.
		

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.

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

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.