Name _____ Class_____Date_____

Skills Worksheet

Active Reading

Section: Cell Reproduction

Read the passage below. Then answer the questions that follow.

A **gene** is a segment of DNA that codes for RNA and protein. A single molecule of DNA has thousands of genes lined up like the cars of a train. When genes are being used, the strand of DNA is stretched out so that the information it contains can be decoded and used to direct the synthesis of proteins needed by the cell.

As a eukaryotic cell prepares to divide, the DNA and the proteins associated with the DNA coil into a structure called a **chromosome.** Before the DNA coils up, however, the DNA is copied. The two exact copies of DNA that make up each chromosome are called **chromatids.** In the chromatids, the DNA is very condensed. The two chromatids, which become separated during cell division and are placed into each new cell, ensure that each new cell has the same genetic information as the original cell.

SKILL: READING EFFECTIVELY

Read each question, and write your answer in the space provided.

1. How are genes and DNA related?

_____

_____

2. What occurs to a DNA strand as its genes are being used?

_____

_____

3. How are chromatids and chromosomes related?

_____

_____

An analogy is a comparison. In the space provided, write the letter of the term that best completes the analogy.

_____ 4. A train is to cars as a molecule of DNA is to
   a. chromatids.
   b. genes.
   c. proteins.
   d. RNA.