

SECTION 3.3 REVIEW AND REINFORCE

## The Cell and Inheritance

### Understanding Main Ideas

Complete the table below by filling in the spaces with the correct stage of meiosis—Beginning, Meiosis I, Meiosis II, End.

Event	Stage in Meiosis
The double-stranded chromosomes move to the center of the cell and separate.	1. <u>Meiosis I</u>
The chromosome pairs separate.	2. <u>Meiosis I</u>
Four sex cells form with half the number of chromosome as the parental cells.	3. <u>END</u>
The chromosomes are copied.	4. <u>Beginning</u>
The centromeres divide and separate.	5. <u>Meiosis II</u>

Answer the following questions in the spaces provided.

6. What is the chromosome theory of inheritance?

Genes are inherited from parents to their offspring on chromosomes.

7. Why is it important that sex cells have half the number of chromosomes as body cells?

Each parent contributes half the normal number of chromosomes so that the offspring will have the proper number.

### Building Vocabulary

Fill in the blank to complete the statement.

8. The process by which the number of chromosomes is reduced by half to form sex cells is called Meiosis.

SECTION 3.4 REVIEW AND REINFORCE

## The DNA Connection

### Understanding Main Ideas

Complete the table below by stating whether each mutation is helpful, harmful, or neutral.

Mutation	Effect
White buffalo (on a farm)	1. <u>Neutral</u>
Cancer	2. <u>harmful</u>
Disease-resistant potatoes	3. <u>helpful</u>
White buffalo (in the wild)	4. <u>helpful</u>

Answer the following questions on a separate sheet of paper.

5. Describe what occurs during protein synthesis.

6. What is the genetic code?

Proteins are produced based on an individual's genetic code. The order of base pairs in the DNA

### Building Vocabulary

Fill in the blank to complete each statement.

7. A type of RNA that carries amino acids and adds them to the growing protein is called Transfer RNA.

8. Messenger RNA is RNA that copies the coded message from the DNA in the nucleus and carries the message into the cytoplasm.