

# Genetics

Name: \_\_\_\_\_

## Changes in Genes

Period: \_\_\_\_\_

Use Chapter 7, Section 2 of your textbook to answer the questions below. The word banks can be used to fill out the sentences below them.

copied    environment    letter    mutation    random

### Changes in Genes (p.216)

- 1. Changing just one \_\_\_\_\_ in a sentence can change the meaning of the sentence.
- 2. A \_\_\_\_\_ is a change in how the bases in a DNA sequence are arranged.

### How Do Mutations Happen? (p.216)

- 3. Mutations can happen when DNA is \_\_\_\_\_ before the cell divides.
- 4. Lots of mutations are the result of \_\_\_\_\_ errors that happen during DNA copying.
- 5. DNA can also be damaged by things in the \_\_\_\_\_ around the organism.
- \_\_\_\_\_ 6. What are things in the environment that can cause mutations called?  
a. DNA    b. proteins    c. nucleotides    d. mutagens

- \_\_\_\_\_ 7. Which of the following is NOT a mutagen?  
a. asbestos    b. cigarette smoke    c. protein    d. sunlight

### Do Mutations Matter? (p.217)

Match the correct description with the correct term. Write the letter in the space provided.

- \_\_\_\_\_ 8. kind of mutation that makes it easier to survive a drought                      a. harmful trait
- \_\_\_\_\_ 9. kind of mutation that does not change the protein a gene codes for                      b. improved trait
- \_\_\_\_\_ 10. kind of mutation that makes it easier to be found by a predator                      c. no change

base sequence in original cell with original DNA	base sequence in cell with mutated DNA
C   G	C   G
T   A	T   A
A   T	A   T
C   G	A   T
G   C	G   C
A   T	T   A
T   A	T   A

Look at the table to the left. Circle the two mutations that happened when the original cell duplicated its DNA to prepare for mitosis.



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