

## Section 11-5 Linkage and Gene Maps

(pages 279-280)



### Key Concept

- What structures actually assort independently?

### Gene Linkage (page 279)

1. Is the following sentence true or false? Thomas Hunt Morgan discovered that some genes violated the principle of independent assortment. \_\_\_\_\_
2. Morgan grouped the *Drosophila* genes that were inherited together into four \_\_\_\_\_ groups.
3. List the two conclusions that Morgan made about genes and chromosomes.

a.

\_\_\_\_\_  
\_\_\_\_\_

b.

\_\_\_\_\_  
\_\_\_\_\_

4. Why didn't Mendel observe gene linkage? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Gene Maps (pages 279-280)

5. Explain why two genes found on the same chromosome are not always linked forever.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. The new combinations of alleles produced by crossover events help to generate genetic \_\_\_\_\_.

\_\_\_\_\_.

7. Is the following sentence true or false? Genes that are closer together are more likely to be separated by a crossover event in meiosis. \_\_\_\_\_

8. What is a gene map? \_\_\_\_\_

\_\_\_\_\_

9. How is a gene map constructed? \_\_\_\_\_

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\_\_\_\_\_  
\_\_\_\_\_