

Chapter 11, Introduction to Genetics (continued)

Section 11–5 Linkage and Gene Maps (pages 279–280)

This section describes how genes that are linked to the same chromosome assort during meiosis.

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? _____

WordWise

Use the clues to identify vocabulary terms from Chapter 11. Write the words on the lines. Then, find the terms hidden in the puzzle and circle them.

Clues

1. Pattern of inheritance in which both alleles contribute to the phenotype of the organism
2. Describes a cell that contains both sets of homologous chromosomes
3. The physical characteristic of an organism
4. Describes an organism that has two identical alleles for a particular trait
5. A specific characteristic, such as seed color, that varies from one individual to another
6. The offspring of a cross between parents with different traits
7. The different forms of a gene
8. Describes the two corresponding sets of chromosomes that come from the female parent and the male parent

Vocabulary Terms

p t k a l h m e t z y s o p g f a p m h f r
 a r d c e i t o m g s o h o m o l o g o u s
 h a d p h e n o t y p e m o h u l g b a d p
 u i c o z e a l m u h b g o u t e l m o i s
 o t h o g v e t w l m y z o t b l u y b p g
 y t b d w a o p m y e c b k n s e o i e l o
 g s u o g y z o m o h l r r e j s l o t o g
 n t b s q u l o g c o d o m i n a n c e i m
 p j t v o k g u i z y o f w m d o i p g d f