

Name _____

AP Biology

TEXT: *Biology, Campbell and Reece*

7th Edition

Chapter 15

**The Chromosomal Basis of Inheritance
Thematic Review Guide**

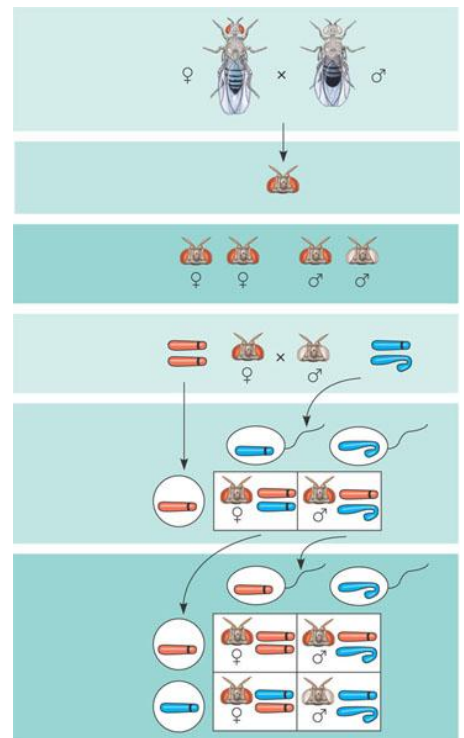
1. Describe some of the pieces of information that scientists discovered that contributed to the “Chromosome Theory of Inheritance”?

2. Summarize the Chromosomal Theory of Inheritance.

3. Why was Thomas Hunt Morgan’s choice of the fruit fly a good model organism?

4. Describe Morgan’s first mutant. Why was it so significant from the wild type?

5. Show the cross (**P**, **F₁**, **F₂**) for the white-eyed male mutant.



Adapted from the review packets of K. Foglia

6. What happens when we trace the inheritance of traits found on the same chromosome?

7. What is recombination and when does it occur? _____

8. How is recombination frequency calculated? _____

9. What determines sex in humans? _____

10. In what ways are sex-linked traits distinct from autosomal traits? _____

11. Why are sex-linked recessive traits more common in human males than females?

12. How many X chromosomes are typically expressed in humans and cats?

13. What happens to X chromosomes that are inactivated? _____

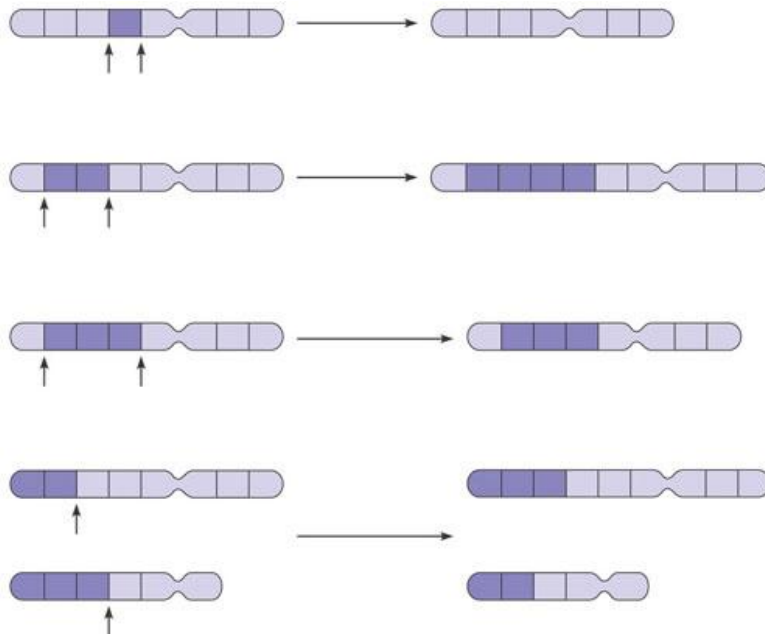
14. How many Barr bodies would be found in a person with: XXY _____ XO _____ XXX _____

15. Define each term & indicate when each occurs.

a. aneuploidy _____

b. polyploidy _____

16. Identify the each of the following alterations or mutations in chromosome structure.



17. List and describe a few specific examples of non-disjunctions that occur in humans.

18. Describe genomic imprinting and give an example.
