

Name _____

AP Biology

TEXT: *Biology, Campbell and Reece*

7th Edition

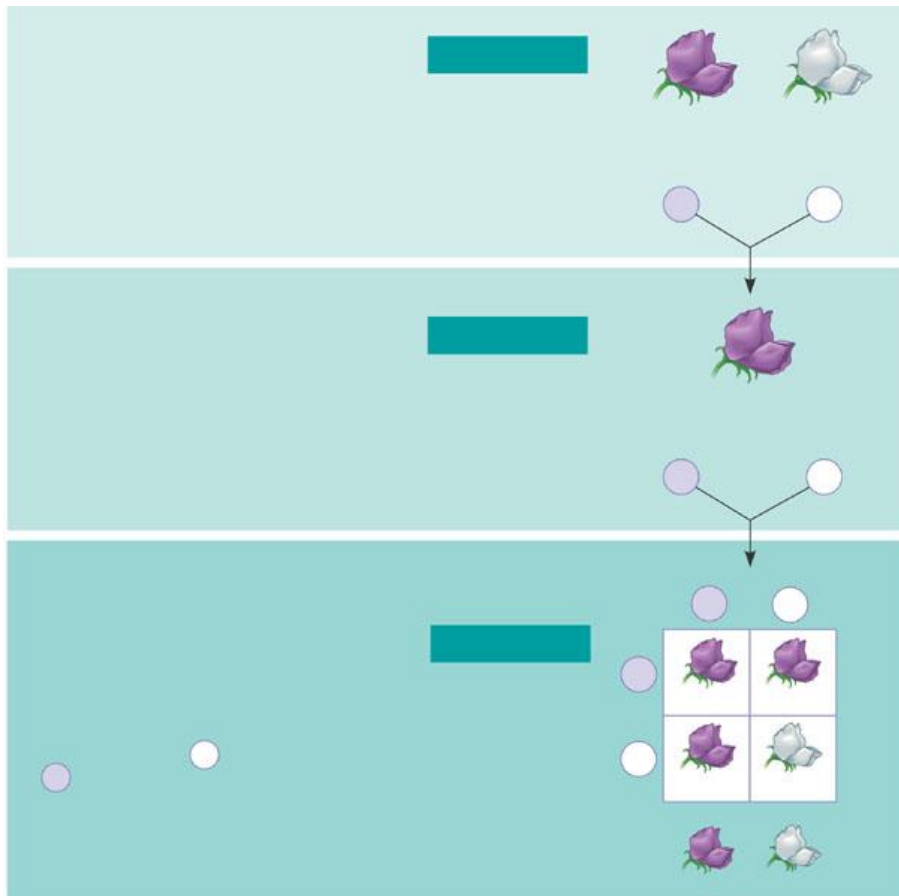
Chapter 14

**Experiments of Gregor Mendel
Thematic Review Guide**

1. How does the “blending hypothesis” differ from the “particulate hypothesis” for the transmission of traits?

2. List a few of the advantages of Mendel’s choice of the garden pea as a model organism.

3. Use the diagram to label the generations: P, F₁, F₂, pure, hybrid, and make notes of Mendel’s observations.



Adapted from the review packets of K. Foglia

4. Define the Law of Segregation.

5. When does the segregation of alleles occur? _____

6. What is the difference between an allele and a gene?

a. allele _____

b. gene _____

7. Briefly define the following terms:

a. homozygous _____

b. heterozygous _____

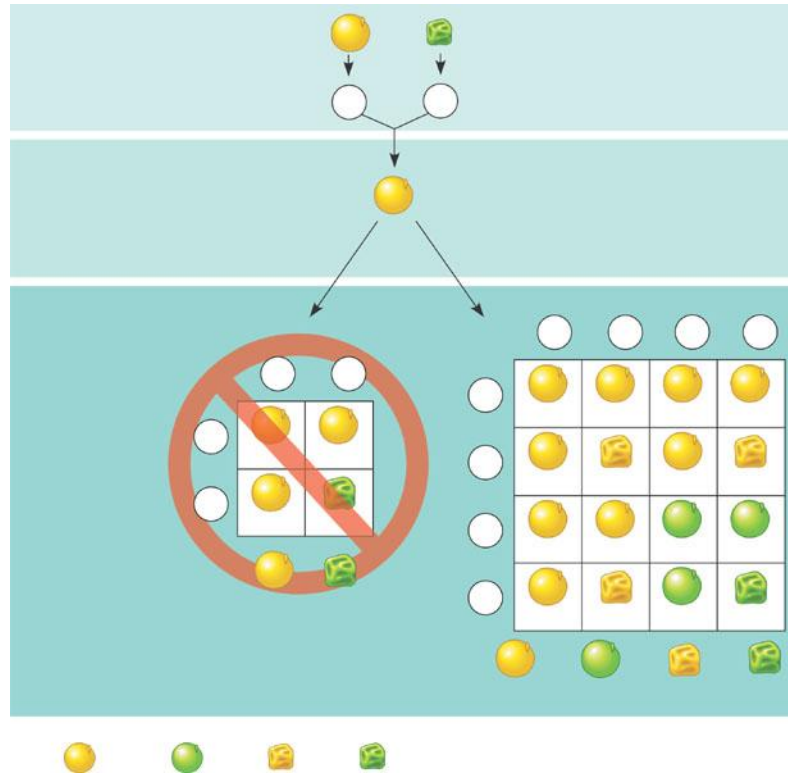
c. phenotype _____

d. genotype _____

8. What is the purpose of a test cross? _____

9. When two traits are on different (non-homologous) chromosomes, how are they inherited?

10. Indicate the phenotypic ratios that result in the F₂ from the F₁ cross (dihybrid cross).



11. Use the rules of probability to determine the expected ratio of offspring showing two recessive traits in the trihybrid cross (PpYyRr X Ppyyrr).

12. Describe and give an example of incomplete dominance. _____

13. How does codominance compare to incomplete dominance? _____

14. How is blood type an example of multiple alleles? _____

15. Define and give an example of pleiotropy. _____

16. Define and give an example of epistasis. _____

17. What is observed when traits are polygenic? _____

18. The expression of phenotypes is often a result of both _____

19. Briefly describe each of the following genetic disorders:

a. Cystic fibrosis _____

b. Tay-Sachs _____

c. Sickle cell anemia _____

d. Achondroplasia _____

e. Huntington's disease _____

20. How can a parent learn the risks of having a child with a genetic disorder?
