

Study Guide Chapter 11

Important vocabulary terms that you should know and be able to **apply** to situations:

Gene:	Monohybrid Cross:	Dominant:
Allele:	Dihybrid Cross:	Recessive:
Homozygous:	Phenotype:	Law of Segregation:
Heterozygous:	Phenotypic Ratio:	Independent Assortment:
Hybrid:	Genotype:	Chromatid:
Pure:	Genotypic Ratio:	Centromere:

1. For each genotype, indicate whether it is heterozygous (HE) or homozygous (HO)

AA _____ bb _____ Cc _____ Dd _____

2. Bobtails are recessive (long tails dominant). For the genotypes below, determine the phenotypes.

TT _____

Tt _____

tt _____

3. Differentiate between a gene and an allele.

4. a) Synonyms of homozygous: _____

b) Synonym of heterozygous: _____

5. List the 4 basic principles of genetics that Mendel discovered in his experiments on peas.

6. Explain the law of segregation in your own words or using a drawing.

7. Describe the principle of independent assortment.

8. What are Punnett Squares used when examining genetic traits?

Do the following crosses. SHOW YOUR WORK. (You may need to do problems on separate sheet of paper)

MONOHYBRIDS

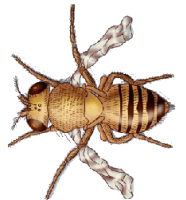
9. In pea plants, the allele for yellow seeds is dominant over the allele for green seeds. Predict the genotypic and phenotypic ratios if 2 heterozygous parents were crossed. Make sure to show the Punnett square, genotypic and phenotypic ratios.

10. In summer squash, white fruit is dominant over yellow fruit. If you place the pollen from a homozygous yellow fruited plant on the pistil of a heterozygous white fruited plant (fertilization!!) what types of plants would you expect from the seeds that come from this cross? Make sure to show the Punnett square, genotypic and phenotypic ratios.

DIHYBRIDS

11. In rabbits, R=rough coats and r=smooth coats; B=brown coat color and b= white coat color. Cross two parents that are heterozygous for both traits. Give the phenotypes of the offspring (**you do not need to list the genotypes**).

12. Fruit flies are organisms commonly used in genetic studies. They reproduce quickly and have several traits that can be measured. One trait is the vestigial wing trait, which is recessive. Most flies have red eyes, but the sepia eye trait is recessive. A fly that is heterozygous for both traits is crossed with one that has vestigial wings and sepia eyes. Make sure to show the Punnett square, genotypic and phenotypic ratios.



Ways to Study/Review

1. Review all lecture notes and readings.
2. Answer the questions at the end of EACH section AND chapter.
3. Study with a friend (not just socialize).
4. Look over old study guides.
5. Flashcards
6. Putting lecture notes into your own words
7. Make yourself a test and take it. Also, have a friend make a test too and exchange tests.
8. Come into class with questions!
9. Review a little each day.... Do not cram the night before!



My child has studied this study guide for at least 20 minutes (2 bonus points)

(Parent/guardian signature)