General Biology I – BSC 2010
Chapter 12 Worksheet – Dr. Capers Name:

1. What is an allele?

2. What is phenotype?

3. What is genotype?

4. Who was Gregor Mendel?

5. What is independent assortment?

6. What is incomplete dominance?

7. What is codominance?

8. What is epistasis?

9. Fruit flies – red eyes is dominant over white eyes.
   a. Do a Punnett Square to show the cross of
      - RR x rr (P generation)

Offspring are F_1 generation

   b. Now cross 2 F_1 to see genotypes F_2 generation

Offspring are F_2 generation

10. In some dogs, barking (B) when trailing is due to a dominant allele, others do not bark (b). Also, erect ears (E) are dominant to drooping ears (e). What is the phenotypic ratio of offspring when you cross two heterozygous dogs (BbEe x BbEe)? Do a Punnett Square

	BE		**bE**	
Be				
be				

Barking, erect ears:_____barking, drooping ears:_____, no bark, erect ears:_____, no bark, drooping ears:_____

11. Incomplete dominance: in snapdragons, red flower color (R) is incompletely dominant over white flowers (R'). The heterozygote RR' will have pink flowers. Predict the results of a cross between a red-flowered snapdragon and a white-flowered one. Do a Punnett Square

12. Sex Linkage: Normal vision in humans is dominant over color blindness and the gene is found on the X chromosome. A normal vision man (XY) has children with a female who is a carrier for color blindness (X^cX). What percentage chance is there that they will have a son who is colorblind?____ Do a Punnett Square

13. Sex Linkage: A boy whose parents and grandparents had normal vision is color blind. Give the genotypes of his mother and maternal grandmother.