

Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

## Ch. 9 Patterns of Inheritance

Use online text web page chapter 9 to complete the following investigation.

### 9E Linked Genes and Crossing Over

1. When a test cross is done a F1 individual is crossed with a \_\_\_\_\_ individual. Why do you think this is done?
2. When test crossing the F1 with a recessive individual explain what you would look for in the testcross (ratio's & phenotypes) that would lead you to believe that genes are linked? Not linked?
3. Explain how crossing over changes the possible gamete formation for the F1 normal round eye, no tooth MendAliens parent. List and label the 4 possibilities here.
4. Describe what is meant by the term, "recombinant gametes?"
5. Why do you think that genes that are further apart on a chromosome have a higher frequency of crossing over than those that are closer together?
6. Explain in your words how independent assortment is affected by linked genes?
7. Write the formula for recombination frequency.
8. Trying your hand at this: from your P generation cross of OOZZ with oozz what is the outcome of the f1 generation (genotype and phenotype)?
9. What are your results of the f1 test cross (genotypes and phenotypes) ?
10. Before you hit the check your answer button (yes, don't just hit the check your answer button) show your work and try to figure out the map distance between the genes for eye color and striping (show all units).
11. Now check your answer. How do we now that the genes are linked in the first place?
12. Discuss how your answer compares with the web page answer (if it was different discuss the error you made, if it was the same discuss how you carried out the calculations).
13. Don't forget to submit the key concept quiz.