

APPENDIX TWO: Biology 104/114 Genetics In-lab Assignment

You are scoring the F1 generation formed by crossing pure-breeding females that are phenotypically {white and black} to pure-breeding wild-type males.

1 (a). What body color phenotype(s) is (are) present in the F1? Is there a difference in phenotype between males and females?

1 (b). Based on your answer to 1(a), is the mutant *black* allele recessive or dominant to its corresponding wild-type allele? Justify your answer.

1 (c). Based on your answer to 1(a), is the *black* locus on an autosome or on the X chromosome? Justify your answer.

2 (a). What eye color phenotype(s) is (are) present in the F1? Is there a difference in phenotype between males and females?

2 (b). Based on your answer to 2 (a), is the *white* locus on an autosome or on the X chromosome? Justify your answer.

2 (c). Based on your answer to 2 (a), is the mutant *white* allele recessive or dominant to its corresponding wild-type allele? Justify your answer.