

## Supplemental Instructions for Fly Lab Simulation

I want to clarify what you should be doing with the online “White Eyed Trait in Drosophila” lab. Follow the lab instructions as though you were actually doing this in the lab. The only difference is that you will be observing simulate results.

If we were on campus you would be working with live fruit flies for this lab. You would have started out by crossing white eyed female flies with red eyed (wild type) male flies and then observing the resulting F1 generation to see what happens to the white eyed trait.

Be sure to watch the short video on how to anesthetize fruit flies.

What I have provided you in Moodle is a diagram of the simulate results for your F1 generation. Sort the flies as though this is what you would have seen under the magnifying glass if you were in the lab. Count the number of males with red and/or white eyes and the same for the females.

After you finish your count you will notice that something very obvious occurred. Record this observation.

Now come up with an explanation for what you observed (hypothesis). Refer to chapter 15 “The Chromosomal Basis of Inheritance” for background information.

Based on your hypothesis you then make a prediction of the ratio of phenotypes you will expect to see in your F2 generation if you cross your F1 flies. You should construct Punnett Diagrams to help you figure this out.

Submit your initial observation, hypothesis, and prediction on the form provided in Moodle. Upload this prediction sheet to your Moodle by the end of the day next Monday, March 1<sup>st</sup>.

Next week I will the post a simulated result for the F2 for you to count to see if your prediction came true and therefore supports (or doesn't support) your hypothesis. Your final formal report is due March 22<sup>nd</sup>.

If we are able to come back to campus after spring break, I will have some live flies for you to work with so you can get some experience in anesthetizing and counting live flies.