Chapter 24 Review: The Origin of Species

- I. Give examples of speciation, microevolution and macroevolution.
- 2. Define the 2 patterns of evolutionary change.
- 3. Define the word "species" as a biologist would. Give an example. How are species distinguished
- 4. What are the two types of reproductive isolation? Examples? (List and understand all the examples on pgs. 474 and 475).

5. What limitations exist in the biological species concept? Briefly run through how the word "species" in used in other contexts.

6. Draw the two types of speciation in populations of your choice.

7. Explain the Drosophila experiment in Figure 24.7.

8. What is polyploidy? Draw examples of the two types.

9. Explain how habitat differentiation and sexual selection contribute to sympatric speciation.

10. How does adaptive radiation lead to speciation?

II. Diagram the two models for the speed of speciation.

12. What is macroevolutionary change and how is it related to speciation?

13. Walk through the "novelty" of our eyes, being sure to mention the false assumption that "only complicated eyes are useful."

14. Talk about "evo-devo" and its discoveries in how changes in rate and timing as well as how changes in spatial pattern lead to differences in species. Use sketches to reinforce your explanation. (That paedomorphosis salamander should be the new internet Doge meme btw.)

15. What are Hox genes and what do they have to do with the evolution of vertebrates?

16. Explain why evolution "is not goal oriented."