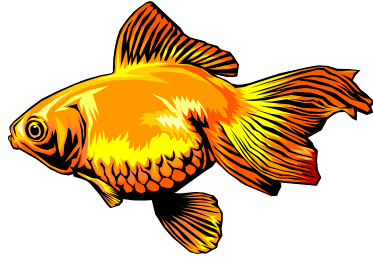# Speciation Activity

Purpose: *To observe the mechanisms involved in the development of a new species.*

Procedure:

1. Your teacher will randomly divide you into groups of 3-5 students.
    List your Group Members:

2. Your group will be **isolated** on an island (lab table) that has a unique environment. Write out your habitat description.
    Environment Description:

3. As a group you must select and write down all phenotype characteristics (your traits) that <u>exist in your group</u> that may improve your group's survival on your island. **Remember you are limited to phenotypes that are in your group only!!! Think about your traits that you may have that might help you survive. Think like Nature would (clothes are not necessary)**
   *Phenotypes that will increase survival:*

4. *Imagine that your group has been able to reproduce for 500+ generations (assume no mutations occurred), describe the typical member of your population. (Create the "perfect person" based on all of your phenotypes listed in #3!) Only use those traits that you and your group have to create the perfect person!!*
    Physical Description:

5. Now assume that many small mutations occurred over the next 500+ generations. If a mutation improves survival in your environment it will be passed through future generations. Use your imagination… anything that <u>nature</u> could potentially create using DNA (no moving parts, like gun-hands!!) *List 6 - 10 visible mutations that would improve survival for your species:*

6. Now draw a picture of a typical member of your population following the 1000+ generations of **mutations** and **natural selection** that have occurred in this exercise. Use the info from number 4 and 5 to make the most FIT individual. *Picture after 1000+ generations:*
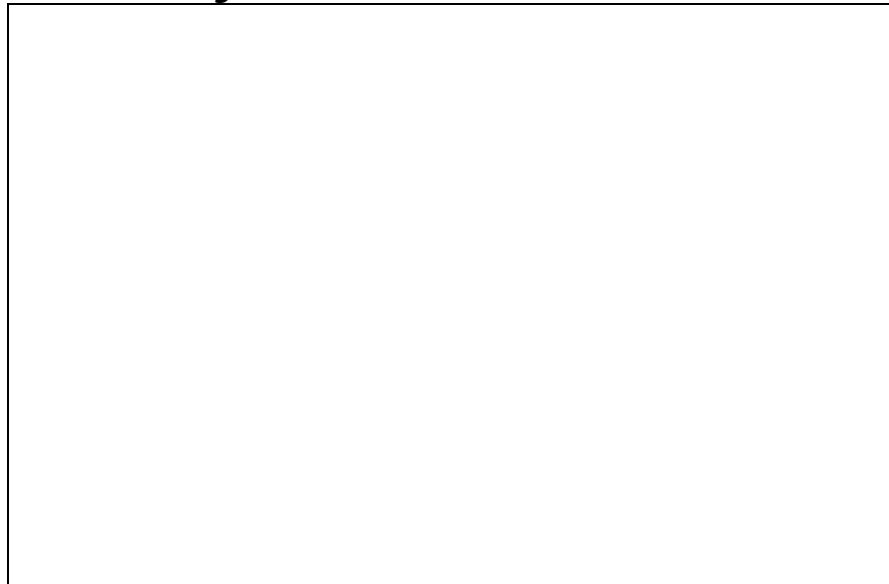
* Have one person in your group Draw a picture of your "new person" on the white board (if time allows).

7. Compare your island population to the other populations that have developed in this exercise.
   How are they all similar?

   What are some of the major differences?

8. Do you think that your new population is genetically different from any of the other populations in the class? Explain.

9. Do you think any of the populations in the class could represent a new species? Explain.