**Speciation: An Evolutionary Process - Assignment Handout**

**Pre-Lab:** Follow the guidelines and steps for the activities as listed on the Lab Website and insert your work below.Read the lab unit, pp. 33-40. NOTE: Activity 1 – Procedure-I will be done during the In-Lab meeting, but please read ahead.

**General Background Information: Hybridization of Honeybees**

View the Presentation and answer the following questions:

1. What is the difference between behaviors and characteristics of European and African & Hybridized Honeybees?

|  |  |  |
| --- | --- | --- |
| **Characteristic** | **African & Hybridized Honeybee** | **European Honeybee** |
| Nesting |  |  |
| General Morphology |  |  |
| Wing length |  |  |
| Swarming |  |  |
| Genetic dominance |  |  |

1. Scientists frequently use wing length as a morphological basis of determining if a hive has been “Hybridized.” What are the merits and limitations to this approach?

Merit –

Limitation –

1. Genetic analyses are also used by scientists to determine if a hive has been “Hybridized.” What are the merits and limitations to this approach?

Merit –

Limitation –

**Activity 1 – Procedure-II:** **Micropippetting and gel electrophoresis The Micropippette**

1. Read pp 38-40 and watch the video and animation to answer the following questions:  
   1. Why is it important to set up the gel with the wells facing towards the negative electrode of the gel electrophoresis box?
   2. When retrieving samples from a bullet tube, how do you use the micropipette with respect to the “first” and “second stop?”
   3. How do you insert the sample into a well on the gel?
   4. What are some common errors when loading a gel?

**Speciation**

1. How do you best define a species?
   1. Include an example in which your definition may become problematic:
2. What is so interesting regarding giraffes and speciation?