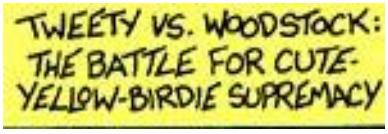
Name: _____ **Date:** _____ **Period:** _____

Bird Beaks Lab

Purpose: Students will:

A) Summarize why variation within a species increases the likelihood that at least some members of a species will survive under changed environmental conditions.

B) Simulate specie variation and competition for food to determine which individuals are the most fit in a specific environment.



Materials:

Bird Beaks	**Prey (Food)**
Clothespins	Washers
Scissors	Toothpicks
Spoons	Beans
Tweezers	

Stomach = Paper cup
Habitat = Paper towel

Procedure:

1. Spread out the towel onto the lab table.
2. Distribute ONE of the food resources (see above). Spread them *randomly* over the towel.
3. Each person then gets one beak. They will use the same beak for each feeding session.
4. When the timer says "go", the birds will have 15 seconds to feed. Place each, one food item at a time, into your "bird stomach" (paper cup) until the timer says "stop".
5. After feeding, count the items in your cup and record them in data table 1.
6. Repeat the experiment two more times with the other food items.
7. For the last experiment, put all of the food items randomly onto the towel.
8. Repeat steps 4, 5, and 6.
9. Record this data in data table 2.
10. Make two bar graphs of your data. The first graph will display the results of one food item at a time (3 bars per beak) and the second bar graph of all the food items combined. The Y-axis should be labeled "number of food items" and the X-axis should have each bird beak type. Make a key showing your bar graph code for each item.

Data Table 1: Trials 1, 2, 3

Bird Beaks	**Round 1 = Washers**	**Round 2 = Toothpicks**	**Round 3 = Beans**
Clothespins			
Scissors			
Spoons			
Tweezers			

Data Table 2: Trial 4

Bird Beaks	**Last Round – All Food Types**
Clothespins	
Scissors	
Spoons	
Tweezers	

Conclusions:

1. In the first three rounds, which beak type gathered the most washers? _____
2. The most beans? _____

   The most toothpicks? _____
3. What could a bird do if the only food item available in the habitat was beans, yet its beak was ineffective in gathering beans?

4. In the second part of the lab, with all the food items on the towel, did each beak type obtain some of each of the food types? Why or why not?

   A. How did feedings success for each type of beak differ in this case from the feeding rounds with only one food type available?

5. Was it easier to get more food with only one item or with all food types together? Why or why not?

6. Which type of beak would you classify as the most fit? Why? Use the ABC format in your answer.

CREATE YOUR TWO BAR GRAPHS HERE:

DATA: TRIALS 1, 2, 3

DATA: TRIAL 4