Name:_____ Block:_____

Lab Activity:
EVIDENCE OF NATURAL SELECTION

Welcome to the Weirdaroo Bird Population! Imagine yourself as a member of the "Weirdaroo" bird population. Having evolved (**as only a population can**) from your master Weirdaroo ancestor, who incidentally had a large beak used for eating pistachio nuts, though the population may have differing traits.

The following activities will demonstrate natural selection in a population that can arise under differing circumstances.

Instructionaroos!

1. Divide into 3 populations consisting of 6-10 Weirdaroos.
2. Name your Weirdaroo population and record it below.
3. Each individual Weirdaroo will choose a "beak" that signifies its identity:
   - -Tweezeroo
   - -Spooneroo
   - -Clothes Pinaroo
   - -Eyedropperoo
   - -Test tube holderoo
   - -Beakeroo
   - -Tongeroo
4. Each population will retreat to different habitats, [a] seeded forest floor (*mat with sunflower seeds*), [b] flowers on the plains (*test tubes with "nectar"*), or [c] fish in the pond (*marbles in sinks*).
5. Scope out your new habitat. Once the signal is given by the Captain Weirdaroo (your teacher!), you have 2 objectives:
   - [i] To obtain as much food as possible within 2 minutes using your beak in the manner it was intended, and consume the food by placing it inside the beaker (stomach!) you were given.
   - [ii] At the "stop" cue, each Weirdaroo determines the number of food units caught and eaten. For each 1mL of nectar/ 1 marble/or 1 seed, count as 1 food unit.
   - [iii] Record YOUR POPULATION'S results in the chart below, and calculate the percentages for each individual Weirdaroo.
6. Repeat step 5 at the SAME habitat for 2 more generations. <u>If you did not capture any food the previous time, death occurred and you can not continue into the next generation</u>.
7. Before moving to the next habitat, discuss as a group the following:
   - i) Which birds survived? Why?
   - ii) Which birds did not survive? Why?
   - iii) Could any birds alter the way they use their beaks in order to survive? How?
   - iv) How could this activity be made more realistic?
8. As a population, move to a second habitat. Repeat steps 5,6,& 7.
9. As a population, move to the third habitat. Repeat steps 5,6,& 7.

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Data Collection

Population's Name: _____

Seeded Forest Floor

Weirdaroo's	Generation 1		Generation 2		Generation 3	
Name	#ate/total	%	#ate/total	%	#ate/total	%

Flowers on the Plains

Weirdaroo's	Generation 1		Generation 2		Generation 3	
Name	#ate/total	%	#ate/total	%	#ate/total	%

Fish in the Pond

Weirdaroo's	Generation 1		Generation 2		Generation 3	
Name	#ate/total	%	#ate/total	%	#ate/total	%

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Questionaroos!

1. What factors/variables that are normally present in a natural environment are controlled in this activity?

2. Which Weirdaroo(s) is more likely to survive in a forest environment as opposed to a pond? Why?

3. Can **individual** organisms change to suit their environment?

4. What key points of Darwin's Theory of Natural Selection are illustrated in this activity?

5. What causes variation among populations?

6. If enough change occurs in a population, predict what eventually may occur?