**Birds, Beaks, and Natural Selection—A Simulation**

In this activity, students gather data to see how beak mutations can influence natural selection.

**Pre-Lab**

Use the image on the board to answer the following:

1. What variation (or difference) does the “large ground finch” have that makes it well adapted to its food supply?
2. What variation (or difference) does the “large ground finch” have that makes it well adapted to its physical environment?

**Procedure**

1. Choose one of the tools you are given—fork, tweezer, or pencils with rubber band.

2. Grab as many beans as you can.

3. Count the number of beans you were able to get. Write down this number in the box under Trial 1 Beans on the next page.

4. Repeat steps 2 -3 two more times. Write your results under Trials 2 and 3.

5. Repeat steps 1 – 4 using the cereal (fruit loops).

6. Repeat steps 1 – 5 with another tool that you have not used yet. Do this for all three tools!

**Data Tables**

|  |  |
| --- | --- |
| **Food Item** | **# picked up with TWEEZERS** |
|  Beans | Trial 1 | 2 | 3 | Average |
| Cereal | Trial 1 | 2 | 3 | Average |

|  |  |
| --- | --- |
| **Object** | **# picked up with PENCILS** |
|  Beans | Trial 1 | 2 | 3 | Average |
| Cereal flakes | Trial 1 | 2 | 3 | Average |

|  |  |
| --- | --- |
| **Object** | **# picked up with FORK**  |
|  Beans | Trial 1 | 2 | 3 | Average |
| Cereal | Trial 1 | 2 | 3 | Average |

**Follow-Up Questions**

1. Based on the amount of food items consumed, which birds most likely survived?
2. What other factors besides beak type affected feeding in your population?
3. What type of “beak” worked well for beans?
4. What type of “beak” worked well for cereal?

1. Describe the traits that you think the next generation of birds in this activity would have and why?
2. How did this activity demonstrate how *natural selection* occurs?

**DUE Thursday 12/5/13**