NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Beans and Beaks Lab

Purpose:

The purpose of this lab is to model natural selection in a controlled environment.

Procedure:

1. The beak style will be represented by the following: plastic knife, plastic spoon, plastic fork, and two pencils.
2. Collection rules:
   1. You can only use utensils to collect seeds, your other hand must be behind your back
   2. You can only carry one seed at a time back to your nest
   3. There will be a nest site for each species
   4. The collection time will be 2 minutes. In this time you must collect as many seeds as possible and place them in your nest.
   5. The top three individuals in each round procreate; the bottom three will die
   6. At the end of each round seeds will return to the feeding table
   7. If you are running pushing, or roughhousing you will be removed from the activity and receive a zero for the lab.
3. Record the class results in the data table at the end of the activity

Data:

|  |  |  |
| --- | --- | --- |
| Year | # of individuals | Total number of seeds collected |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 6 |  |  |

Analysis:

Plot a line graph of the data on graph paper. The x-axis will represent years 1-6 and the y-axis will represent the total number of individuals in the population each year. Use 4 different colors to represent the different utensil species. Please give your graph a title, key, and label your axis.

Discussion questions:

1. Which bird was the most successful at collecting seeds? How do you know?
2. Looking at your graph, which birds had the greatest increase and decrease over the six years?
3. What behavioral adaptations did you observe?
4. If we had continued the activity for several years, predict what would have happened.
5. How did this activity model natural selection? How did it model evolution?