Natural Selection

# Object

The object of today’s game is to examine the concepts of natural selection by mimicking them with in our game.

# Introduction

On a planet many light years a creature known as a foofoo bird was discovered. These birds eat either beans or marshmallows that grow only on the ground. The birds have developed a variety of beaks to gather their food with. A few years after the discovery of the foofoo bird a new beak form is discovered. In this lab you will play the part of one of the foofoo birds on this planet and examine the reasons behind the evolution of the different beak types and the impact of this evolution.

# Materials needed

* Cup of beans and marshmallows
* tray
* Paper cups(enough for each person in the group)
* Plastic spoon
* Plastic fork
* Plastic knife
* Clothespins
* Electrical tape

# Procedure

1. Get into groups of 5
2. Gather the materials needed to play the game
3. Each person selects a “beak”. There must be one person who is a spoon and one who is the electrical tape.
4. Give each person a cup to collect their food in.
5. Poor the beans in the tray and place the tray on the center of the table.
6. Now listen for your teacher to start the round
   1. Each round will be 30 seconds long(listen to your teacher, they will tell you when to start and stop)
   2. You must try and collect as many food pieces as possible and put them your cup.
   3. At the end of the round you will record how many pieces you have collected and the person with the least amount of pieces becomes a foofoo bird with a different type of beak.

**NOTE: In the first 2 rounds the electrical tape person doesn’t play.** They should be working on taping their fingers together to create a “hand beak” (listen to the teacher, they will explain this)

1. After each round, put the food back in the tray and organize who is going to be each beak type (remember the person with the least amount of food pieces after each round becomes a new beak type).

# Data

**Food Collection**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Beak type | Round 1 | | | | Round 2 | | | | Round 3 | | | |
|  | # | M | B | Total | # | M | B | Total | # | M | B | Total |
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| Beak type | Round 4 | | | | Round 5 | | | | Round 6 | | | |
|  | # | M | B | Total | # | M | B | Total | # | M | B | Total |
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| Beak type | Round 7 | | | | Round 8 | | | | Round 9 | | | |
|  | # | M | B | Total | # | M | B | Total | # | M | B | Total |
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# - number of a certain beak type in the round

M- number of marshmallows consumed in the round

B- number of beans consumer in the round

Total- total number of food pieces consumed in the round

# Questions

1. A. Which type of foofoo was best adapted for the environment:
2. Before the introduction of the new species? defend your answer
3. After the introduction of the new species? Defend your answer
4. How does the type of beak affect the survival of that type of foofoo?
5. What happened to the foofoos that could not compete with the other foofoos? Explain.
6. In which ways do you think this scenario models natural selection. Defend your answer