**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_**

|  |
| --- |
| **Activity 2 – Survival of the Fittest** |

**Objective:** To simulate the process of natural selection.

**Materials per group:**

50 black beans

50 lima beans

50 kidney beans

Black construction paper-1 sheet

Green construction paper-1 sheet

Small plastic or paper cup-1 per student

**Procedure:**

1. Place all of the beans onto the green construction paper.
2. Close your eyes for 30 seconds. After 30 seconds, open your eyes, pick up the first bean that you see, and place it in your cup. Close your eyes again, count to ten, and then open your eyes again. Grab the first bean that you see and place it in your cup. Repeat this for a total of 10 trials.
3. When you are done, count the beans remaining on the construction paper and those beans that are in your cup. Record those numbers in your data table.
4. Now place the beans onto the black construction paper. Repeat the above process for a total of 10 trials on the black construction paper. Record your data in the data table.
5. Put all of the materials away and answer the analysis questions.

**Data Table One: Green Construction Paper**

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of Beans** | **Number of Beans Initial** | **Number of Beans Removed** | **Number of Beans Remaining** |
| **Black Beans** |  |  |  |
| **Lima Beans** |  |  |  |
| **Kidney Beans** |  |  |  |

**Data Table Two: Black Construction Paper**

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of Beans** | **Number of Beans Initial** | **Number of Beans Removed** | **Number of Beans Remaining** |
| **Black Beans** |  |  |  |
| **Lima Beans** |  |  |  |
| **Kidney Beans** |  |  |  |

**Analysis Questions:**

1. On the green background, which bean “survived” the best? Why do you think this is so?

2. On the green background, which bean “survived” the worst? Why do you think this happened?

3. What would eventually happen to the population of the beans that “survived” the worst? Why?

4. Which bean “survived” the best on the black background? Was it the same or different than the bean that “survived” the best on the green background? Why do you think this is so?

5. Why did different beans survive better on the different colored backgrounds?

6. How does this lab simulate the process of natural selection?