Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour \_\_\_\_\_\_\_

**Station #1: Darwin’s Finches**

**Unit Essential Question:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Focus Question:** How might a genetic trait affect an organism’s chance of survival?

**Task:** Your group will demonstrate how different adaptations help different birds collect different types of food. Imagine you are one of Darwin’s finches; the tools provided represent the various beak sizes. You must collect enough of the available food to survive and reproduce.

|  |  |
| --- | --- |
| **Materials Available** * 1 Spoon
* 1 Fork
* 1 Tweezer
* 1 Chopstick
* 4 Cups
* Graph paper
* Large flat area
 | * Stopwatch
* Bag of dry beans of many different types
* Bag of rubber bands
* Box of toothpicks
* Large chart paper
 |

**Part I Research, Plan, and Investigate:**

1.Read the laminated background information titled *Charles Darwin’s Finches.*

2. Plan an investigation using the provided materials that will help answer the focus question; you can use as many or as few of the materials as you choose.

3.Ask for the [*Investigation Proposal Sheet*](https://docs.google.com/document/d/1L5tHT64JiMgFB_JxhHy-tEyBFAh6i7q37aIiNed3hQQ/edit?usp=sharing) for your planning; use it to plan an investigation that should take no longer than 20 minutes to conduct.

4.Once your investigation proposal has been approved by your teacher, gather the materials your group needs to carry out your investigation.

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Ms. Murphy approval**

**Part II Analyze Results:**

1. Look back at your Investigation Proposal Sheet to reference how you intended to analyze your data; do this now.

2.Give each group member a part of the process to report out on; you’ll create a mini-poster presentation that includes all of the parts of your investigation proposal. Write the initials of the person that will:

 \_\_\_\_\_write out the investigation question \_\_\_\_\_write out the procedure

 \_\_\_\_\_write out the hypothesis \_\_\_\_\_chart/graph the results

 \_\_\_\_\_list the materials used \_\_\_\_\_write out a data analysis/conclusion statement

3. Ask for the poster paper; you can “jigsaw” each piece of information and attach it to the poster when complete if needed.

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Ms. Murphy approval**

**Part III Draw Conclusions:**Answer the following questions using complete sentences with a restate:

1. Based on your data, what’s happening to the bird population?

2. How does your investigation compare to what happens in reality?

3. How do genetic traits affect an organism’s chances of survival?

4. When ready to turn in attach all group members’ assignments and the investigation proposal to the poster and turn in to the station 1 box.

Group names \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_ Hour \_\_\_\_\_\_\_\_\_

 **Investigation Proposal**

|  |  |
| --- | --- |
| **The Focus Question** | *How might a genetic trait affect an organism’s chance of survival?* |
| **Task** | ***Task:*** *Demonstrate how different adaptations help different birds collect different types of food. Imagine you are one of Darwin finches. The tools provided represent the various beak sizes. You must collect enough of the available food to survive and reproduce.*  |
| **Our investigation question** |  |
| **Our hypothesis** |  |
| **What data will we collect?** |  |
| **The materials we will use**  |  |
| **How will we** **collect our data?****(Procedure Steps and chart/table)** |  |
| **How will we analyze our data?****(Graph? Table? Written Description?**  |  |

Investigation Approval: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_