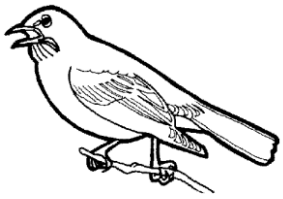
Name _____ Period ____ Date _____

Bird Beak Adaptation Lab

Purpose:
To learn about how organisms are **naturally selected** based on their **adaptations** and their environment.



Background:
Animals that have differences that help them to eat available foods will be more likely to survive. We call these good differences **adaptations**. **Adaptations** are inherited characteristics that increase an organism's chance of survival. Animals with the **most helpful adaptations** will be the **most likely to live to give these adaptations to their babies**. This process makes sure that good adaptations will continue in future generations, while bad characteristics will not.

Hypothesis:
Your **hypothesis** should say **which will be the best type of beak for each environment** and explain why.

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Materials:
Clothes pins, plastic spoons, straws, chop sticks, beans, plastic cup, graduated cylinder

Procedure

1. Each student will be given a spoon, clothes pin, straw, or chop stick. Each student will also get one plastic cup.

2. You are now a very hungry bird. The tool you have is your "beak". You can **only use your beak** to pick up food.

3. The **cup is your stomach**. It must remain upright at all times. **You must hold your beak in one hand, and your stomach in your other hand**, close to your body. Only food that is placed in the cup by the beak has been "eaten".

4. Food will be out in your "habitat". There will be a few different habitats as we go through the games. When Ms. Murray says "go", **you will have 45 seconds to eat** (or until the food runs out). **You may only pick up one food at a time**. Collect as much food in your stomach as possible until Ms. Murray says "stop".

5. **Make a prediction** as to which type of beak will be able to collect the most of each type of food.

6. After each round **record how much food each bird was able to capture**.

7. After each round we will **kill the bird with the least amount of food**. We will play until only **one bird remains**.

8. Repeat the activity in 3 different habitats.

Bird Beak Data

Habitat 1:

	Spoon-bills	Clothes pins	Chop Sticks	Straw	Fingers
Round 1					
Round 2					
Round 3					
Round 4					

Habitat 2:

	Spoon-bills	Clothes pins	Chop Sticks	Straw	Fingers
Round 1					
Round 2					
Round 3					
Round 4					

Habitat 3:

	Spoon-bills	Clothes pins	Chop Sticks	Straw	Fingers
Round 1					
Round 2					
Round 3					
Round 4					

Observations:
What did you **observe** about the "birds" with different beaks:

- Spoon Bills:
- Straws:
- Clothes Pins:
- Chop Sticks:
- Finger and Thumb:

Analysis Questions:

1. For environment **one**, which bird adaptation **died** off first? **Why**? Which bird adaptation **survived** all feeding rounds? **Why**?

2. For environment **two**, which bird adaptation **died** off first? **Why**? Which bird adaptation **survived** all feeding rounds? **Why**?

3. For environment **three**, which bird adaptation **died** first? **Why**? Which bird **survived** all feeding rounds? **Why**?

4. Were the surviving groups the **same** for **all environments**? Explain why or why not.

5. What is an adaptation? Give an example of an adaptation.

6. Describe **two** other **adaptations** that an organism might have that would help it survive in a particular environment (other than beak shape).

7. What does Darwin's **theory of natural selection** say?

8. How does this experiment **support (agree with)** Darwin's theory of evolution?