Name: _____ Date: _____ Period: _____

How did the Galapagos Finch Populations Change?

The Galapagos finch population changed over many years. Working in groups of 4 you will model the how the finch population due to a changing environment. You will only be drawing 10 years of change. *This is a very small amount of time*.

Directions:

1. Turn the cards upside down.
2. Each time the story tells you to pick 10 cards. *This represents the variation of a species within the birds that were born that season/year*.
3. Enter your results on the data table (page 2).
4. Keep only the bird beak that you are instructed to and put these back on the large pile you picked from after you have counted them. Put the bird beaks you are to discard in a **separate** pile and do not choose from that pile.
5. Graph your results, using a triple line graph (1 line for each beak type).
6. Make a key so you know which line represents each beak type.

10 Years of Climate Change

On one of the Galapagos Islands, there were originally four variations of the ground finch species. Each variation had a different type of beak.
Each beak could open a different kind of food.

- The **largest beak** could crack open **cactus nuts**.
- The **medium beak** could open softer **pinecone seeds**.
- The **smallest beak** could gather **very small seeds from flowers**.

Year one there is a drought, and only soft pinecone seeds and the cactus flower survive.

1. Choose 10 cards; keep only the large and medium beaks.
2. Put the small beaks on the discard pile.
3. Enter your first year's results in the data table.

Year two, there is a drought, and only soft pinecone seeds and the cactus flower survive.

1. Choose 10 cards; keep only the large and medium beaks.
2. Put the small beaks on the discard pile.
3. Enter your second year's results in the data table.

Year three, there is a severe drought and only cactus flowers survive.

1. Choose 10 cards; keep only the large beaks.
2. Put the small and medium beaks on the discard pile.
3. Enter your third year's results in the data table.

Year four, there is a drought, and only soft pinecone seeds and the cactus flower survive.

1. Choose 10 cards; keep only the large and medium beaks.
2. Put the small beaks on the discard pile.
3. Enter your fourth year's results in the data table.

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Year five, there is a severe drought and only cactus flowers survive.

1. Choose 10 cards; keep only the large beaks.
2. Put the small and medium beaks on the discard pile.
3. Enter your fifth year's results in the data table.

Year six, there is a severe drought and only cactus flowers survive.

1. Choose 10 cards; keep only the large beaks.
2. Put the small and medium beaks on the discard pile.
3. Enter your sixth year's results in the data table.

Year seven, there is a severe drought and only cactus flowers survive.

1. Choose 10 cards; keep only the large beaks.
2. Put the small and medium beaks on the discard pile.
3. Enter your seventh year's results in the data table.

Year eight, there is a severe drought and only cactus flowers survive.

1. Choose 10 cards; keep only the large beaks.
2. Put the small and medium beaks on the discard pile.
3. Enter your eighth year's results in the data table.

Year nine, there is a severe drought and only cactus flowers survive.

1. Choose 10 cards; keep only the large beaks.
2. Put the small and medium beaks on the discard pile.
3. Enter your ninth year's results in the data table.

Year ten, there is a severe drought and only cactus flowers survive.

1. Choose 10 cards; keep only the large beaks.
2. Put the small and medium beaks on the discard pile.
3. Enter your tenth year's results in the data table.

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Data Table

Beak size	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Small										
Medium										
Large										

Questions:

1. After 10 years, did you have more large, medium, or small beaked finches on the island?

_____

2. What was changing in the habitat?

_____

3. Was the adaptation that was taking place a structural or a behavioral adaptation?

_____

4. What is the appearance of different beaks in a particular species called?

_____

5. Did the change of the traits among the different ground finches take only 10 years?

_____

6. Which of the ground finches were passing on their traits to their offspring?

_____

7. When Darwin observed the different ground finches with different traits, what did he call this evolving of the different species?

_____