Name:_____ Date:_____

Galapagos Finch Evolution (HHMI Biointeractive)

https://youtu.be/mcM23M-CCog ~16 minutes

1. What is the “mystery of mysteries? How did so many different species arise?

2. The Grants’ study on the island of Daphne Major studied what organisms? Darwin's finches

3. Where did the 13 species of finches on the islands come from? A single ancestral species that migrated from the mainland.

4. How did the Grants catch the finches? Using mist nets.

5. What features did they measure? Beak size and shape, body size, and other features.

6. What happened in 1977 to the island? A severe drought occurred.

7. What type of birds were more likely to survive after this event? Birds with larger, stronger beaks that could crack larger seeds.

8. After the El Nino event in 1983, which birds were more likely to survive? Birds with smaller beaks that were better suited for eating smaller seeds.

9. What keeps different species from mating on the Galapagos islands? Differences in beak size and shape, songs, and other mating preferences.

10. The most likely scenario explaining the different finches on the islands is that:

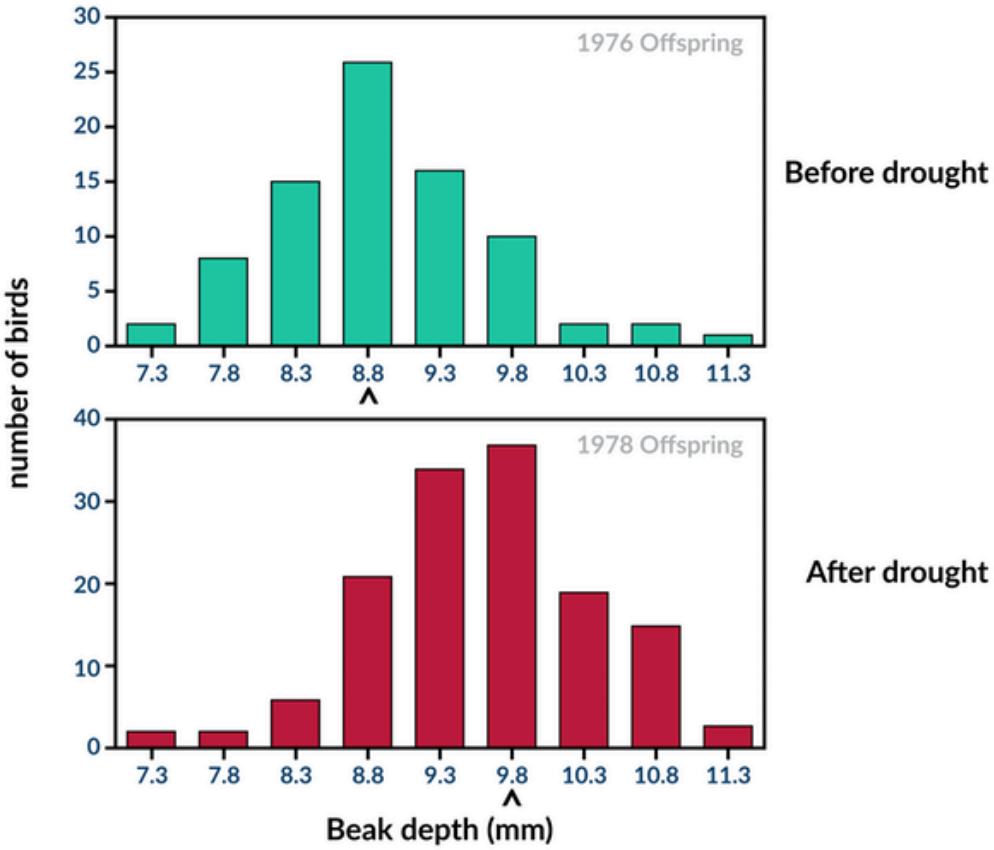
b) one species evolved into many different species

11. Examine the graph below. Summarize what happened to the finch population between 1976 and 1978.

The finch population experienced a significant decrease in the average beak depth due to the drought in 1977. Only finches with larger beaks survived to reproduce, so the next generation had a higher average beak depth. This shows natural selection in action.

12. **Why** did the finch populations change from 1976 to 1978?

The drought of 1977 caused a shift in the available food sources. Larger, harder seeds became more common, and only finches with larger beaks capable of cracking these seeds survived to reproduce. This resulted in an increase in the average beak depth of the population over time, showing adaptation through natural selection.


1976 Offspring
Before drought
number of birds
30
25
20
15
10
5
0
7.3
7.8
8.3
8.8
9.3
9.8
10.3
10.8
11.3
1978 Offspring
After drought
40
30
20
10
0
Beak depth (mm)

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