



Science Virtual Learning

LEP Science

Mechanisms of Evolution

Natural Selection

April 24, 2020



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Lesson: April 24, 2020

Objective/Learning Target: I can explain how Natural Selection works as the driving force behind Evolution.

How do the two parents produce offspring of such variety?

Does any one of the offspring have an advantage over the others?



Mother & Father

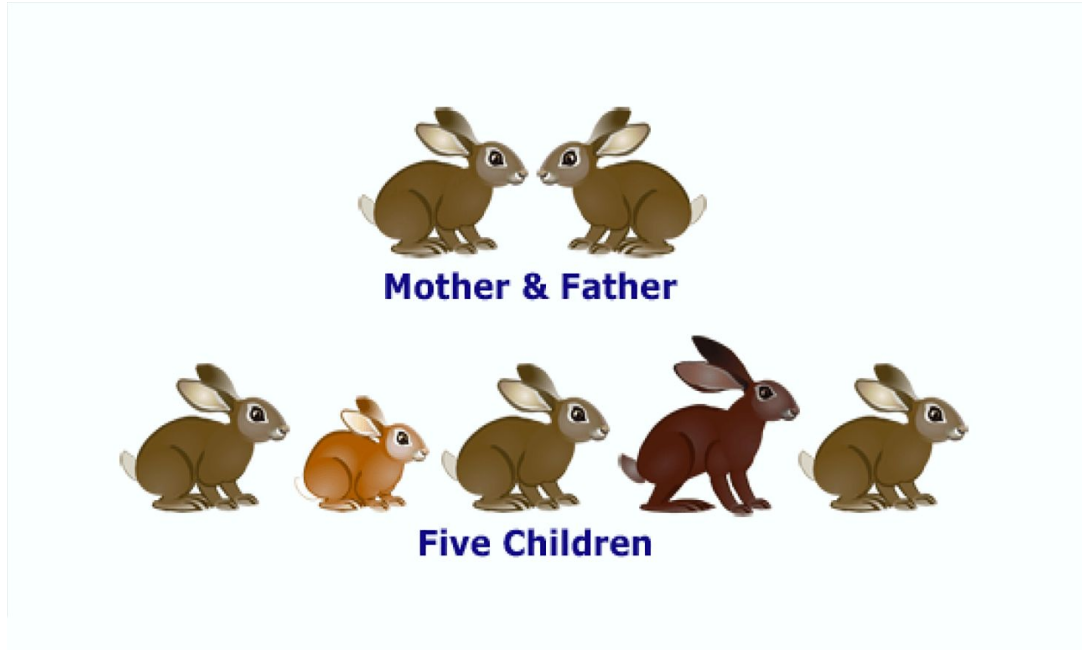


Five Children

How do the two parents produce offspring of such variety?

Answers will vary but should be in the direction of genetic variation.

Does any one of the offspring have an advantage over the others? Answers will vary by user, but without additional information, the answer is no.





Lesson and Activity

Open the [Video Notes outline](#) and either print it off copy it onto a sheet of paper.

Next, open the video link. As you watch the video, complete the notes page.

[Mechanisms of Evolution](#)



Read the attached article then watch the attached video. Take notes if you wish.

[Article on Darwin's Finches](#)

Video on Darwin's Finches

[The Origin of the Beak](#)



Let's apply what we have learned from the article and the video.

Open the HHMI Biointeractive and Launch. As you navigate through the interactive to Identify the different species of Finches, complete the student worksheet (attached below) by writing your responses on sheet of paper.

[Sorting Finches Interactive](#)

[Sorting Finches \(worksheet\)](#)

Answers to worksheet

1. Appearance and Song
2. The Galapagos are young because they are relatively new (.5-5 mya) compared to the origin of the Earth
3. A. In terms of **Taxonomy** (Domain, Kingdom, Phylum, Class, Order, Family, Genus, Species), these finches share all the taxonomic ranks except species.

B. Beaks: *G. scandens* (cactus finch) has a long pointed beak while *G. fortis* (medium ground finch) has a shorter, blunt beak.

C. Advantage: during times of drought when seeds are more readily abundant.
Disadvantage: limited to a particular food resource, cactus finches are able to feed on a variety of foods.

4. Pacific Ocean, SSW of USA

5. Daphne major is slightly bean shaped with what looks to be a crater in the middle.

6. Spectrograms are visual sonograms that represent how sound frequencies change over time. X-axis is time, Y-axis is frequency

7. The first: steady rise in frequency The second: more variation than the first, but the change is gradual. The third: range in frequency is sharp and abrupt between the high and low.

8. The finches learn songs at a very early age (when they are still in the nest). They learn the songs from their father.

9. Fairly easy if you listen closely and pick up the pattern

10. Answers will vary. (spectrograms should be easier since you can see the pattern)

11. Answers will vary

12. Answers will vary

13. Beak should have given it away.

14. The song is learned from the father and birds will only have one father

15. Not as fit because birds not only choose their mates by song, but also by looks. If it doesn't look "right", it won't mate and pass on genetic traits.

[Khan academy quizzes](#)

[Another article on Darwin's Finches](#)

Ameoba sisters video



[Natural vs Artificial Selection](#)