



## Darwin's Theory of Evolution 101 video notes



### Evolution By Natural Selection

- Darwin read \_\_\_\_\_ work on \_\_\_\_\_ and realized that if there were too many members of a population then they would have to \_\_\_\_\_ for \_\_\_\_\_ and resources. The big question he thought about was who would win in this struggle for survival?

### Variation within a Species

- Darwin hypothesized that some of the variations ( \_\_\_\_\_ ) that certain organisms have within their population gives them a better chance of \_\_\_\_\_ in their \_\_\_\_\_. When an organism survives and \_\_\_\_\_ the overall \_\_\_\_\_

1. Explain what happened with variation in the beetle population in the video (1:00). \_\_\_\_\_

2. Which wolf do you think would have a better chance of survival in the environment? Explain why. (2:02) \_\_\_\_\_

Adaptation – any heritable characteristic that \_\_\_\_\_ an organism's ability to \_\_\_\_\_ in its \_\_\_\_\_.

3. What are some examples of adaptations? \_\_\_\_\_

4. What are some adaptations that owls have that make them great predators and help them to survive and reproduce? \_\_\_\_\_

### Survival of The Fittest

- Fitness describes how well an organism can \_\_\_\_\_

- Organisms with \_\_\_\_\_ that work well and are best suited for their \_\_\_\_\_ can survive and reproduce at a \_\_\_\_\_ which means more of their \_\_\_\_\_ gets passed on to their \_\_\_\_\_. These organisms have \_\_\_\_\_

- Organisms that are not best suited for their environment either \_\_\_\_\_, which means \_\_\_\_\_ of their genetics gets passed on to their offspring. These organisms have \_\_\_\_\_.

-The chances of survival and reproductive rates of these organisms is called \_\_\_\_\_

5. What special adaptations does the lion have that allows it to hunt, capture, and kill the zebra? \_\_\_\_\_

6. What special adaptations does the cheetah have that allows it to hunt, capture, and kill prey? \_\_\_\_\_

### How Natural Selection Works...



- More individuals are produced each generation than can \_\_\_\_\_. Why is this good? \_\_\_\_\_

Phenotypic (Physical) variation exists among individuals and the variation is \_\_\_\_\_.

Those individuals with heritable traits better suited to the environment will \_\_\_\_\_.

7. Explain how natural selection works in the mice population in the video. (7:50) \_\_\_\_\_

### Common Descent & Descent with Modification

- Common descent refers to a \_\_\_\_\_ of a particular group of organisms. (The \_\_\_\_\_ is the direct ancestor of dogs)

- Descent with modification is the passing of \_\_\_\_\_ over time from generation to generation by \_\_\_\_\_ to offspring that provide \_\_\_\_\_ and become more common in a population. (Galapagos island finches)

- Common descent can also be traced back to a single \_\_\_\_\_ of all living organisms by looking at the \_\_\_\_\_ of all living organisms.

- The many types of \_\_\_\_\_ we have on our planet can be contributed to \_\_\_\_\_ and \_\_\_\_\_ made by organisms based upon their \_\_\_\_\_ over many many years from \_\_\_\_\_.

8. How can you tell that we all have a common ancestor? \_\_\_\_\_

### **Check for Understanding!**

1. How did Charles Darwin use Thomas Malthus work to help him come up with his Theory of Evolution by Natural Selection? \_\_\_\_\_

2. What did Darwin hypothesize about variation within a species? \_\_\_\_\_

3. How does variation help a species/population? \_\_\_\_\_

4. What special adaptations do owls have? \_\_\_\_\_

5. Why are cheetahs so good at hunting? \_\_\_\_\_

6. How do adaptations relate to fitness? \_\_\_\_\_

7. Why is it called 'Survival of the Fittest'? \_\_\_\_\_

8. What happens to less fit organisms? Explain why. \_\_\_\_\_

9. How does Natural Selection drive the Evolution of species? (Use the mice fur color as an example) \_\_\_\_\_

10. What evidence is there to support the theory that we all came from a common ancestor? \_\_\_\_\_