

Name _____

Course/Section _____

Date _____

Professor/TA _____



Activity 22.3 How would you evaluate these explanations of Darwin's ideas?

Unfortunately, even today some people get or give the impression that acquired characteristics can be inherited. As a result, we need to be very careful about how we state our understanding of evolution and evolutionary theory.

To test understanding of Darwin's ideas, this question was included on an exam.

4-point question:

In two or three sentences describe Darwin's theory of descent with modification and the mechanism, natural selection, that he proposed to explain how this comes about.

Four student answers to the question are given. Based on what you know about Darwinian evolution and natural selection, evaluate and grade how well each answer represents Darwin's ideas. For any answer that does not receive full credit (4 points) be sure to indicate why points were lost.

Student 1. Darwin saw that populations increased faster than the ability of the land to support them could increase, so that individuals must struggle for limited resources. He proposed that individuals with some inborn advantage over others would have a better chance of surviving and reproducing offspring and so be naturally selected. As time passes, these advantageous characteristics accumulate and change the species into a new species.

Grade:

Student 2. Darwin's theory of evolution explains how new species arise from already existing ones. In his mechanism of natural selection, organisms with favorable traits tend to survive and reproduce more successfully, while those that lack the traits do not. Beneficial traits are passed on to future generations in this manner, and a new species will be created in the end!

Grade:

Student 3. Descent with modification using natural selection was Darwin's attempt at explaining evolution. An organism is modified by its surroundings, activities, and lifestyle. These modifications, by natural selection, make the organism better suited to its life.

Grade:

Student 4. Darwin's theory states that organisms can become modified by environmental conditions or use or disuse features and that the modifications can be passed down to succeeding generations. He proposes that nature selects for a characteristic trait that is beneficial to the survival of the organisms and that organisms would pass on this trait.

Grade: