Name _____

Date _____

Constructed Response

Natural Selection, Adaptation, and Diversity

1. Natural selection is an evolutionary mechanism that results in differential reproductive success, or biological changes being passed on to future generations. Look at the table below. It describes a genetic trait for beak length in bird populations. In an environment with a finite supply of food, birds with long beaks can eat more food and are more attractive to the opposite sex. Use the information in the table to:

    - Define adaptation.
    - Evaluate the relationship of natural selection to adaptation.
    - Analyze the table below and evaluate the relationship of natural selection to adaptation.

Year	Long beaks	Short beaks
1	527	356
5	1023	532
10	2210	756
15	4326	701
20	5127	235
25	8273	178
30	9781	35

2. Natural selection and adaptations result in the development of genetic diversity in and among species. For example, larger animals may be able to climb trees to gather food better, but smaller animals may be able to avoid predators. Use the information in the table to:
    - Define genetic diversity.
    - Evaluate the relationship of natural selection to the development of diversity in species.
    - Evaluate relationship of natural selection to the development of diversity among species.
    - Analyze the table below and evaluate the relationship of natural selection and adaptation to the development of diversity in species.
    - Analyze the table below and evaluate the relationship of natural selection and adaptation to the development of diversity among species.