

Name: _____ Date: _____

Adaptation Alien Activity

5.2.1: Develop and/or use a model(s) to justify a phenomenon.

5.2.2: Given resources, develop and/or revise model(s) to show the relationships among processes, systems, etc.

5.3.1: Develop or modify a model to predict and justify a change in a system.

5.3.2: Justify the relationships, among processes, systems, etc., shown within a model.

5.3.3: Evaluate limitations, precision, or reliability of a model in relation to real world phenomena.

Part 1

- **Create an organism:** You will be assigned a particular planet. Using the information about your planet, you will create an alien species that has one specific trait that allows it to survive on that planet. For example, if you have a planet that is cold and snowy, your alien might have a trait that keeps it warm. For your trait, your alien species should have three different variations of the trait. The organism you create must be an original design! No copying something else or combining two animals together.
1. Must include a **picture** of three organisms from your alien species each showing one of the three variations of the trait.
 2. You must also have a **written description** of your alien species that includes the following items:
 1. What is the trait that you selected that varies within your alien species? What are the three variations within your alien species?
 2. Why did you select this trait to illustrate within your alien species? Why did you select these three variations of the trait for your alien species?
 3. How does the trait and its variations help your organism to survive in its current environment?

Part 2

- **Environmental Change Adaptation:** Here you will be given an environmental change for your planet. Using the information provided about your original planet and its environmental change, you will draw and explain what will happen to your alien species over time in order for it to survive in its new environment.
1. Must include a **picture** of one organism from the population of your alien species based upon how it might change over time.
 2. You must also have a short **written description** on how the alien species changed due to changes in the environment that includes:
 1. What variation(s) of the trait were beneficial to the survival of your alien species after the environmental change? Why?
 2. What variation(s) of the trait were not beneficial to the survival of your alien species after the environmental change? Why?
 3. Explain the relationship between your changed population and its future environment.

Part 3

- **Limitations, Precision, Reliability:** (1) Explain how the model you created is limited in its depiction of the mechanism of natural selection. (2) Explain if your model is reliable or not for explaining natural selection. (3) Explain how precise your model is in explaining natural selection.