



Alpine/Aeolian Challenges and Adaptations

Instructions

- 1) Have someone in your group read the following passage aloud to the rest of the group:

The small number of species that survive and thrive in the alpine/aeolian ecosystem are adapted to the conditions in this harsh environment. The plants and animals that live there may bear little resemblance to the ancestral species from which they descended.

Borne on the winds, transported by waves, powered by their own wings, or carried along by birds, most of the species that colonized the Hawaiian Islands came from Asia, North America, or Australia. Here they encountered conditions that might have been very different from their original habitats. Over millions of years, some of them have developed physical characteristics and behaviors that help them live in the extremes of the high elevations of Haleakalā.

In this activity, we will be given cards that describe some of the environmental challenges of the alpine/aeolian ecosystem. We will also have other cards which describe the physical and behavioral adaptations exhibited by native plants and animals. These adaptations may have developed in response to the environmental conditions in this zone; they may also have developed for other reasons. No matter what their cause, these characteristics allow plants and animals to survive and thrive in the harsh alpine/aeolian environment.

Our assignment is to match the adaptation cards to the environmental challenge they help organisms survive.

- 2) Read each of the five “Extreme Challenges” cards and place them on the table where the whole group can see them.
- 3) As a team, group the “Alpine/Aeolian Adaptations” cards with the challenge card they best fit.
 - Each challenge card will have several adaptations cards grouped with it.
 - There are multiple copies of the same adaptation card if it belongs with more than one challenge.
- 4) Keep track of your reasoning by writing down the reason each adaptation fits with the challenge on the adaptation card.
- 5) Once you have decided which adaptation cards match which challenge cards, paper clip the adaptation cards together with the matching challenge cards so that you are ready for the next class period, in which you will report on your results.