Mini-Lesson #6: Design a Bird

Overview of Outcomes

To encourage students to think about the processes of adaptive radiation, this activity will ask each student to think of a specific environment in Hawaii and to design their own bird species that would be best-suited for living in that environment (requires basic art supplies like crayons, colored pencils, markers, etc.). Students will be asked to explain how they designed their bird (e.g. What kind of physical adaptations does it have, and how are those features advantageous?), and perhaps come up with a short description of their newly created species.

Materials

1. Photo resources with species information (https://kauaiforestbirds.org/meet-the-birds-2/)
2. Scratch paper
3. Art Supplies (colored pencils, crayons, markers)

Activity Directions

1) Teacher will give a 10 minute presentation that serves as an overview of Hawaiian ecosystems; students should be familiar with at least some of the basic habitat types (lava fields, urban environments, lowland forests). The key concept for this presentation is the variety of habitats available to organisms, and the resource types/quantities found there.

2) Students will be prompted to create their own Hawaiian bird species that is specialized for a specific habitat in the islands (~10 min). Teachers can decide whether to assign habitats to each student to challenge them in thinking about the appropriate adaptations for their bird designs.

3) Students can either present their bird designs to the whole class or to small groups. Teachers may choose to highlight specific designs that demonstrate particularly useful adaptations.

4) Teachers will present a debriefing presentation that will showcase adaptations of Hawaiian bird species to these environments. Examples may include the nene goose (clawed feet for navigating lava fields), nectivores like the iʻiwi, mamo, or akialoa (curved bills for accessing nectar in lobeliad flowers), and the moa-nalo (pseudoteeth and heavy bills for crushing coarse plant matter).