Glossary

Alien (**ā** lē ən): Differing in nature or character typically to the point of incompatibility.

Avian (**āv** ē ən): Having to do with birds.

Complexity (käm **plek** sə tē): Characterized by having complicated or related parts.

Control (kən **trōl**): In science, a control is a situation used for comparison. Usually, it is found naturally.

Ecology (ē **kä** lə jē): The study of the relationship between living things with each other and with the nonliving environment.

Ecosystem (**ē** kō sis təm): A system made up of an ecological community of living things interacting with their environment, especially under natural conditions.

Elevation (**e** lə **vā** shən): The height above the level of the sea.

Endangered species (en **dān** jərd **spē** sēs): A species threatened with extinction.

Extinct (ik **stiŋ(k)t**): No longer living.

Extinction (ik **stiŋ(k)** shən): The state of being extinct; no longer existing.

Habitat (**hab** ə tat): The place or environment where a plant or animal naturally or normally lives and grows.

Hypothesize (hī **pä** thə sīz): To make an assumption to test its logical consequences.

Invasive species (in **vā** siv **spē** sēs): A plant or animal species not native to an area and with the potential to harm the native environment.

Molten (**mōl** tən): Liquefied by heat.

Native (**nā** tiv): Living or growing naturally in a particular region.

Range (rānj): The region throughout which a kind of organism or ecological community naturally lives or occurs.

Refuge (**ref** yüj): A place that provides shelter or protection.

Restoration (**res** tə **rā** shən): The act of bringing back to an earlier condition.

Species (**spē** sēs): A class of individuals having common attributes and designated by a common name.

Variable (**ver** ē ə bəl): Something that is able or apt to vary.

Accented syllables are in **bold.** Definitions and marks are from http://www.merriam-webster.com.

FACTivity

Time Needed

One to two class periods (one for homework or background research, one period for in-class FACTivity).

Materials

- Copy of charts on pages 20 and 21.
- Treasure Islands article.
- Access to Internet, media center, or encyclopedias.
- Pencil.

The question you will answer in this FACTivity is: What are the similarities and differences between isolated environments of various sizes?

As you learned in this article, a *kīpuka* is a forested island in a "sea" of hardened lava. The lava has isolated each *kīpuka* so that the plants and animals that live there have had a measure of protection from invasive species. The Hawaiian Islands are similar in some ways to *kīpuka*. They are forested volcanic islands in the middle of the Pacific Ocean. The Hawaiian Islands are the most isolated islands on Earth. This isolation had, in the years before humans populated the islands, protected Hawai'i from invasive species.

For this FACTivity, consider the Hawaiian Islands as a type of *kīpuka*. The volcanic island *kīpuka*, however, are much larger than the forested islands created by lava. You will compare the Hawaiian Islands with the *kīpuka* studied in this research. Consider the Hawaiian Islands in two ways: all islands as a *kīpuka* and each island as a *kīpuka*.

The method you will use to answer the question is:

You will work in small groups. Using the chart below, compare the Hawaiian Islands with the *kīpuka* studied in this research. Research may be done at the media center or at home. Think of another isolated environment to compare. If possible, this isolated environment should be close to home or school. This other environment could be very small or quite large, such as an island in a lake or a median strip in the center of a highway. After completing the first chart, summarize the similarities and differences in the second chart. Finally, write a sentence or a paragraph about all isolated environments.

Your teacher will hold a class discussion about the class findings. Discuss what makes these isolated environments similar. What makes them different? What can be said about all isolated environments?

	Forest *kīpuka*	Each Hawaiian island as a separate *kīpuka*	Hawaiian Islands as one *kīpuka*	(Optional) Other isolated environment (describe):
Size				
Animals and Plants				
What isolates the *kīpuka*?				
General description				

Similarities between *kīpuka*	Differences between *kīpuka*

All isolated environments…

Extension

After reading "Cultural *kīpuka* in Hawai'i" on the following page, compare the *Waipi'o* Valley as a cultural *kīpuka* with the forested *kīpuka* described in this article. You may use the chart on the previous page as a guide. After you have completed the comparison, your teacher will hold a class discussion about the similarities and differences between forested *kīpuka* and cultural *kīpuka*. Then read your conclusion about "All isolated environments." Is what you concluded true for cultural *kīpuka* as well? If so, why do you think that is so? If not, why not?

Math FACTivity

Create a bar chart for table 1. Place *kīpuka* area on the Y-axis and the other three columns on the X-axis. Note that you will create two columns for each numbered *kīpuka*. Your teacher will hold a class discussion about whether the table or the bar chart is easier to understand. Does everyone in your class agree? Why do you think that is the case? Why is one easier to understand than the other? What does this discussion tell you about how scientists (and you) should present data?