

Activity #2

Coastal Jeopardy Game

● ● ● Class Period One *Coastal Jeopardy*

Materials & Setup

- “Coastal Jeopardy Questions and Answers” (pp. 37-46)
- “Coastal Jeopardy Rules” and Game Board acetates (master, pp. 47-51)
- Overhead projector and screen
- Stopwatch or a watch with a second hand

For each of four student teams

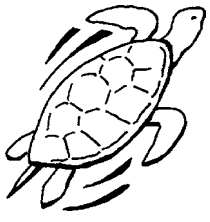
- Set of 44 “Coastal Species Cards” in color (from Activity #1)

For each student

- Student Page “Coastal Species List” (p. 52)

Instructions

- 1) Divide the class into four teams for the Coastal Jeopardy game. Give each team a number from one to four, or have them make up a name for themselves.
- 2) Make sure each group has a set of “Coastal Species Cards,” and allow them some time to study the information on the cards. An effective study strategy is to divide the cards evenly among students on the team and have each student study a small number of cards.
- 3) When the study time is finished, collect the species cards and hand out the Student Page “Coastal Species List” to each student. Explain to them that they will be able to refer to this list during the game but not to the species cards or any notes they may have taken.
- 4) Review the object, rules, and procedures for the game with students using the instructions given here and the rules on the “Coastal Jeopardy Rules” acetate.
- 5) Use the “Round 1 Game Board” acetate to begin the game. Cross off each category and \$ value as it is selected. Read the corresponding statement from “Coastal Jeopardy Questions and Answers.”
- 6) Teams have 15 seconds to respond to questions. Continue play by following the rules, and keep score on the Game Board acetate.
- 7) The team with the largest score wins.



- 8) Play subsequent rounds in the same manner, using the appropriate game sheet acetate and questions.
- 9) Stop whatever round is in session at the end of the first class period, and determine a winner for whatever rounds have been played.

Class Period Two *Coastal Jeopardy, Continued*

●●● Materials & Setup

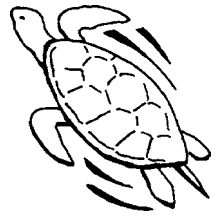
- See Class Period One
-
- 1) Divide the class into the same teams used during the first class period. If you think students need more time to study the species cards, give groups ten minutes to prepare.
 - 2) Play the remaining rounds of Coastal Jeopardy. Whether you add today's score to the previous scores or start with a clean slate is up to you.

Journal Ideas

- How does knowing more about coastal plant and animal species change how you think about coastal areas on Maui?
- What do you think is important to protect about the coastal ecosystem on Maui and elsewhere in Hawai'i?
- Why do you think coastal species figure prominently in Hawaiian legends?

Assessment Tools

- Individual preparation for and participation in the Coastal Jeopardy game
- Group preparation and performance in the game
- Journal entries



Teacher Background

Coastal Jeopardy Questions and Answers

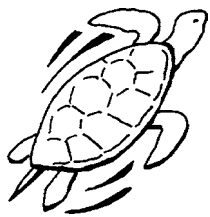
Round 1

Native Plants — Round 1

- \$100 The fleshy fruits of this indigenous tree, commonly found in coastal areas of most Pacific islands, float readily and are easily dispersed through ocean currents.
What is *Hala* or Screwpine?
- \$200 The round, white fruits of this indigenous shrub, found throughout the tropical and sub-tropical regions of the Pacific and Indian Oceans, are eaten by pigeons and seabirds.
What is *Naupaka Kahakai* or Beach Naupaka?
- \$500 This parasitic native vine lacks chlorophyll.
What is *Kauna‘oa Kahakai* or Hawaiian Dodder?
- \$800 The long roots of this common indigenous vine were cooked and eaten in ancient Hawai‘i, despite the fact that they can be poisonous.
What is *Pōhuehue* or Beach Morning Glory?
- \$1000 This indigenous grass plays an important role in stabilizing sand dunes, creating a dense, interconnected web of roots that helps hold sand in place.
What is *‘Aki‘aki* or Beach Dropseed?

Hawaiian Connections — Round 1

- \$100 Dried sections of this fruit were used to apply dye to *kapa* cloth.
What is *Hala* or Screwpine?
- \$200 The Hawaiian name for this indigenous shrub refers to its light green leaves, which can look silvery or grayish.
What is *Pōhinahina* or Beach Vitex?
- \$500 This is the meaning of *‘Akekeke*, the Hawaiian name for the Ruddy Turnstone.
What is “talkative”?
- \$800 The bad-smelling fruits of this Polynesian-introduced shrub are edible but in early Hawai‘i were eaten only during times of famine.
What is *Noni* or Indian Mulberry?
- \$1000 DOUBLE JEOPARDY Sighting *Noio* or Black Noddy signifies this happy circumstance for traditional Polynesian voyagers.
What is being close to the islands?



Recently Introduced Plants — Round 1

\$100 This nonnative tree was introduced to Hawai‘i in 1828 and now dominates the landscape in lowland dry areas, commonly growing near sandy shores as well.

What is *Kiawe* or *Mesquite*?

\$200 This purple-flowering shrub, native to southern Asia, grows on marshy shorelines and muddy areas around ponds.

What is *Indian Pluchea*?

\$500 This shrub, native to tropical and subtropical America, was introduced to Hawai‘i well over 100 years ago and now grows in dense stands and large clumps in marshy coastal areas, around ponds, and in estuaries.

What is *‘Ākulikule Kai* or *Pickleweed*?

\$800 This tree, native to northern Australia, may grow to 80 feet in height in ten years and, in many areas, grows in thick stands that choke out virtually all other plant life.

What is *Paina* or *Ironwood*?

\$1000 This soil nutrient is enhanced by planting *Paina* or Ironwood.

What is *nitrogen*?

Birds — Round 1

\$100 This seabird is often seen along windward coasts and inland valleys of all the main Hawaiian Islands, and nests in inaccessible rock crevices and cliff faces on these islands.

What is *Koa‘e Kea* or *White-Tailed Tropicbird*?

\$200 This endangered water bird builds its shallow twig- and stone-lined nests in wetland areas, including Kanahā and Keālia ponds.

What is the *Ae‘o* or *Hawaiian Stilt* or *Black-Necked Stilt*?

\$500 This nonnative bird can be found in a variety of habitats including cattle pens and pastures, garbage dumps, watercress ponds, and taro patches.

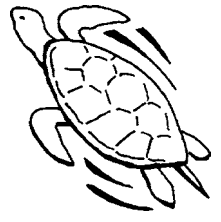
What is the *Cattle Egret*?

\$800 This shore bird, whose Hawaiian name mimics the sound of its call, is most often found in mud flats, on sandy beaches, rocky coastlines, and rocky streams inland.

What is the *‘Ūlili* or *Wandering Tattler*?

\$1000 When this happens, the *‘Alae Ke‘oke‘o*, or Hawaiian Coot, flies long distances looking for suitable habitat, sometimes flying between islands.

What is *ponds drying up*?



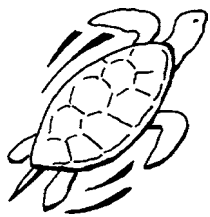
Other Critters — Round 1

- \$100 The wingspan of the *Pinao* or Big Blue Darner, the largest native Hawaiian insect and the largest insect in the United States
What is up to 6 inches?
- \$200 This indigenous animal migrates up to 800 miles to reach the French Frigate Shoals and other islands in the Northwestern Hawaiian Islands to breed and nest.
What is the *Honu* or Green Sea Turtle?
- \$500 The number of pairs of walking legs that the largest centipede species in Hawai‘i has
What is 20?
- \$800 The material on which the original Seashore Splash-Zone Crickets may have rafted to the Hawaiian Islands
What is floating debris or vegetation?
- \$1000 The threat that feral cats, mongooses, and dogs pose to *Honu‘ea*, or Hawksbill Turtles
What is digging up eggs?

Round 2

Polynesian-Introduced Plants — Round 2

- \$100 The fruit of this tree, introduced by Polynesian settlers, floats and can survive in the ocean for about four months.
What is the *Niu* or Coconut Palm?
- \$200 This Polynesian-introduced evergreen shrub has thick, glossy leaves that are crushed and applied to bruises, sores, and wounds in traditional Hawaiian medicine.
What is *Noni* or Indian Mulberry?
- \$500 This common coastal tree may be an indigenous species, although Polynesian settlers probably brought cuttings to Hawai‘i with them.
What is *Hau*?
- \$800 The light, strong wood of this small, Polynesian-introduced shade tree was made into utensils and religious statues.
What is *Kou*?
- \$1000 This Polynesian-introduced tree forms part of the understory of what is sometimes called the “beach forest,” the area behind the beach where the taller trees and shrubs tend to grow.
What is *Milo* or Portia Tree?

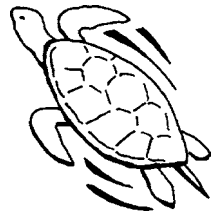


Birds — Round 2

- \$100 These nonnative birds gather in communal roosting trees.
What is the Common Myna?
- \$200 This seabird nests in colonies, digging burrows with their feet or nesting in natural crevices.
What is ‘*Ua‘u Kani* or Wedge-Tailed Shearwater?
- \$500 This shore bird is highly territorial and returns to the same area winter after winter from its nesting area in the Arctic.
What is *Kōlea* or Pacific Golden Plover?
- \$800 This is the nonnative duck that many endangered *Koloa* or Hawaiian Ducks have crossbred or hybridized with.
What is the Mallard?
- \$1000 This endemic seabird uses its long, sharp beak to feed on small fish near the ocean’s surface and sometimes on hatchling Hawksbill Turtles making their way to the ocean.
What is the *Noio* or Black Noddy?

Other Critters — Round 2

- \$100 The way in which the ancestors of the *Pinao* or Big Blue Darner and the *Pinao Ula* or Orange-Black Damselfly probably colonized the Hawaiian Islands.
What is by flight?
- \$200 This insect is often the most abundant animal on wet boulders on the coastlines at night.
What is the Seashore Splash-Zone Cricket?
- \$500 DOUBLE JEOPARDY These endangered marine vertebrates nest primarily on beaches on the island of Hawai‘i.
What is *Honu‘Ea* or Hawksbill Turtle?
- \$800 This nonnative arthropod is believed to be largely responsible for the disappearance of most native insects and spiders, and perhaps some native bird species, in lowland areas in Hawai‘i.
What is the Big-Headed Ant?
- \$1000 These marine vertebrates, listed as a threatened species, weigh between 150 and 400 pounds.
What is the *Honu* or Green Sea Turtle?

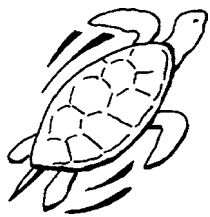


Hawaiian Connections — Round 2

- \$100 The origin of this plant's flowers are explained in a Hawaiian legend about a princess and the lover she was not allowed to marry.
What is *Naupaka Kahakai* or Beach Naupaka?
- \$200 This endemic bird's Hawaiian name means *duck*.
What is *Koloa* or Hawaiian Duck?
- \$500 The seeds from this nonnative shrub are strung to make *lei*.
What is *Koa Haole*?
- \$800 This is the meaning of the Hawaiian name, *'Iwa*, for the Great Frigatebird.
What is "thief"?
- \$1000 The wood of this indigenous shrub was used for making fish spears, a musical instrument called the *'ūkēkē*, and fish traps.
What is the *'Ūlei* or Hawaiian Rose?

Coastal Adaptations — Round 2

- \$100 This part of the *Hala*, or Screwpine, provides support for a weak main trunk in windy coastal areas.
What is a prop root?
- \$200 This yellow-stemmed plant grows over other beach plants, absorbing nutrients from these hosts.
What is *Kauna'oa Kahakai* or Hawaiian Dodder?
- \$500 This is the kind of nest that the endangered *'Alae Ke'oke'o* or Hawaiian Coot builds in aquatic vegetation.
What is a floating nest?
- \$800 This water bird stands still in the water, waiting to strike with lightning quickness at fish, crustaceans, and frogs. It also feeds on mice, insects, and the chicks of other birds.
What is the *'Auku'u* or Black-Crowned Night-Heron?
- \$1000 This feature of the *Pōhuehue* or Beach Morning Glory helps it retain water and protects it from salt spray on the sandy beaches and rocky shorelines where its 30- to 100-foot vines grow right up to the water's edge.
What are smooth, thick leaves with waxy surfaces?



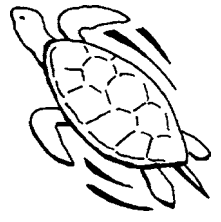
Round 3

Hawaiian Connections — Round 3

- \$100 The beautiful yellow-orange flowers of this indigenous shrub are prized for making *lei* and used as a general tonic and mild laxative in traditional Hawaiian medicine.
What is *ʻIlima*?
- \$200 Ancient Hawaiians slapped the stems of *Pōhuehue* or Beach Morning Glory on the surface of the ocean to make this happen.
What is “bring the surf up”?
- \$500 Like its red-tailed relative, this seabird’s feathers were used in traditional Hawaiian featherwork.
What is *Koa’e kea* or White-Tailed Tropicbird?
- \$800 This has become the meaning of *Kōlea*, the Hawaiian name for the Pacific Golden Plover.
What is “boaster”?
- \$1000 The light, buoyant wood of this Polynesian-introduced tree was used for canoe outriggers, net floats, and adze handles.
What is *Hau*?

Coastal Adaptations — Round 3

- \$100 The round, white fruits of this indigenous shrub float easily and may still be able to germinate when washed ashore after more than a year at sea.
What is *Naupaka Kahakai* or Beach Naupaka?
- \$200 This indigenous vine is one of the most salt-tolerant coastal plant species, growing in areas that are splashed by waves and in and around salt marshes and other saline areas.
What is *ʻĀkulikuli* or Sea Purslane?
- \$500 The smooth, fleshy, cylindrical leaves that help this non-native shrub retain water are edible and taste salty.
What is *ʻĀkulikuli Kai* or Pickleweed?
- \$800 In winter months, this Polynesian-introduced tree may lose many of its leaves due to salt spray from high surf.
What is *Milo* or Portia Tree?
- \$1000 This common seabird often steals a meal from boobies and shearwaters by harassing them until they drop the prey they are carrying.
What is *ʻIwa* or Great Frigatebird?

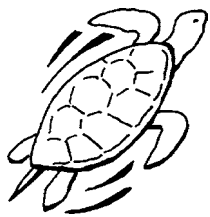


Eating and Being Eaten — Round 3

- \$100 The pods of this nonnative tree are used to feed pigs and cattle.
What is *Kiawe* or Indian Mulberry?
- \$200 This long-tailed seabird feeds by making plunging dives into the ocean to catch fish and squid.
What is *Koa'e Kea* or White-Tailed Tropicbird?
- \$500 Primary food for the *Honu* or Green Sea Turtle
What is *limu* (algae)?
- \$800 The way in which the scorpion immobilizes its prey
What is paralyzing the prey with its stinger?
- \$1000 The naiads or larvae of this endemic insect are eaten by mosquito fish and possibly long-legged ants.
What is the *Pinao Ula* or Orange-Black Damselfly?

Origins and Distribution — Round 3

- \$100 This bird was introduced from India in 1865 to help control army worms.
What is the Common Myna?
- \$200 The number of native ant species in Hawai'i
What is zero?
- \$500 This nonnative arthropod is thought to be native to southern Africa but has now spread throughout the tropical and subtropical world.
What is the Big-Headed Ant?
- \$800 DOUBLE JEOPARDY Fossilized fruit of this indigenous tree, more than a million years old, have been found on Kaua'i.
What is *Hala* or Screwpine?
- \$1000 This nonnative tree, native to northern Australia, was introduced to Hawai'i within the last 200 years and is now widespread throughout the islands, especially in dry environments with poor soil.
What is *Paina* or Ironwood?



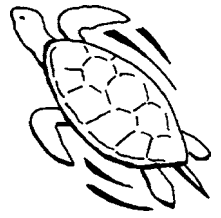
Grab Bag — Round 3

- \$100 This indigenous grass is native to warm coastal areas around the world.
What is 'Aki'aki or Beach Dropseed?
- \$200 This indigenous sedge rarely grows far from shore and is often the dominant species on rocky and sandy coasts.
What is Ma'u 'Aki'aki or Button Sedge?
- \$500 This nonnative arthropod preys on various insects, including cockroaches and earthworms, with its chewing mouthparts and poisonous claws.
What is the Large Centipede?
- \$800 The hawk-shaped beak that gives the *Honu 'Ea* or Hawksbill Turtle its name is probably an adaptation for eating these animals.
What are sponges?
- \$1000 The motion 'Ūlili or Wandering Tattlers make as they probe into the mud or under rocks searching for mollusks and other invertebrates
What is bobbing up and down?

Round 4

Hawaiian Connections — Round 4

- \$100 According to Hawaiian legend, the fire goddess Pele named this plant because its trailing vines protected her baby sister from the sun while Pele was out fishing.
What is Pā'ū o Hi'iaka or Small Blue Morning Glory?
- \$200 The stem of the *Ma'u 'Aki'aki* or Button Sedge was used to clean this body part.
What is the ear?
- \$500 This water bird's Hawaiian name means "one standing tall."
What is the Ae'o or Hawaiian Stilt or Black-Necked Stilt?
- \$800 This Polynesian-introduced tree was a useful plant in traditional Hawaiian society, providing food, oil, material for making utensils, fiber for cordage, material for making baskets, and structural posts for building.
What is the Niu or Coconut palm?
- \$1000 The wood of this Polynesian-introduced tree is used by traditional Hawaiian and modern carvers alike for beautiful wooden bowls and canoe hulls.
What is Milo or Portia Tree?

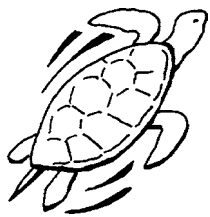


Coastal Adaptations — Round 4

- \$100 This indigenous shrub, which grows in small, low clumps in sandy or rocky spots or high above the ocean on cliffs, has silvery leaves that reflect sunlight and prevent damage by trapping salt spray in the fine hairs on their surface.
What is *ʻIlima*?
- \$200 The deep roots of this nonnative tree allow it to tap ground water in dry areas, possibly lowering the water table in coastal areas.
What is *Kiawe* or *Indian Mulberry*? (Another possible correct answer is “What is *Koa Haole*?)
- \$500 **DOUBLE JEOPARDY** This shore bird turns over stones with its bill, searching for insects and crustaceans.
What is the *ʻAkekeke* or *Ruddy Turnstone*?
- \$800 The feeding strategy for which the large compound eyes, biting mouthparts, and long, gripping legs of the *Pinao* or Big Blue Darner are specialized
What is *catching insects in flight*?
- \$1000 This salt-tolerant endemic insect is found only in wet rock habitats in the ocean splash zone.
What is the *Seashore Splash-Zone Cricket*?

Human Impacts — Round 4

- \$100 What can happen to *Honu* or Green Sea Turtles when they eat marine debris or get caught in fishing nets
What is *die*?
- \$200 Humans have spread this tropical American shrub to tropical areas around the world including Hawai‘i, where it has invaded extensive areas of the coast and dry lowlands.
What is *Koa Haole*?
- \$500 The young of this seabird are often disoriented by urban lights as they leave their colonies, and may be stranded on beaches, hit by cars, or killed by cats and dogs.
What is *ʻUaʻu Kani* or *Wedge-Tailed Shearwater*?
- \$800 This low-growing shrub is becoming increasingly rare as beach and coastal development disrupts its habitat—sand dunes, sandy beaches, and rocky shores.
What is *Pōhinahina* or *Beach Vitex*?
- \$1000 This nonnative bird introduced to control pest insects feeds on flies, grasshoppers, other insects, and crayfish, and may compete with native birds for food and prey on their young.
What is the *Cattle Egret*?

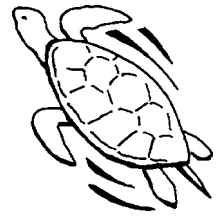


Origins and Distribution — Round 4

- \$100 This shrub is endemic to Polynesia, where it is found on scattered islands in areas such as Tonga and Rapa.
What is *‘Ōhelo Kai*?
- \$200 This indigenous shrub is also native to parts of India, southern Japan, and many tropical Pacific islands.
What is *Pōhinahina* or Beach Vitex?
- \$500 This small, Polynesian-introduced tree that grows in dry, scrubby lowland areas, such as arid seashores, is native to southeast Asia and many western Pacific islands.
What is *Kou*?
- \$800 This seabird, found throughout the tropical Pacific and Indian Oceans, is the most common seabird seen around the main islands.
What is *‘Ua‘u Kani* or Wedge-Tailed Shearwater?
- \$1000 This Old World species was introduced in 1959 to help control pest insects on Hawaiian ranches.
What is the Cattle Egret?

Hawaiian Connections II — Round 4

- \$100 Strands of this native vine, which is the *lei* flower of Lāna‘i, were used in braiding *haku lei*.
What is *Kauna‘oa Kahakai* or Hawaiian Dodder?
- \$200 This Polynesian-introduced tree, which was planted for shade around Hawaiian homes, was used to make a medicine for chest congestion and child birth.
What is *Hau*?
- \$500 This Polynesian-introduced shrub, found on many South Pacific islands, has many uses in traditional Hawaiian medicine and is considered a natural cure-all.
What is *Noni* or Indian Mulberry?
- \$800 This is the meaning of *Hunukai*, the Hawaiian name for the Sanderling.
What is “sea foam”?
- \$1000 This is the meaning of *‘Alae Ke‘oke‘o*, the Hawaiian name for the Hawaiian Coot.
What is “white forehead”?



Coastal Jeopardy Rules and Game Boards

Object

Accumulate the largest amount of money by providing correct responses in 15 seconds or less.

Rules

- Each team selects a spokesperson. The spokesperson may consult with team members, but only the response given by the spokesperson will count.

- Team #1 begins the game, and play progresses in numeric order through the teams.

- Select a category and a \$ amount. The teacher will read you a statement. Your team will have 15 seconds to answer that statement with one question. Your response must be framed as a question. For example:

Statement: This shore bird has a unique feeding habit, running in short spurts, then stopping to search for insects and other invertebrates.

Your answer: What is the *Kōlea* or Pacific Golden Plover?

- If your answer is correct, the \$ amount is added to your team's total score and your team selects another category and \$ amount, attempting to answer that question. Your team continues as long as you answer the questions correctly. (For answers that involve species names, you may correctly state the Hawaiian *or* English name.)

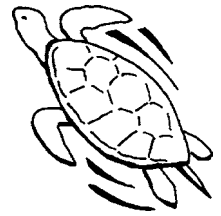
- If you answer incorrectly, the next team gets 15 seconds to answer the same statement. Correct answers always result in adding the \$ amount to the answering team's score and selecting a new question. Incorrect answers always result in subtracting the \$ amount and the next team getting a chance to answer the same statement.

If none of the four teams can answer a statement correctly, the teacher will read the correct response and play continues with the team whose turn it was when that statement was first read.

DOUBLE JEOPARDY

In each round, there is one "double jeopardy" question. If your team chooses the double jeopardy question, you may decide to bet a portion or all of your total score. Tell the class how much you are betting. If you answer the question correctly, you add that amount to your score. If you answer incorrectly, subtract that amount from your score.

Play continues until all questions have been answered or time runs out.



Round 1 Game Board

Native Plants	Hawaiian Connections	Recently Introduced Plants	Birds	Other Critters
\$100	\$100	\$100	\$100	\$100
\$200	\$200	\$200	\$200	\$200
\$500	\$500	\$500	\$500	\$500
\$800	\$800	\$800	\$800	\$800
\$1000	\$1000	\$1000	\$1000	\$1000

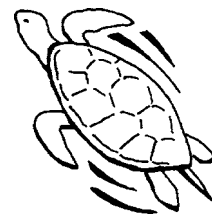
Score

Team #1:

Team #2:

Team #3:

Team #4:



Round 2 Game Board

Polynesian-Introduced Plants	Birds	Other Critters	Hawaiian Connections	Coastal Adaptations
\$100	\$100	\$100	\$100	\$100
\$200	\$200	\$200	\$200	\$200
\$500	\$500	\$500	\$500	\$500
\$800	\$800	\$800	\$800	\$800
\$1000	\$1000	\$1000	\$1000	\$1000

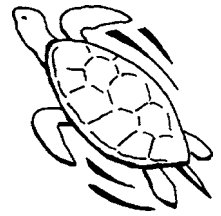
Score

Team #1:

Team #2:

Team #3:

Team #4:



Round 3

Hawaiian Connections	Coastal Adaptations	Eating and Being Eaten	Origins and Distribution	Grab Bag
\$100	\$100	\$100	\$100	\$100
\$200	\$200	\$200	\$200	\$200
\$500	\$500	\$500	\$500	\$500
\$800	\$800	\$800	\$800	\$800
\$1000	\$1000	\$1000	\$1000	\$1000

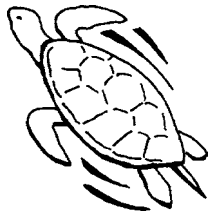
Score

Team #1:

Team #2:

Team #3:

Team #4:



Round 4

Hawaiian Connections	Coastal Adaptations	Human Impacts	Origins & Distribution	Hawaiian Connections II
\$100	\$100	\$100	\$100	\$100
\$200	\$200	\$200	\$200	\$200
\$500	\$500	\$500	\$500	\$500
\$800	\$800	\$800	\$800	\$800
\$1000	\$1000	\$1000	\$1000	\$1000

Score

Team #1:

Team #2:

Team #3:

Team #4: