Galapagos Adaptations

Exploring how species have adapted to their island environments over time.
Galapagos Animal Gallery

- The paired photographs you will see depict similar animals of the same size.
- Compare these images carefully.
- List any differences you notice, no matter how small.
- Briefly describe each animal’s habitat and diet.
Marine Iguana

http://pubs.nsta.org/galapagos/activities/gallery/gallery2.html

Land Iguana

http://www.govisitgalapagos.com/darwin/default.asp
Marine Iguana


Land Iguana

Saddleback Tortoise


Domed Tortoise

Saddleback Tortoise


Domed Tortoise

Flightless Cormorant


Cormorant

Marine Iguana

- Is the only sea-going iguana in the world
- Flat tail
- Square nose
- Dark coloration
- Partially webbed feet
- Coloration camouflages them in the dark lava on which they live
- Enables iguanas of all ages to absorb more heat from the sun
Land Iguana

- A large relative of the South American and Caribbean terrestrial iguana
- Round tail
- Pointed nose
- Brownish-red in color on top
- Yellow-orange underneath
- Eats grass and other ground plants, especially the large prickly-pear cactus.
Marine Iguana vs. Land Iguana

- Lives near the water
- Lives in dry regions on land
- Long claws for gripping rocks
- Short claws
- Short snout
- Long snout
- Dark color
- Light color


Saddleback Tortoise

- One of the major groups of giant tortoises in the Galapagos Islands
- Arched carapace (shell) in the front
- Long legs
- Long snout
- Long neck that allows it to reach for its food high above the ground
- Found in the dry areas of Espanola, Pinzon, Pinta, and Fernandina Islands
Domed Tortoise

One of the major groups of giant tortoises in the Galapagos Islands
- Rounded shell
- Blunt snout
- Shorter neck
- Found on islands with rich vegetation (like Santa Cruz and Isabela)
- Larger and heavier
- Rounded shell allows it to move through the thick vegetation more easily than the saddleback tortoise
Saddleback Tortoise vs. Domed Tortoise

- Lives in dry region
- Eats leaves high in trees
- Highly arched shell opening
- Long neck
- Long legs

- Lives in an area of thick vegetation
- Eats grasses and leaves close to ground
- Low, rounded shell opening
- Short neck
- Short legs
Flightless Cormorant

- Found only in the Galapagos
- Dark with black coloration above and brown underneath
- Streamlined body
- Strong legs
- Sparsely feathered vestigial wings
  - The wings are small and useless for flight
- Webbed feet
- Uses its strong legs and webbed feet to swim and capture fish, eels, and octopuses
Cormorant

- 28 other living species of cormorants, all of which use their wings for flight
- Well-developed wing muscles, making their bodies thicker than the flightless cormorant
- Legs are much more refined because they do not use them for swimming that much
- Eat mainly fish
Flightless Cormorant vs. Cormorant

- Found only in the Galapagos
- Small, vestigial wings
- Streamlined body for swimming
- Thick, strong legs for swimming

- Not found in the Galapagos
- Long, well-developed wings
- Heavier body
- Slender Legs
Looking at Habitat Adaptations

Choose one animal from each pair.

Explain how the traits you observed may help the animal survive or thrive in its habitat.

Give at least three examples of different traits and explain each one.
Final Questions

1. How have isolation and the unique conditions of the Galapagos Islands given rise to the unusual features of Galapagos animals?

2. Would they survive if they were introduced into similar ecosystems elsewhere in the world?

3. What kind of adaptations would allow existing Galapagos animals to survive in other habitats around the world? (Remember, organisms can’t adapt because they want to or need to.)