On this expedition, you will visit the following areas in order to complete activities related to the theme “Organisms and Ecosystems.”

EXHIBIT TITLE

Choose one of the following study areas:
• Autzen Otter Exhibit
• Desertarium
• Museum stream and Cheney Pond
• Mustang corral
• Wildlife observation station

Connection to Standards
Next Generation Science Standards
Disciplinary Core Ideas
• LS1.A: Structure and Function
• LS2.A: Interdependent Relationship in Ecosystems
### FORM AND FUNCTION

- An adaptation is a body part or behavior that allows an animal to survive in its environment.

### OBSERVE AND EXPLAIN

<table>
<thead>
<tr>
<th>Plants and animals have different ways to defend against or deter predators. What unique feature of porcupines might help protect them from predators?</th>
<th>Draw the body part here:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quills</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>From catching prey to allowing for movement, feet can serve several functions for animals. What unique feature on its foot helps a porcupine climb?</th>
<th>Draw the porcupine’s foot here:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Claws</strong></td>
<td></td>
</tr>
</tbody>
</table>
DESSERTARIUM | A Dry World: High Desert Life

ANIMAL ADAPTATIONS

- An adaptation is a body part or behavior that helps an animal survive in its environment.
- In this exhibit, explore the adaptations that help these animals survive in dry environments like the High Desert. *Hint: find your answers by looking at the animals and by reading information on the exhibit panels.*

FILL IN THE BLANK

<table>
<thead>
<tr>
<th>WORD BANK</th>
</tr>
</thead>
<tbody>
<tr>
<td>sun</td>
</tr>
<tr>
<td>Gila monster</td>
</tr>
</tbody>
</table>

1. **Water** in the desert is precious and scarce so animals and plants must conserve it.

2. Plants are able to resist drought by having special **leaves** and **roots**. Sagebrush plants have a coat of fine hairs on the leaves to reflect heat and slow water loss.

3. When disturbed, I will rise to a striking position, flatten my head, hiss loudly and shake my tail. You might mistake me for a rattlesnake, but I am a **Great Basin gopher snake**.

4. To protect itself from predators, the burrowing owl has brown feathers to camouflage itself within dry grass. If a predator enters the burrow, the young owls will **hiss** like a snake to scare the predator away.

5. Draw the tortoise’s habitat:

6. Draw and name what the tortoise eats:

   Water
   leaves
   roots
THE SAGEBRUSH SEA: FOOD WEB

Label and draw the following organisms in the correct spaces below to show how food energy makes its way from plants to large predators.

Lizard  Sagebrush  Ant  Coyote

Top predators, secondary and tertiary consumers

American badger  Northern harrier

Small carnivores/secondary consumers

Sage thrasher  Prairie rattlesnake

Herbivores/primary consumers

Sage grouse  Pronghorn  Pygmy rabbit

Primary producers

Cactus  Desert wildflowers

Discuss
When an animal dies in the ecosystem, what happens to the stored energy within that animal?
Find the “High Desert Ecoregions” panel at the Birds of Prey Center. (across from the barn owl exhibit)

1. The High Desert is a unique region that includes many different landscapes, such as mountain ranges with ponderosa pine forests, streams and wide meadows with aspen. After reading the panels, fill in the blanks with the names of the organisms that can be found in each of the habitats.

<table>
<thead>
<tr>
<th>Shrub-steppe</th>
<th>Riparian</th>
<th>Aspen</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Carnivore:</strong> Ferruginous hawk or prairie falcon or prairie falcon</td>
<td>Peregrine falcon or Cooper’s hawk</td>
<td>Northern goshawk or American kestral</td>
</tr>
<tr>
<td><strong>Herbivore:</strong> Answers may include cottontail rabbit, pocket gopher or ground squirrel</td>
<td>Answers may include waterbirds, small birds or mammals</td>
<td>Answers may include birds, mammals or insects</td>
</tr>
<tr>
<td><strong>Producer:</strong> Answers may include wildflowers, shrubs or grasses</td>
<td>Answers may include various plants</td>
<td>Answers may include aspen or other trees, shrubs or grasses</td>
</tr>
</tbody>
</table>

**High Desert Museum**
Find the great horned owl within the Donald M. Kerr Birds of Prey Center.

1. In the table below, list the plants and animals that are in the owl’s home. To complete the table, use your imagination to describe the ones that you don’t see, but could be present in a great horned owl’s forest habitat. Answers will vary.

<table>
<thead>
<tr>
<th>Energy Source</th>
<th>Producers</th>
<th>Herbivores</th>
<th>Carnivores</th>
<th>Decomposers</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUN</td>
<td>1. Tree</td>
<td>1.</td>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td></td>
<td>2.</td>
<td>2. Mouse</td>
<td>2.</td>
<td>2.</td>
</tr>
</tbody>
</table>

2. Choose six plants and animals from the table above and write their names in the squares below. Draw arrows between the squares to show how they are related. For example, a mouse would eat the seeds of a wildflower.

Ecosystem Roles

- **Producers** are organisms that use sunlight, water and nutrients to make their own food.
- **Herbivores** are organisms that consume plants.
- **Carnivores** are organisms that consume animals.
- **Omnivores** are organisms that consume both plants and animals.
- **Decomposers** are organisms that break down dead plants and animals.