

## Model a Desert Food Web

Food webs show how organisms interact with each other; animals must consume food, while plants can make their own food using energy from the sun. Look at the glossary on page 5 for definitions of different kinds of interactions. In this activity, you will use photos of organisms from the Chihuahuan Desert Nature Park in Las Cruces, New Mexico to create a model of a desert food web.

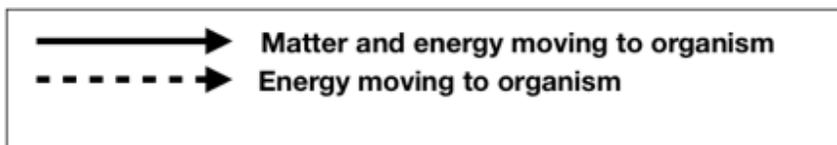
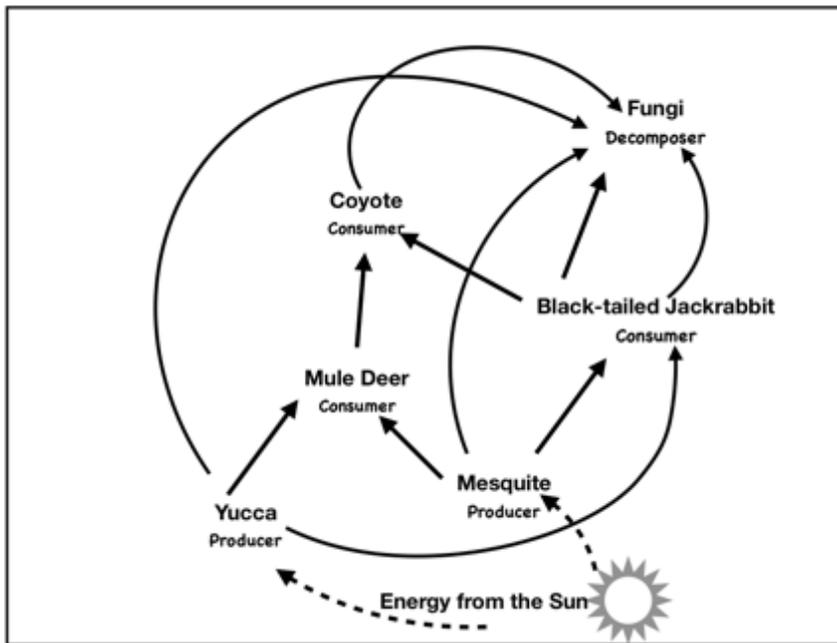
Many of the photos were taken using a “game camera,” a camera that is left in one place outdoors for days or weeks. Anything that walks past the camera triggers it to take a picture. These cameras allow wildlife biologists to collect information about animals without disturbing the animals and without the biologists having to be physically present.



### Directions

1. Create a model of a desert food web using the pictures and information on pages 3-5. You have two options for creating your model:
  - a. Write the names of the organisms in the box at the top of page 2 (like in the sample below).
  - b. Cut out the organism cards on pages 3-5 and arrange them on a piece of paper, drawing arrows between the organisms.
2. Label each organism in the food web as a consumer, producer or decomposer. Include a key.

### Sample Desert Food Web



### Tips for Creating Your Food Web

- Arrows point towards the organism that is consuming another organism and show the movement of matter and energy. For example, the arrow from the jackrabbit to the coyote in the sample means that coyotes eat jackrabbits.
- Every organism in your food web must have at least one arrow pointing towards it.
- Every food web has at least one producer.
- Every food web has at least one decomposer.

Draw your food web here or on another piece of paper if you want more space.

Key:

**Questions:**

1. What do you think would happen to your food web if the populations of all producers decreased because of a disease? Would you expect changes in consumer populations?
2. Revise your food web by adding an omnivore that feeds on one producer and a consumer. Name this as “New Omnivore” and decide what it eats (at least one producer and one consumer). What changes would you predict in the populations of producers and other consumers?
3. Take your understanding further! Share what you’ve learned about desert organisms and food webs with someone else. Who did you teach about food webs? What questions did they have?



**Badgers** eat rodents like ground squirrels, packrats, and kangaroo rats. They also eat rabbits.



**Black-tailed jackrabbits** eat plants like mesquite, cacti, and grasses.



**Bobcats** eat rabbits and rodents like packrats and ground squirrels. They also eat ground birds like quail.



**Scaled quail** eat green vegetation, seeds from many different kinds of plants like grasses, and insects like grasshoppers and beetles.



**Greater roadrunners** eat lizards, snakes, small birds, and insects.



**Grasshoppers** eat many kinds of plants, including desert grasses.



**Mule deer** eat plants like trees, grasses, mesquite, and yucca.



**Coyotes** eat rabbits, packrats, mule deer fawns, quail, and fruit from cacti.



**Kangaroo rats** eat seeds and grasses including mesquite and black grama grass.



**Sotol** plants get energy from the sun to make their own food.



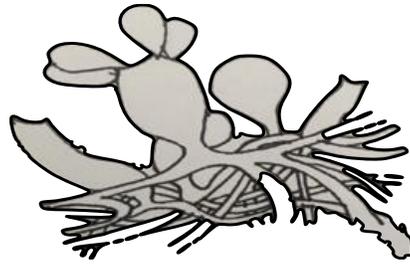
**Yuccas** get energy from the sun to make their own food.



**Greater earless lizards** eat insects like wasps, beetles, moths, and grasshoppers.



**Bacteria** are decomposers that get matter and energy by consuming dead plants and animals, returning nutrients back to the soil.



**Fungi** are decomposers that get matter and energy by consuming dead plants and animals, returning nutrients back to the soil.



**Yucca moths** lay their eggs in the flower of yuccas. The larvae of the yucca moth eat yucca seeds.



Photo by Patrick Alexander  
<http://swbiodiversity.org/seinet/imagelib/>

**Black grama grasses** get energy from the sun to make their own food.



**Mesquite** are woody shrubs that get energy from the sun to make their own food



**Prickly pear cacti** get energy from the sun to make their own food.

#### Glossary

**Carnivore** – an animal that gets matter and energy by eating other animals

**Consumer** – an organism that eats other organisms, either plants or animals or both

**Decomposers** – organisms that eat dead plants and animals, returning some nutrients back to the soil

**Food web** – a diagram showing the movement of matter and energy from one organism to another

**Herbivore** – an animal that gets matter and energy by eating plants

**Omnivore** – an animal that gets matter and energy by eating other animals and plants

**Population** – a group of interacting organisms of the same species

**Producer** – an organism that makes its own “food” from carbon dioxide in the air and water, using the energy from the sun