



Food Chains at the Palmer Hay Flats



Before you go: Print photos of sun, grass, insect, toad, hawk, fungi for use on the field trip.

Discuss how plants and animals get food from their habitat just like you do. While they don't have a kitchen like we and aren't able to go to the grocery store, they can get food from the sun, the plants or animals around them. Where each organism gets energy depends on its trophic level:

- The Sun: The sun is the 1st source of energy, and provides for everything on the planet.
- Producers: The producers in a food chain include all green plants. This is the first stage in a food chain. They make their own food from the sun in a process called photosynthesis.
- Consumers: Consumers are all organisms that are dependent on plants or other organisms for food. This is the largest part of a food web, as it contains almost all living organisms. It includes herbivores which are animals that eat plants, carnivores which are animals that eat other animals, and omnivores which eat both plants and animals.
- Decomposers: These are organisms that feed on the tissues of dead producers and consumers. Bacteria and fungi are common decomposers, as are certain types of worms and insects. They help clean up the planet by cycling nutrients back into the food chain.

At the Palmer Hay Flats: Rock-paper-scissors, habitat edition! This activity models how energy flows from one organism to the next in a food chain. Students will represent energy moving through a food chain from Grass -> Grasshopper -> Toad -> Hawk. They will play rock-paper-scissors against one another to “flow” from one trophic level to the next. Each trophic level is represented by these actions or signals: Grass: sit; Grasshoppers: hop; Toad: walk and stick out tongue; Hawk: flap.

Pair students. The pairs all start the food chain as grass, a primary producer, sitting on the ground. All pairs of students begin to play rock-paper-scissors, best out of 3. The partner who lost the round will remain grass and find another grass to play against. The winner of this round “flows” to become a grasshopper, and hops around the room or field looking for another grasshopper to play rock-paper-scissors: the one in each grasshopper pair who wins “flows” to the next trophic level, a toad (walks upright and sticks out tongue). The grasshopper that did not win remains a grasshopper and continues looking for another hopping grasshopper to play against. If a grass cannot find another grass to play against, the instructor can high-five that student who will “flow” to the next level.

Players continue to “flow” through the food chain until they become hawks, apex predators. When two hawks play rock-paper-scissors against each other, the winner will “decompose” and the other student will remain a hawk. Anyone who “decomposes” dramatically calls “I’m decomposing!” while holding their hands over their head like a mushroom and slowly sink to the ground. Once a student “decomposes,” that student should high five the instructor, and then “reset” in same game as grass, or cheer on their classmates from the side. It is important to remind students that decomposers do not become grass, but that the materials broken down by decomposers provide nutrients for primary producers. Bring the group back together. provide photos of sun, grass, insect, toad, hawk, fungi. Based on previous activity, ask a volunteer to place each image in order from how they think each organism obtains energy from another. Pool everyone’s ideas and explain that the class just created a food chain.

After learning about food chains: Share your learning with others. Post your photos on public media, tell your friends and relatives what you saw, what you felt, what you heard, and what you could smell.

Make a plan for when you will go to the Palmer Hay Flats again.