

Weave a Wolf Web



Objective

Students will discover the food/energy relationships within a food web involving gray wolves.

Materials

- copies of Wolf Web Cards
- rolls of yarn or string
- large activity area

Background

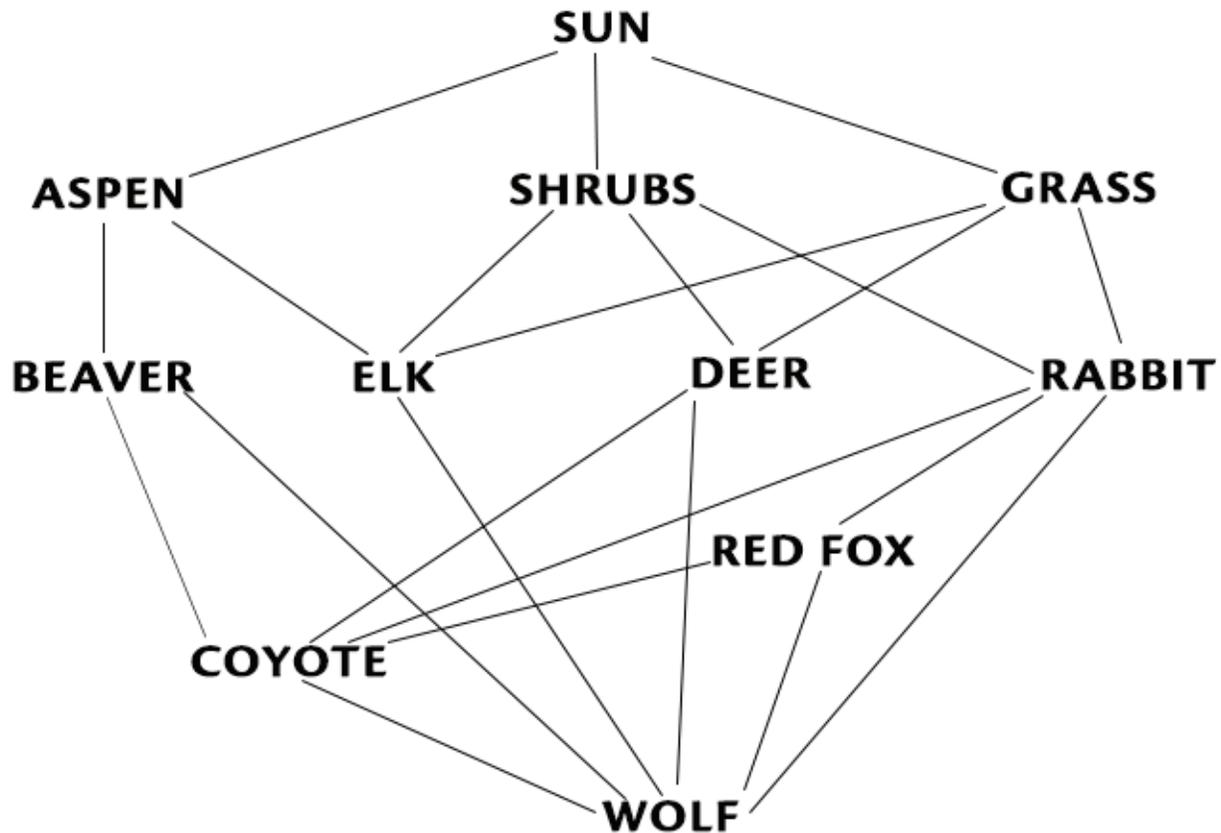
A *food chain* is a diagram of the flow of energy (who eats whom) in an *ecosystem* (a network of interactions between organisms and their environment.) A *food web* includes many food chains that are linked together through various members of an ecosystem. Plants obtain their energy from the sun. A *primary consumer* is an animal that only eats plants, also known as an herbivore such as a deer. A *secondary consumer* can either be an omnivore (eating both plants and animals) or a carnivore (only eating other animals). An example of a secondary consumer is a crow. A *tertiary consumer* can be a carnivore or omnivore, but is not preyed on by other animals. Tertiary consumers are also called apex predators. Examples of apex predators are polar bears and killer whales.

Action

1. Cut out the Wolf Web Cards (you may need to make extra copies of the cards to have one per student.) Use yarn or string to create signs using each Wolf Web card that students can wear around their necks.
2. Write the words food chain, food web, ecosystem, primary consumer, secondary consumer, and tertiary consumer on the board. Define each term using the background information above and give examples for each trophic level (consumers). What term best describes a wolf (*A tertiary consumer*)? What kinds of animals does a wolf eat? Explain that wolves, like most animals, eat more than one type of food and are an essential part of the food web in the areas where they live.
3. Take students out to the large activity area and have them form a large circle. Choose one student as the sun. Give each of the other students one Wolf Web card to wear.
4. Have the person who is the sun hold one end of the string. This person is the base of the food web. Ask students which members of the food web get their energy from the sun. As they volunteer answers, unroll the yarn and, referring to the diagram on page 2, have the students that are the plants (shrubs, grasses, aspens) hold onto the yarn using the diagram as a guide. Next ask the students which members of the food web get their energy from plants. Continue referring to the diagram and have the primary consumer (beavers, elk, deer, rabbits) students, then secondary consumers (red foxes, coyotes), then tertiary consumers (wolves) hold onto the unrolled yarn using the diagram as a guide. Continue until the food web is complete.
5. Direct students to gently and carefully lay the yarn on the ground so that the web stays intact. Have them step back and notice the pattern created by the interaction of organisms.
6. Have students pick up the yarn again. Ask all wolves to step back. Have students pick up the web again. Ask students what happens to the web when an animal disappears from its ecosystem.



Wolf Web Diagram



Deeper Depths

1. Have students find out online where gray wolves are found. (Examples include the Arctic, Yellowstone National Park, the southwestern United States, Europe.) Compare these ranges to the much wider range that wolves used to inhabit.
2. Have each student choose a gray wolf community in a given region and research what kind of prey the wolves eat in this region. Have them draw out a food web for their wolf community.
3. Have students share their food webs with the class. Are there differences in the wolves' trophic levels in the food webs? How have humans impacted wolf food webs in the different regions?

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Wolf Web cards

ASPEN	GRASS
SHRUBS	RABBIT
BEAVER	ELK
DEER	RED FOX
COYOTE	WOLF