

Welcome/ Staff/Volunteer Names Today's Topic-Symbiosis
Introduction: Question: Why do different species associate with each other?

Ice Breaker/Game: Good Buddies-A game about symbiotic relationships.

Background/ Exploration: Symbiosis: different organisms living together in close association. This relationship between two species may be helpful to both, neutral for one or both, or harmful to one. If it is helpful to both species, it is called mutualism. If it is neutral to one species, it is commensalism. If the association between species harms one of them, it is parasitism.

Predators and prey live in interdependence. Predators thin the prey species' population and make it a healthier group. Fox-Rabbit; Hawk-Mouse; Owl-Rodent.

Activity: Good Buddies cont'-Students use cards to learn about their organism's relationship and share the information with the group.

Lichens (Mutualism)-A symbiotic association of a certain alga and a certain fungi. The fungus absorbs water and minerals, and shelters the alga, the alga makes carbs from sunlight. They are pioneer species, colonizing bare soil and rock, tree trunks, and logs.

Mycorrhizae (Mutualism)-Many (all?) plants have fungal threads associated with them, which makes it easier to absorb nutrients due to the increased surface/volume ratio. The fungus absorbs the food made by the plants (starches, sugars) in return.

Galls-Out of place bumps or swellings on plants are probably galls. Galls can be many shapes, sizes, and colors, e.g. round and wooly, flat and spiny. They can be caused by injury, fungi, nematodes (round worms), mites, or insects.

OUTDOOR EXPLORATION: Hike through woods, prairie, etc. Look for evidence of plant interactions: shelf fungus, mushrooms, lichens, galls, predators, parasites, competition.

Activity: Gall Hunt-look for different shaped galls on goldenrod, tree leaves, etc. 800/2000 kinds of American galls are found on oaks

Game: Fox & Rabbit-The fox tries to find as many rabbits as possible.

Activity: Fallen Log Hunt-roll a decaying log over and look for fungus, lichens, etc.

SEND OFF: Goodbye! TAKE HOME: parent outline
Next Month's topic- Mammals background

Vocabulary

Symbiosis, gall, lichen, mutualism, commensalism, parasitism, mycorrhizae

Background References

Insect Galls on Trees and Shrubs. 2004. Iowa State University Extension, Ames. (IC-417)
Extension Publication http://www.extension.iastate.edu/