

FUN WITH FUNGI

INSTRUCTOR REFERENCE MATERIAL

The Importance of Fungi in the Ecosystem

Fungi are achlorophyllic (without chlorophyll) organisms that survive by producing enzymes to digest plant and animal tissues. Some of these relationships are beneficial, some harmful. Some of these systems are listed below.

1. Recyclers of cellulose and lignin.
2. Mycorrhizal - symbiotic relationships with tree roots.
3. Parasitic (harmful) or beneficial.
4. Food - for insects and other animals, i.e. slugs, rodents, deer, man.
5. Symbiotic - with algae to form lichens
6. Diversified uses - as dye source, as medicinal ingredients, as art forms.

1. RECYCLERS - Without fungi there would probably not be large forests in the Northeast. Many fungi have enzymes that work to "rot" or "digest" the cellulose and lignin found in the wood of trees. The lignin is an important source of carbon for many organisms.

2. MYCORRHIZAL – "*myco*" means fungus and "*rhiza*" means root. These are fungi that live on the roots of many trees. In this partnership these fungi provide extra nutrients and protective ingredients to the roots. In return the fungi derive "nourishment" from the tree roots.

3. PARASITIC - Even though certain fungi are recyclers of dead wood, they can also be very harmful to living trees.

4. FOOD - There are many edible fungi in the sanctuary. Many other animals besides man eat fungi. For example: rodents, deer, slugs, and insects. Insects form an important food web with fungi, such as beetles and flies using fungi as shelter and food sources, thus providing a large food source for birds.

5. SYMBIOTIC - Fungi form a very important role with algae to provide partnerships called lichens, where both "tenants" derive a benefit. The fungus provides housing and protection. The alga in return for the "condominium", provides additional food.

6. DIVERSIFIED USES - Fungi are good sources of dyes. Certain mushrooms provide excellent surfaces for painting or etching. If you need classroom material for demonstrating insect life cycles many fungi are good candidates many gilled mushrooms also serve as "condos" for insects.