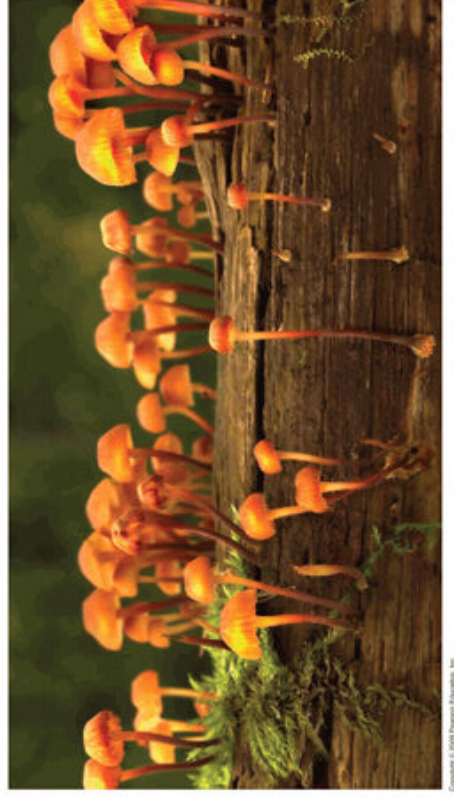


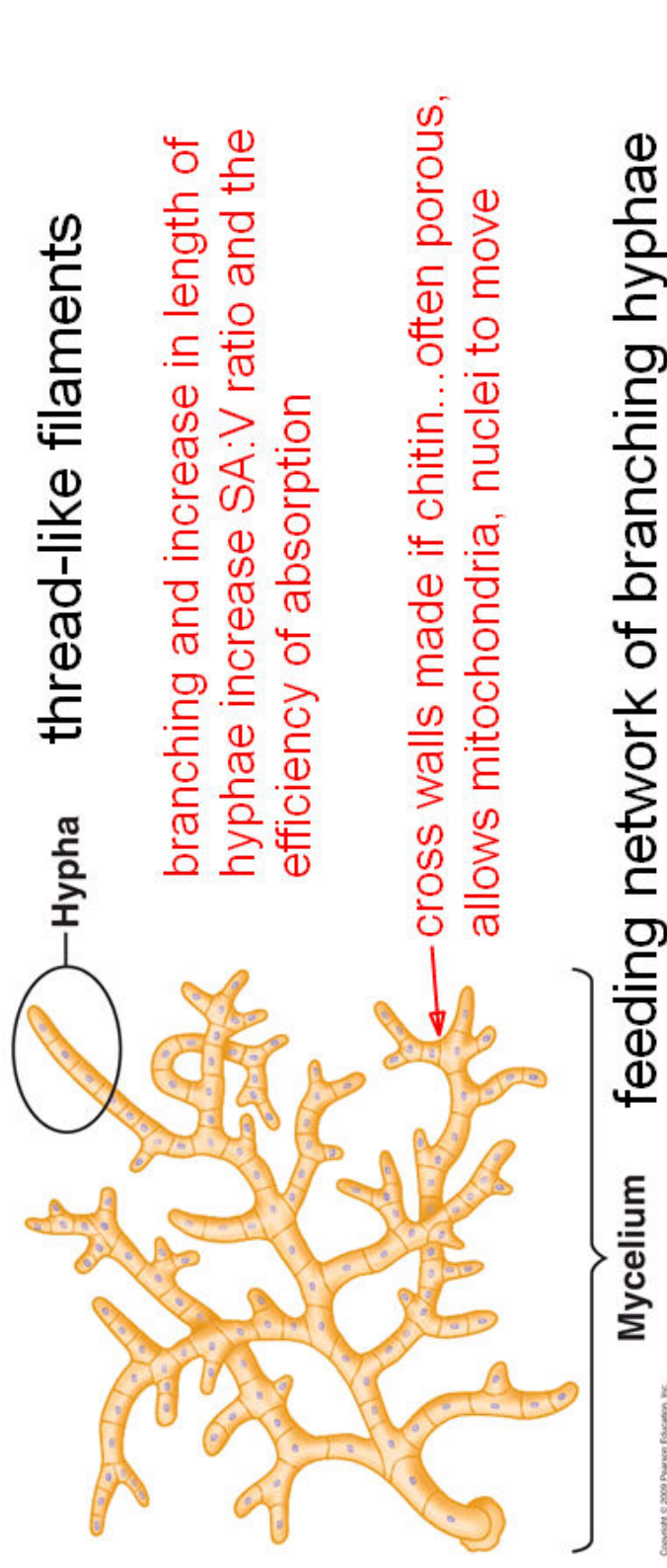
Fungi: Kingdom of heterotrophic eukaryotes that digest food externally and absorb the resulting small molecules

- Have unique body structures and reproductive modes
- More closely related to animals than plants
- Found in virtually all ecosystems and act as decomposers (beneficial) and sometimes as parasites (harmful)



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Typical Fungi "body plan":

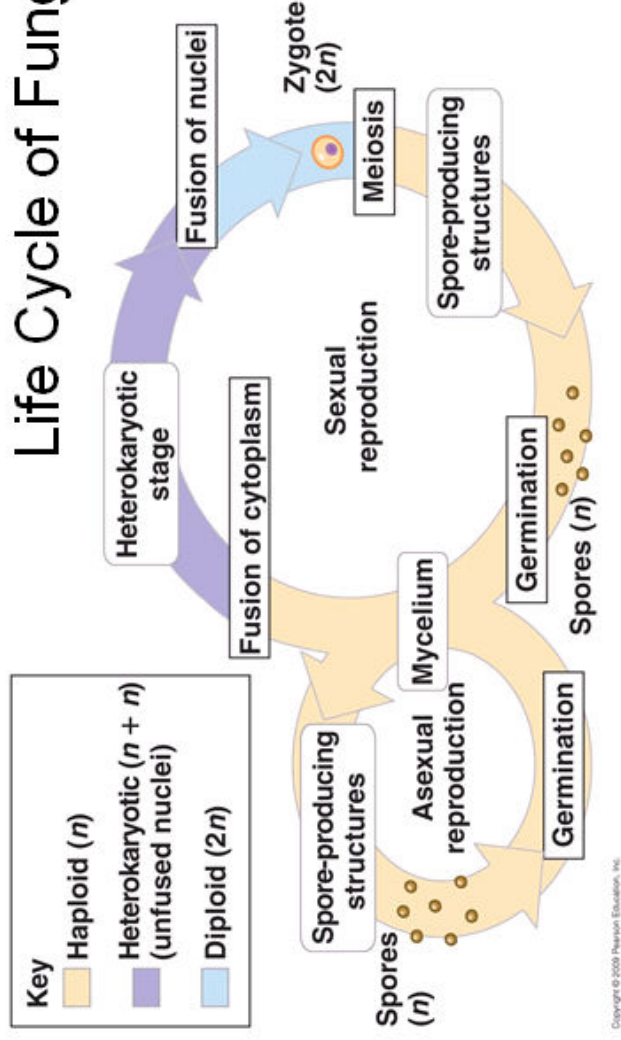


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these structures are spore-releasing... mycelium would be underground or in wood

Life Cycle of Fungi:



Reproduction can be asexual or sexual

-sexual reproduction involves fusion of mycelium and a heterokaryotic stage...multiple haploid and genetically varied nuclei...fusion then produces short-lived diploid stage which produces spores

-asexual reproduction also involves spore production

Harmful Effects of Fungi:

- Fungal infection is called mycosis, about 30% of Fungi are parasites or pathogens
- can affect plants (Dutch Elm disease, smuts, rusts, ergots) and to a lesser extent animals (Ringworm, athlete's foot, Coccidioidomycosis in lungs, vaginal yeast infections)



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Fungi also serve beneficial roles with plants and animals:

- Mycorrhiza: mutually beneficial relationship between plants and fungi...fungi near roots allow access to nutrients...Phosphorous...plant nourishes fungi with glucose
- Lichens are also an example of a mutually beneficial relationship between fungi and green algae or cyanobacteria
- Leaf-Cutter Ants cultivate and care for fungi which can breakdown cellulose in leaves brought to the colony by the ants, ants eat the fungi
- Fungi also provide antibiotics (penicillin), produce ethanol by fermentation (Yeast) and are used to flavor certain cheeses (Blue cheese)