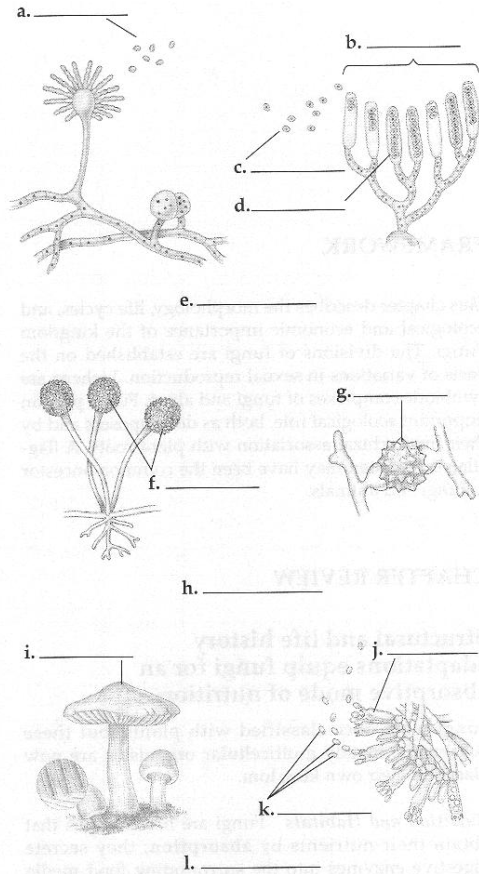


Define the following terms:

1. Mycelium
2. Septa
3. Coenocytic
4. Dikaryotic
5. Plasmogamy
6. Karyogamy

7. Indicate whether the following diagrams are from a zygomycete, ascomycete, or basidiomycete life cycle. Identify the labeled structure.



8. What is the key characteristic of the fungi placed in the division Deuteromycota?
9. Why have chytrids been moved back and forth between kingdoms Protista and Fungi?
10. Why are they now classified with the fungi?
11. Fill in the following table that summarizes the characteristics of these major fungal types.

Fungal Type	Examples	Morphology	Asexual Reproduction	Sexual Reproduction
Zygomycetes				
Ascomycetes				
Basidiomycetes				
Deteromycetes				
Lichens				

12. The kingdom Fungi contains members with saprobic, parasitic, and mutualistic modes of nutrition. How do these types of nutrition relate to the ecological and economic importance of this group?
13. What is the basis for saying that fungi and animals evolved from a common portistan ancestor?

14. Fill in the following table.

Division between cells in the fungal hyphae	
Hyal cells with two nuclei	
Component of cell walls in most fungi	
Asexual spores produced in chains at ends of hyphae	
Club-shaped reproductive structures found in mushrooms	
Sacs that contain sexual spores in cup fungi.	
Mutualistic associations between plant roots and fungi	
Tough protective zygote produced by zygomycetes	
Hypae with many nuclei	
Most primitive fungal group	

**MULTIPLE CHOICE:** Choose the one best answer.

- The major difference between fungi and plants is that fungi
  - have an absorptive form of nutrition.
  - do not have a cell wall.
  - are not eukaryotic.
  - are multinucleate but not multicellular.
  - reproduce by spores.
- Fungal mitosis
  - produces spores in dikaryotic cells.
  - does not involve the formation of a spindle.
  - takes place within the nucleus.
  - results in plasmogamy.
  - involves all of the above.
- A fungus that is both a parasite and a saprobe is one that
  - digests only the nonliving portions of its host's body.
  - lives off the sap within its host's body.
  - first lives as a parasite but then consumes the host after it dies.
  - lives as a mutualistic symbiont on its host.
  - causes athlete's foot and vaginal infections.
- The fact that karyogamy does not immediately follow plasmogamy
  - is necessary to create coenocytic hyphae.
  - allows for the development of more genetic variation.
  - allows fungi to reproduce asexually most of the time.
  - creates dikaryotic cells that may benefit from the presence of duplicate copies of alleles.
  - is characteristic of deuteromycetes.
- Deuteromycota
  - represents the most ancient lineage of fungi.
  - includes the fungal components of lichens.
  - includes the imperfect fungi that have abnormal forms of sexual reproduction.
  - is home to molds, yeasts, and lichens.
  - includes molds and other types of fungi whose sexual stage is lacking or unknown.
- In the Ascomycota,
  - Sexual reproduction occurs by conjugation.
  - Spores often line up in a sac in the order they were formed by meiosis.
  - Asexual spores form in sporangia on erect hyphae.
  - Most hyphae are dikaryotic.
  - Sexual spores are produced in conidia.
- Lichens are symbiotic associations that
  - usually involve an ascomycete and a green alga or cyanobacterium.
  - can reproduce sexually by forming soredia.
  - require moist environments to grow.
  - fix nitrogen for absorption by plant roots.
  - are unusually resistant to air pollution.
- The name given to each of the three divisions of fungi is based on
  - the structure in which karyogamy occurs during sexual reproduction.
  - the location of plasmogamy during sexual reproduction.
  - the location of the dikaryotic stage in the life cycle.
  - the structure that produces asexual spores.
  - their ancestral origin.
- Fungi and animals appear to have evolved from a common ancestor
  - because neither of them are photosynthetic.
  - based on similarities in cell structure.
  - that was a flagellated protist.
  - about the time that fungi and plants moved onto land.
  - based on homologous ultrastructure of their flagella.