

CHAPTER REVIEW

CONTENT REVIEW

Multiple Choice

Choose the letter of the answer that best completes each statement.

- Fungi consist of tiny filaments called
 - asci.
 - hyphae.
 - basidia.
 - sporangia.
- Fungi obtain nutrients by
 - photosynthesis.
 - external digestion of food.
 - ingestion of small organisms.
 - absorption through cilia.
- What are the small rootlike hyphae in bread mold called?
 - rhizoids
 - mycelia
 - basidia
 - caps
- Yeasts are
 - ascomycetes.
 - basidiomycetes.
 - zygomycetes.
 - deuteromycetes.
- Basidiomycetes are also known as
 - sac fungi.
 - imperfect fungi.
 - water molds.
 - club fungi.
- Lichens are symbiotic partnerships between a
 - fungus and a plant.
 - green alga and a cyanobacterium.
 - fungus and a cyanobacterium.
 - green alga and a plant.
- Which fungal disease destroyed Ireland's main source of food in 1845?
 - wheat rust
 - potato blight
 - corn smut
 - cucumber scab
- Athlete's foot is caused by a (an)
 - oomycete.
 - basidiomycete.
 - deuteromycete.
 - ascomycete.

True or False

Determine whether each statement is true or false. If it is true, write "true." If it is false, change the underlined word or words to make the statement true.

- Fungi are autotrophs.
- Fungi reproduce by binary fission.
- During asexual reproduction, zygomycetes form thick-walled zygotes called basidiospores.
- In the bread mold, the hyphae that run along the surface of the bread are called stolons.
- Mushrooms belong to the phylum Oomycota.
- Sexual reproduction has never been observed in deuteromycetes.
- A morel is a symbiotic partnership between a fungus and a photosynthetic organism.
- Yeasts are used in the baking and brewing industries.

Word Relationships

- A. In each of the following sets of terms, three of the terms are related. One term does not belong. Determine the characteristic common to three of the terms and then identify the term that does not belong.
- oomycetes, ascomycetes, basidiomycetes, zygomycetes
 - zygomycetes, ascomycetes, basidiomycetes, deuteromycetes
 - athlete's foot, rust, thrush, ringworm
 - stolon, rhizoid, sporangiophore, zygospore
 - mushroom, morel, truffle, yeast

- B. An analogy is a relationship between two pairs of words or phrases generally written in the following manner: $a:b::c:d$. The symbol $:$ is read "is to," and the symbol $::$ is read "as." For example, $cat:animal::rose:plant$ is read "cat is to animal as rose is to plant."

In the analogies that follow, a word or phrase is missing. Complete each analogy by providing the missing word or phrase.

6. ascus:sac fungus::basidium:_____
7. water mold:oomycete::club fungus:_____
8. fungus and green alga:lichen::fungus and green plant:_____

CONCEPT MASTERY

Use your understanding of the concepts developed in the chapter to answer each of the following in a brief paragraph.

1. Discuss the general characteristics of fungi.
2. How do oomycetes differ from the other members of the kingdom Fungi? How do deuteromycetes differ?
3. Discuss reproduction in the bread mold *Rhizopus stolonifer*.
4. Explain the basis for the classification of fungi.
5. Why are yeasts useful in genetic research?
6. What is the ecological importance of lichens and mycorrhizae?
7. Why is the absence of oxygen important for fermentation by yeast?
8. Describe the life cycle of wheat rust.

CRITICAL AND CREATIVE THINKING

Discuss each of the following in a brief paragraph.

1. **Identifying relationships** Heavily polluted fresh water contains few fungi. How might this affect life in a lake?
2. **Applying concepts** Explain why there are more fungi in a forest than in a field.
3. **Making predictions** What would be the effect on humans of a fungicide capable of killing all types of fungi?
4. **Classifying fungi** Develop your own system of classification for the fungi. Draw a diagram to represent your system.
5. **Relating concepts** While on a walk in the forest, you come upon some fungi, similar to those shown in the photograph, growing from the trunk of a fallen tree. You examine the underside of one of the fungi with a magnifying glass and notice some club-shaped structures. To which phylum do these fungi belong? Explain your answer.
6. **Using the writing process** A debate is raging in your classroom. Some people argue that because fungi cause human disease and damage crops, they should be eradicated from Earth. Their case seems compelling. But you are responsible for defending the opposing viewpoint. Let the fungi be, you maintain. Write the script for the argument you would present in the debate.

