

Name \_\_\_\_\_ Period \_\_\_\_\_

## Chapter 31: Fungi

### *Concept 31.1 Fungi are heterotrophs that feed by absorption*

1. Both animals and fungi are multicellular heterotrophs, but they differ in how they obtain their nutrients. Explain how fungi bring in nutrients.
2. Both plants and fungi have cell walls. What material is found in the cell wall of fungi?
3. The body of a fungus consists of *hyphae*, which make up the *mycelium*. What are these?
4. In the last chapter, we looked at the importance of *mycorrhizae* to plant nutrition. Explain the action of *mycorrhizae*.

### *Concept 31.2 Fungi produce spores through sexual or asexual life cycles*

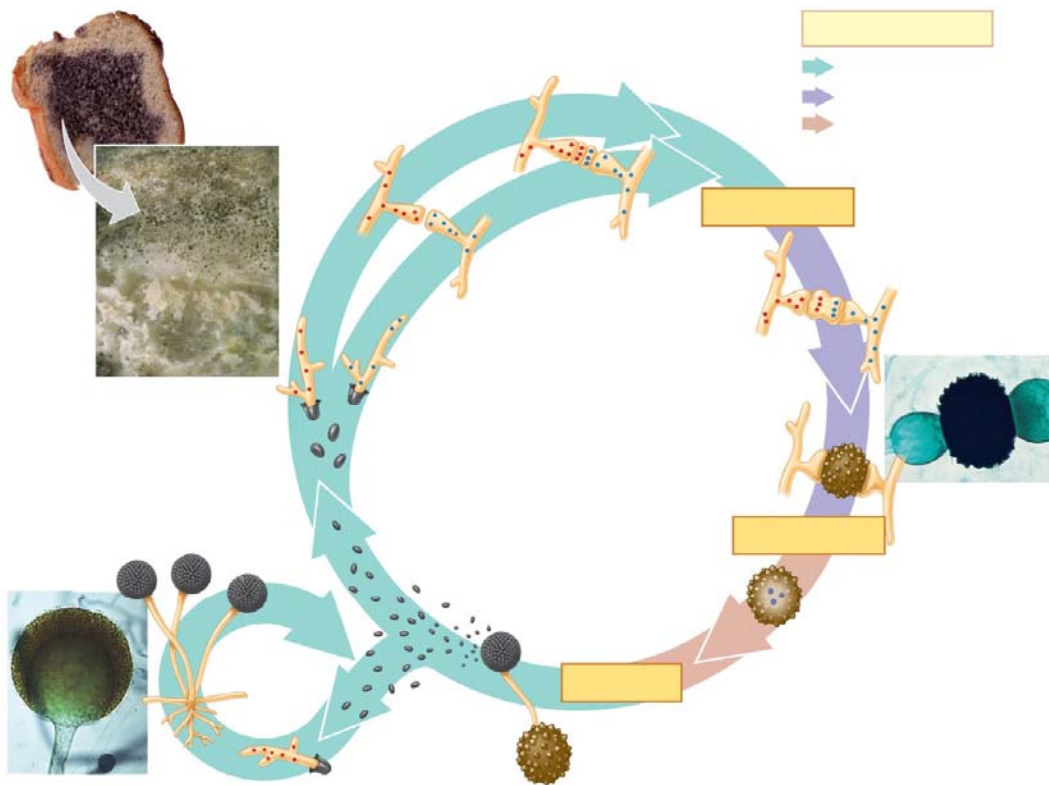
5. A new fungal organism grows from what structure?
6. *Spores* are the reproductive cells of fungi; they can be formed sexually or asexually. When two haploid mating strains are near each other, how do they signal or communicate?

**Concept 31.4 Fungi have radiated into a diverse set of lineages**

This concept discusses many different fungi and has some wonderful photographs and figures. Although you might not be asked much about fungi on an AP Biology exam, let's look at a few of them.

**Zygomycetes**

7. Here is a figure showing the life cycle of a fungus you have all seen—*Rhizopus stolonifer*, or common bread mold. Label it to explain a typical fungus life cycle.



8. Don't miss the story of *Pilobus*! Where do you find it, and how does it send its spores and next generation on to an appropriate new home?

**Ascomycetes**

9. What is the name of the structure where the sexual spores are produced?

10. What is the common name of this group?
11. Give at least three examples of *ascomycetes*.
12. Did your class do the *Sordaria* meiosis lab, AP Lab 3? \_\_\_\_\_ *Sordaria* is an ascomycete. You may also remember *Neurospora*, which Beadle and Tatum used in their research.

***Basidiomycetes***

13. What is the name of the structure where the sexual spores are produced?
14. What is the common name of this group?
15. Give at least three examples of *basidiomycetes*.
16. What are "fairy rings"? Have you ever seen one? Explain how they grow.

***Concept 31.5 Fungi play key roles in nutrient cycling, ecological interactions, and human welfare***

17. Fungi are heterotrophs and have three modes of nutrition. Explain each mode of nutrition, and describe a fungus that exhibits it.

| <b>Explanation of Mode of Nutrition</b> | <b>Fungus Example</b> |
|---|-----------------------|
| <i>Decomposer</i>                       |                       |
| <i>Parasitism</i>                       |                       |

|                  |  |
|------------------|--|
| <i>Mutualism</i> |  |
|------------------|--|

18. Tell the life stories of three of your favorite *pathogenic* fungi.

19. Describe three ways in which humans benefit from activities of fungi.

*Testing Your Knowledge: Self-Quiz Answers*

Now you should be ready to test your knowledge. Place your answers here:

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_ 5. \_\_\_\_\_ 6. \_\_\_\_\_