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CHAPTER 1: Supplemental Questions

1. What can plants do that animals cannot?

Make food from non-living material (sunlight, carbon dioxide, and water)

2. What organisms are in kingdom fungi?

Mushrooms, puffballs, yeasts, molds, mildews, truffles

3. Where is the main body of the mushroom located? underground

What is it called? hyphae

How large can it grow? can cover 30 acres

4. What are spores?

Tough bits of living material used by mushrooms to reproduce

5. What important function in nature do mushrooms serve?

Decomposition – break down dead trees and other plant life, returning nutrients to the soil

6. What did Louis Pasteur discover about yeast?

They are alive and they cause fermentation (they consume sugar and change it into carbon dioxide and alcohol).

7. What caused the juice to sour?

Rod-shaped cells (bacteria) changed the sugar and alcohol into sour lactic acid.

8. Why is mold a greater problem in Louisiana than in Minnesota?

Mold thrives in warm, humid environments; Louisiana is warm and humid year-round.

9. Where can molds be useful?

Making penicillin and other antibiotics; making cheese

10. Who discovered penicillin? Alexander Fleming

CHAPTER 2: Supplemental Questions

1. Who were the first scientists to see tiny life?

Anton van Leeuwenhoek and Robert Hooke

2. With a magnification of 270 times, Leeuwenhoek was able to glimpse a new category of small life, which included rod-like, ball-like, and corkscrew objects. What was this new category of life?

bacteria

3. Describe the following organisms:

Paramecium: shaped like a slipper; moves by waving cilia

Amoeba: no particular shape; moves by taking apart and rebuilding its internal structure

Euglena: contains chlorophyll (green in color); moves by whipping its flagellum

4. Name two protozoa that cause disease. giardiasis and malaria

5. What is symbiosis? Give an example from Chapter 2.

Symbiosis is two organisms that live together to the benefit of both.

Example: lichen – a layer of algae sandwiched between two layers of fungi. Algae produce food for the fungi. Fungi shield the algae and break rocks into minerals the algae can use for food production.

6. What are diatoms? A type of single-celled algae

7. What are diatom shells made of? silicon dioxide (same material as sand)

What are they used for? making dynamite sticks

8. How do algae benefit the atmosphere?

Restore free oxygen to the atmosphere

9. Algae have chlorophyll and make their own food. Why don't biologists classify them with plants?

No roots, stems, or leaves; no vascular structure to transport sap; can survive as a single cell

10. What characteristic is shared by all members of kingdom Protista?

All protista have only a single cell.

11. Name the five kingdoms.

Plant, Animal, Fungi, Protista, Bacteria

12. How do bacteria differ from Protista?

Bacteria do not have a nucleus.

13. What does *anaerobic* mean?

Life without air

14. Some bacteria are harmful because they cause disease.

15. Nitrogen-fixing bacteria are beneficial because they restore nitrogen to the soil.

16. Bacteria hasten the decay of dead organic material.

17. Non-living genetic material that only comes alive inside a living cell is a virus.

18. Can viruses be seen with an ordinary optical microscope? No

What is required? an electron microscope