Unit 5 · Fungi and Lichens

WORKSHEET

Full marks 35

Name _____ Class _____ Roll no. _____ Date _____ Marks _____ / 35

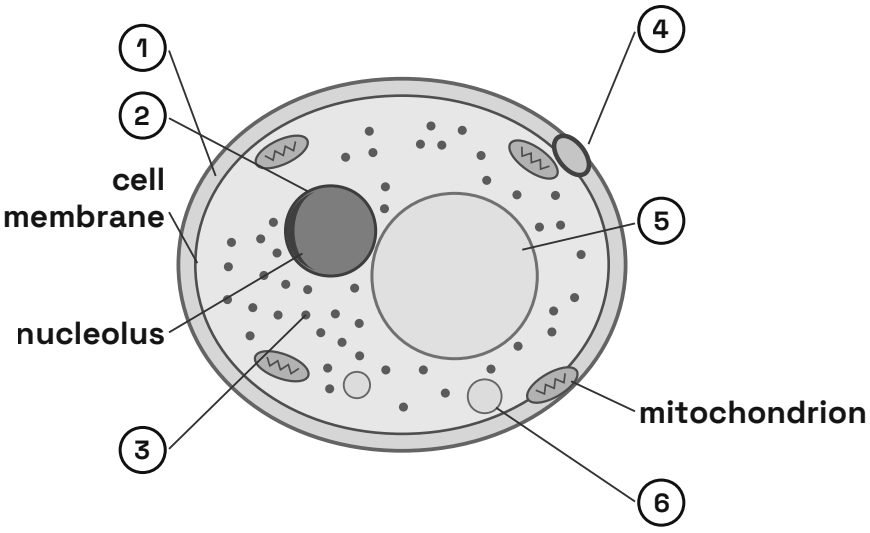
1 Key words [4]

Match each term in column A with its description in column B. Two items in column B are not needed. Each match carries 0.5 mark.

Column A		Column B	
1. mycelium	☐	**a.**	short cells of a Mucor hypha in a sugary liquid, which bud like yeast
2. columella	☐	**b.**	the sexual spore of a basidiomycete, formed inside a sac
3. oidia	☐	**c.**	the sterile, dome-shaped top of the sporangiophore inside a Mucor sporangium
4. pseudomycelium	☐	**d.**	a shrubby or hanging lichen, attached only at its base
5. annulus	☐	**e.**	fungal hyphae living on or in plant roots, helping both
6. mycorrhiza	☐	**f.**	the fungal partner of a lichen
7. mycobiont	☐	**g.**	the network of hyphae that makes the body of a fungus
8. fruticose	☐	**h.**	a thick-walled spore formed after two Mucor strains conjugate, inside a sporangium
		i.	a temporary chain of yeast cells that stay joined after budding
		j.	the ring on a mushroom's stipe, left by the torn velum

2 Label the diagram [3]

The diagram shows a yeast cell in section. Write the names of the parts 1 to 6. Each carries 0.5 mark.



1. _____ **2.** _____

3. _____ **4.** _____

5. _____ **6.** _____

3 Multiple choice [5]

Choose the correct option for each of the following questions.

i. Which group of fungi are called the club fungi? [1]

a. deuteromycetes **b.** basidiomycetes

c. ascomycetes **d.** phycomycetes

ii. In fungi, in what form is reserve food mainly stored? [1]

a. starch **b.** lipid

c. glycogen **d.** protein

iii. A mushroom's long-lived mycelium has two nuclei, one from each parent, in every cell. What is it called? [1]

a. primary, monokaryotic mycelium **b.** secondary, dikaryotic mycelium

c. coenocytic mycelium **d.** pseudomycelium

iv. In which life cycle of yeast is the zygote the only diploid cell? [1]

a. haplobiontic, as in *Schizosaccharomyces octosporus*

b. diplobiontic, as in *Saccharomycodes ludwigii*

c. haplodiplobiontic, as in *Saccharomyces cerevisiae*

d. in all three

v. A mold on bread has arching runners and tufts of root-like threads where clusters of black-headed stalks rise. What is it most likely to be? [1]

a. *Mucor*, the pin mold **b.** *Rhizopus stolonifer*, the black bread mold

c. *Penicillium*, the blue-green mold **d.** yeast

4 Very short answers [3]

Write very short answers to the following questions.

a. Name the fungus from which penicillin is obtained. [1]

b. Who is called the father of lichenology? [1]

c. Why does food kept in a refrigerator spoil more slowly? [1]

5 Short answers [9]

Write short answers to the following questions.

a. Justify the statement “Deuteromycetes are known as Fungi Imperfecti”. [2]

b. Write any four reasons why fungi are kept in a kingdom of their own, not with plants. [2]

c. A villager says a wild mushroom is safe to eat because it smells pleasant, doesn’t change color when cut, and has insects in it. Is the villager right? Explain. [2]

d. Describe the three types of lichen by the form of the thallus, with one example of each. [3]

6 Long answers [8]

Write long answers to the following questions.

a. Describe sexual reproduction in *Mucor*, from conjugation to the germ spores. [4]

b. Imagine you are a researcher studying air quality in a city with much industry. How could you use lichens as bioindicators to assess air pollution? Discuss the characteristics of lichens that make them sensitive to pollutants, and explain how changes in lichens could show changes in air quality. [4]

7 Think [3]

Lichens are not placed in any of Whittaker's five kingdoms, and the oomycetes are taught with the fungi but are not true fungi. What does each case show about the limits of a classification? How is a lichen classified today?

8 Activity: Observe the growth of a mold on bread

(not marked)

Dampen a slice of bread with a few drops of water, seal it in a clear plastic bag and keep it in a warm place out of direct sunlight. Look at it every day with a magnifying glass. Keep the bag closed: mold spores can bring on asthma and allergies. Throw the bread away sealed in the bag.

Day	Color of the growth	What you see with the magnifying glass

Is your mold *Mucor* or *Rhizopus*? How can you tell?