

Lab 4: Classification and Diversity

Only use fine-focus knob on the demo scopes!

pp. C17, 347-351, 353-355, 358-360, 364

GOALS:

- Identify any specimen viewed today by name, kingdom and domain.
- Describe how each organism gains nutrition, moves, reproduces & and other distinguishing characteristics.
- Know how bacteria, protists and fungi can be harmful.
- Know how bacteria, protists and fungi can be helpful.

KEY TERMS:

domain	kingdom	bacteria
eukarya	archaea	photosynthetic
heterotrophic	saprotrophic	producers
spirillum	bacilli	cocci
pathogenic bacteria	eubacteria	cyanobacteria
protista	pseudopodia	daughter colony(Volvox)
conjugation(Spirogyra)	food vacuoles	cilia
fungi	mycelium	sporangium
hyphae	spores	gills
zygospore	stalk	asexual reproduction
basidia	basidiospores	sexual reproduction

I. Bacteria/Protists/Fungi:

p. C17: Fill in the chart on page C17 as you go through the lab.

II. Classification:

pp. 347-348(top): read.

III. Bacteria:

pp. 348-351: read & follow procedures (**skip** at Gram stain)

- pg. 348 #1. – no CD-Rom is available.
- pg. 350 Look at prepared slide of bacteria (on front bench). Find the 3 different shapes of bacteria cells.
- pg 351 Observe agar plates that were made last week. **DO NOT OPEN!**
 - Pick the best microscope to view them at your desk.
 - Put unopened plates on the front bench when you are done.

IV. Cyanobacteria:

p. 352: read

- Skip** *Oscillatoria*.
- Remember *Anabena* from last week. Look at demo slide (on front bench).

V. Protists:

pp. 353–354: read and follow procedures (materials on side benches)

- a. *Spirogyra* – make a wet mount and view at your desk.
 1. Look at demo slide scope of conjugation.
- b. *Volvox* – make a depression slide (no cover slip) and view at your desk.
- c. Diatoms – take a prepared slide back to your desk.
- d. View display of brown and red algae and diatoms. (on side bench)

VI. Protozoans:

p. 355: read and follow procedures

- a. **Skip** numbers 1 & 2.
- b. Make wet mounts to view back at your desk (materials on side benches):
 - i. *Amoeba* (Collect from bottom of the container – the brown stuff is their food. They will look like dark brown blobs, usually moving slowly around their food).
 - ii. *Paramecium* (These guys may be moving quickly – remember how to move slide to follow them).

VII. Fungi:

pp. 358-363: read and follow procedures (**skip** sac fungi)

- a. Look at black bread mold (demo scopes set up on back bench)
- b. Look at club fungi (on back bench).
 - i. Only do question #1 on page 362 (**skip** numbers 2 -7)

VIII. Review:

p. 364: Answer questions 1 – 16 (**skip** numbers: 7, 8, 11, 14)