

## LAB 4: DIVERSITY—BACTERIA, PROTISTS, FUNGI

**PURPOSE:** Learn key characteristics of organisms in three kingdoms

### Goals for *all* specimens viewed today:

- \*Be able to use microscopes correctly.
- \*Recognize individuals by shape and size, also colonies where appropriate.
- \*Be able to identify any specimen by name, group, kingdom.
- \*Identify means of mobility, nutrition, reproduction + other key characteristics.
- \*Know commercial uses of algae and fungi.
- \*Define new vocabulary (bold face type)

### p. 323-324 Classification of organisms

#### **p. 324-327 Section 24.1 Domain Bacteria** (SKIP GRAM STAIN)

\_\_ agar plates: appearance, size and frequency, diversity of colonies. Table 24.2.

\_\_ Microscope slides: 3 shapes of bacteria

SKIP CYANOBACTERIA (though recall our example from last week: *Anabaena* sp. and compare to Fig. 24.5. What is the shape of the individual? The colony?)

#### **p. 329 Kingdom Protista** *Rinse and re-use slides, dispose of coverslips.*

#### **p. 330 Protozoans (“animal-like” protists)**

\_\_ wet mount of *Amoeba* sp. Collect from bottom; brown material is food.

\_\_ wet mount of *Paramecium* sp (use “Detain”) Red material is food (yeast).

Table 24.3 Summarize the 2 species we viewed.

#### **p. 330-335 Algae (“plant-like” protists: Green, Yellow, Brown, Red)**

\_\_ wet mount of *Spirogyra* sp. \_\_ View demonstration slide of conjugation.

\_\_ sample *Volvox* sp. colonies using *depression slide with no coverslip*.

\_\_ view Diatom (“Yellow Algae”) photographs, demonstration slide.

\_\_ view “Brown algae”: distinguish *Fucus* sp. (“rockweed”), *Laminaria* sp. (“kelp”) and *Sargassum* sp.: know anatomy and habitat.

\_\_ view “Red algae”: distinguish from Brown algae

(SKIP POND WATER, SLIME MOLDS)

#### **p. 337 Section 24.3 Kingdom Fungi**

#### **p. 337-339 Zygosporic fungi**

\_\_ view mycelium, zygosporic spores, sporangia on bread and on slides

#### **p. 339 Sac fungi**

\_\_ recognize examples on bench \_\_ uses of each

(SKIP “OBSERVATION YEAST”)

#### **p. 340-342 Club Fungi**

\_\_ demonstration slides of gills, basidia

\_\_ observation of mushroom structures at your desk (SKIP IMPERFECT FUNGI)

**Good review: p. 344 #s 1, 3, 5-9, 11-13, 15-18. Worksheet p. C13.**