

ANIMAL BIOLOGY LABORATORY  
Lab 2: Introduction and Fundamental Laboratory Skills

*Read pages 20-25; 26-27 in your lab manual before coming to lab.*

**Objectives:**

- Review guidelines for microscope use.
- Review basic microscopy techniques.
- Practice making a wet mount.
- Understand body symmetry, body planes and body regions (See textbook Chapter 3).

**Guidelines for Microscope Use**

- Carry the microscope scope with one hand under the bottom and one hand on the neck.
  
- There are 4 lenses on the compound microscopes. Always start with the lowest power lens (4x). Next, go to the 10x lens and readjust on the organism(s). The next lens you should use for almost all the slides we will look at is the High/Dry 40x. **There is another lens power at 100x BUT this is the oil immersion lens and you do NOT use this lens without oil.** If you do not know how to use this type of lens PLEASE ask your TA for help.
  
- Be careful that you do not pull the microscope off the lab table by the power cord!
  
- Get to know where the gross and fine focusing knobs are located so you can focus without looking. This will save you time!
  
- Get to know how to use the stage controls so you can move the slides around without looking at the controls. This will save you time!
  
- Use the iris on the scope to adjust contrasts.
  
- Try to keep the light dial at 7. Any setting above this is not necessary to view most slides and it burns out the bulbs quickly.
  
- Use only Lens Paper to clean the microscope lenses.
  
- Use Kimwipes for cleaning the stage and slides.
- Return the stage arms back to the center of the stage and the lens to the lowest power (4x) before putting the microscope away at the end of lab. Please put the cover back on in the correct position.
  
- These microscopes are expensive so please take good care of them.

**Exercise 3A: Microscopy**

- Review basic microscopy techniques.
- Answer the questions on pages 20-22 of your lab manual.
- Answer the following questions:

What can you use to clean the lenses on a microscope?

Always focus by \_\_\_\_\_ the distance between the stage and the objective lens.

Never use the coarse focus adjustment with \_\_\_\_\_ power lenses.

**Exercise with the compound light microscope. Making a Wet Mount (Page 26: #2, 3 and 5).**

- Practice making a wet mount.
- Move the object on the stage away from you. Which way does the image move?
- Move the object to one side (left or right). Which way does the image move?

**Exercise on Body Symmetry, Body Planes and Body Regions (Fig. 1 on the following page)**

**Identify** the following:

- |                        |                            |                        |
|------------------------|----------------------------|------------------------|
| • Frontal Plane        | • Sagittal Plane (=Median) | • Transverse Plane     |
| • Dorsal               | • Ventral                  | • Cranial (= Anterior) |
| • Caudal (= Posterior) | • Medial                   | • Lateral              |
| • Proximal             | • Distal                   | • Rostral              |

Complete the handout on body symmetry.

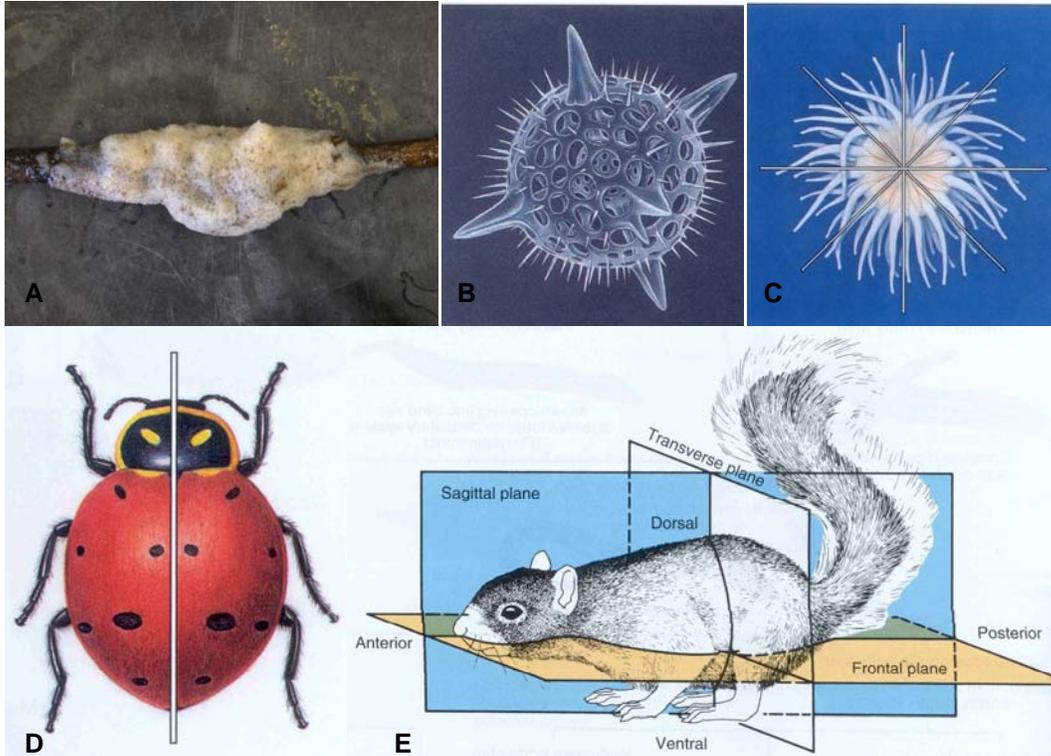


Figure 1. (A) Asymmetrical animals: no general body plan or axis of symmetry. (B) Spherical symmetry: round or any plane passing through the center divides the body into equivalent or, mirrored, halves. (C) Radial symmetry: body parts organized about a center axis and tend to be cylindrical in shape. (D) Bilateral symmetry: a single plain of symmetry that produces mirror halves. (E) Typical planes of symmetry in a bilateral animal.

*Read the Lab Guide for Lab 2 before coming to lab next week.*

## BODY SYMMETRY WORKSHEET

Draw the lines of symmetry for each of the following organisms. Label each organism according to its type of body symmetry and draw the appropriate lines of symmetry.

