

BIO 183 LAB SIGN OFF PAGE — UNIT 5

Name _____

Please staple all of your lab pages for this Unit together with this page as the top. You will use this page to get your Labs for Unit 5 signed off by the Biology Learning Center staff. You need to have all of the following steps initialed by a staff member before you can receive your 25 lab points for Unit 5 and be allowed to take the Unit 5 Exam.

After you have obtained all of your sign offs for this Unit, be sure that a BLC staff member indicates on your Lab Card that you are OK to take the Unit 5 Exam. Also, keep this sign off page, along with your completed lab worksheets, as proof of your lab completion. If your Lab Card indicates that you have not completed the required Labs for this Unit and you believe that you have, it is up to you to provide proof that you have indeed completed the Labs. Keep this page!

___no points_ Unit 5, Step 2: "Comparing Invertebrates, Part 2" Lab Activity

_____ Unit 5, Step 3A: "Survey of Marine Invertebrates, Part 2" Lab Activity

_____ Unit 5, Step 3B: "Survey of Marine Invertebrates, Part 2" Lab Activity

_____ Unit 5, Step 3C: "Survey of Marine Invertebrates, Part 2" Lab Activity

_____ Unit 5, Step 4A: "Using a Dichotomous Key, Part 2" Lab Activity

_____ Unit 5, Step 4B: "Using a Dichotomous Key, Part 2" Lab Activity

*BLC Staff: After the student receives his/her last initial on this page, please indicate on his/her Lab Card that s/he is OK to take the Unit 5 Exam.

STEP 2: WORKSHEETS FOR "COMPARING INVERTEBRATES, PART 2" LAB ACTIVITY

Do the review activity entitled "Comparing Invertebrates, Part 1." Directions are on the Biology 183 website. This lab can be done at home and does NOT require internet access. This activity is not worth any points but is an excellent review and study tool for your test.

Use the list of terms given below and your textbook (especially Table 7.1) to help you complete the Table 1. Use the terms from the list! For example, don't substitute "carnivore" for "predator!"

Level of Organization

Cellular- Each cell is essentially an independent, self-sufficient unit that can perform all of the functions needed to sustain the organism and reproduce.

Example: Unicellular organisms

Tissue- Multicellular organisms that have groups of cells that act together to do special jobs. **Example:** cnidarians.

Organ- Multicellular organisms that have their tissues organized in to structures known as organs that carry out specific functions.

Organ Systems- Multicellular organisms that have their organs organized to act together to perform various functions. **Example:** molluscs.

Individual/Colonial/Both

Individual- Each organism essentially is an independent, self-sufficient unit that can perform all of the functions needed to sustain itself and reproduce.

Example: Jellies, flatworms, tube worms, snails, lobster, people

Colonial - Group of organisms of the same species that share tissues and that share resources (such as food) and "jobs" (such as defense). **Example:** Portuguese Man of War, some corals, some anemones.

Modes of Feeding (How Animals Eat)

Suspension Feeders- Suspended food particles (bacteria, phytoplankton, zooplankton, or detritus) are removed from the surrounding water by using a capture or filtering mechanism.

Deposit Feeders- Nutrients are obtained from the sediments of soft bottom habitats such as sand. Quantities of sediment are swallowed, organic material is digested, and the remaining material is passed along as waste.

Example: sea cucumber.

Grazer- Organisms search and harvest live plant and algal material. **Example:** sea urchins, some snails, parrotfish.

Absorption- Digestion may occur outside of the body; the products of digestion are then absorbed either through specialized organs, or across the body wall. **Example:** sea stars.

Predation- The organism, or predator, eats another animal or prey. **Example:** squid, octopus, lumpy claw crab, fireworm, sea star, sharks, sea otter, dolphin

Scavenging- The organism feeds on dead organic matter. **Example:** hermit crab, fiddler crab, some brittlestars.

Symmetry

Spherical symmetry—the simplest form of symmetry, body is spherical in shape and has no polarity (a clear definition which allows one to determine which side is up or down), lacks a clear axis line. **Example:** certain Protozoa.

Asymmetrical—having no symmetry, lacking an axis, and having no specific shape. **Example:** sponges.

Bilateral symmetry—having a right and left side which are mirror images of one another. **Example:** flatworms.

Radial symmetry—shaped like a cylinder with body parts arranged equally in every direction around it; an axis line will divide the body like a cake. Radial symmetry can be further classified according to the number of planes the organism can be divided with. They include:

- a) **Biradial symmetry**—portions of the body are specialized, two planes divide the animal into similar halves. **Example:** sea anemones.
- b) **Pentamerous symmetry**—(also referred to as pentamerous radial symmetry)—having the basic radial body plan with five additional appendages. **Example:** most sea stars.
- c) **Multiradial symmetry**—having the basic radial plan with numerous arms. **Example:** Sun stars such as *Heliaster* (sea stars with multiple arms).

Table 1. Don't fill out the darkened rows!

Kingdom Animalia	Level of Organization	Individual/ Colonial/Both	Mode(s) of Feeding	Symmetry
Phylum Arthropoda				
Subphylum Crustacea			1. 2. 3. 4.	
P. Echinodermata				
Class Asterozoa			1.	
Class Ophiurozoa			1.	
Class Echinozoa			1. 2.	
Class Holothurozoa			1.	
Phylum Chordata				
Subphylum Urochordata			1.	

When you have completed this review activity, you can check your answers online on the class website for Unit 5 Step 2.

(Bio 183, Unit 5, Step 2)

STEP 3: WORKSHEETS FOR "SURVEY OF MARINE INVERTEBRATES, PART 2" LAB ACTIVITY

For lab points, do the lab activity entitled "Survey of Marine Invertebrates, Part 2." Directions are on the Biology 183 website. This lab must be done in the Biology Learning Center.

About the Organism's Taxonomy	
Name of Organism	
Domain	
Kingdom	
Phylum	
Class or Subphylum	
About the Organism's Life Style	
Symmetry	
Feeding Strategy	
Benthic or Planktonic or Nektonic?	
Locomotion	

After you have completed the table for your first organism, bring your lab sheets up to the front desk to receive lab points.

(Bio 183, Unit 5, Step 3a)

About the Organism's Taxonomy	
Name of Organism	
Domain	
Kingdom	
Phylum	
Class or Subphylum	
About the Organism's Life Style	
Symmetry	
Feeding Strategy	
Benthic or Planktonic or Nektonic?	
Locomotion	

After you have completed the table for your second organism, bring your lab sheets up to the front desk to receive lab points.

(Bio 183, Unit 5, Step 3b)

About the Organism's Taxonomy	
Name of Organism	
Domain	
Kingdom	
Phylum	
Class or Subphylum	
About the Organism's Life Style	
Symmetry	
Feeding Strategy	
Benthic or Planktonic or Nektonic?	
Locomotion	

WHEN YOU HAVE COMPLETED THIS LAB ACTIVITY, BRING YOUR WORKSHEETS TO THE FRONT DESK IN THE BIOLOGY LEARNING CENTER FOR LAB POINTS.

(Bio 183, Unit 5, Step 3c)

STEP 4: WORKSHEETS FOR "USING A DICHOTOMOUS KEY, PART 2" LAB ACTIVITY

For lab points, do the lab activity entitled "Using a Dichotomous Key, Part 2." Directions are on the Biology 183 website. This lab must be completed in the Biology Learning Center. When you have completed the lab activity, take your results to the front desk in the Biology Learning Center to receive lab points.

Part A.

Here is an example, based on the example on the website:

Mystery Organism #	Sequence of steps using the Dichotomous Phylum key
# IVA fish	1b -> 2b > 4a > 5b > 6a. Phylum Chordata

Table A.

Mystery Organism #	Sequence of steps using the phylum key
# VIIA-1 Brittle star	
# VIIA-2 fiddler crab	
# VIIA-3 Tunicate	

WHEN YOU HAVE COMPLETED PART A, BRING YOUR WORKSHEETS TO THE FRONT DESK IN THE BIOLOGY LEARNING CENTER FOR LAB POINTS.

(Bio 183, Unit 5, Step 4a)

Part B.

Here is an example, based on the example on the website:

Mystery Organism #	Sequence of steps using the Dichotomous Phylum and Class Key
# IVB sea star	1b → 2b > 4c > 5b → 8a Phylum Echinodermata → 8a1. Class Asteroidea

Table B.

Mystery Organism #	Sequence of steps using the Dichotomous Phylum and Class Key
# VIIB-1 Sea star	
# VIIB-2 Sea cucumber	
# VIIB-2 Sea urchin	

WHEN YOU HAVE COMPLETED THIS LAB ACTIVITY, BRING YOUR WORKSHEETS TO THE FRONT DESK IN THE BIOLOGY LEARNING CENTER FOR LAB POINTS.

(Bio 183, Unit 5, Step 4b)