

LAB 5: Diversity- Invertebrate Animals

pp. 391-394, 398-401, 402-404, 410, 411-418, 425-429, 434

GOALS:

- Understand how a evolutionary trees or dichotomous keys are used for classification.
- Know the different anatomical criteria used for animal classification.
- Know the functions of the internal and external structures of hydra, planarian, clam, squid and crayfish.

KEY TERMS:

germ layers	radial symmetry	bilateral symmetry
sac body plan	tube-within-a-tube body plan	acoelomate
pseudocoelomate	coelomate	protostomes
deuterostomes	nonsegmented	segmented
kingdom	phylum	cnidarians
polyp	medusa	cnidocytes
nematocysts	platyhelminthes	cephalization
eyespots	pharynx	auricle
hermaphrodite	mollusca	hinge
exoskeleton	muscles	foot
mantle	labial palps	mouth
gills	open circulation	closed circulation
funnel	ink sac	gonad
arm	tentacle	walking legs
arthropoda	carapace	jointed appendages
swimmerettes	mouth	antennae
uropods	anus	heart
digestive gland	brain	green glands
stomach	gastric mill	exoskeleton

I. Dichotomous Key:

In groups of four create a dichotomous key to separate the specimens on your tray into separate categories. A dichotomous key is a tool that allows the user to determine the identity of items in the natural world, such as trees, wildflowers, mammals, reptiles, rocks, and fish. Keys consist of a series of choices that lead the user to the correct name of a given item. "Dichotomous" means "divided into two parts". Therefore, dichotomous keys always give two choices in each step. Space for your group's dichotomous key:

II. Introduction to Invertebrates:

pp. 391-394: Read Introduction, study figures & tables. STOP at Phylum Porifera

III. Phylum Cnidaria:

p. 398: Read & study figures.

p. 399: Read & fill in Table 28.3 by viewing Cnidarian diversity (front of room)

p. 400:

-Follow steps 1, 2, 5 to view Hydra in watch glass with water under dissecting scope.

-SKIP STEPS 3 & 4

-Read step 6 for info on reproduction.

-Feed Daphnia (a small crustacean) to the Hydra

p. 401 (top): View slide of Hydra cross-section on demo scope (front of room).

STOP at Obelia.

IV. Phylum Platyhelminthes:

p. 402-403: Read, answer questions.

-SKIP Table 28.4 and question 3 on p. 403.

-View planarian in a watchglass

p. 404: Read, follow directions and answer questions.

V. Review:

p. 410: Only do questions: 1, 3-8, 11-14

VI. Introduction to Molluscs & Arthropods:

p. 411: Read Introduction

VII. Phylum Mollusca:

p. 412-413: Read and view Molluscan diversity (side of room) to fill in Table 29.1.

p. 414-416: View anatomy of clam at your desk. DO NOT CUT CLAM- use the procedures in your manual as a guide to locate and know the functions of:

Hinge Muscles Foot Mantle Labial palps Mouth Gills

p. 416 (bottom)-417: Read & view demonstration of squid dissection. Locate/know functions for: Tentacle Arm Ink sac Gill Mantle Funnel Gonad

p.418 (top): answer questions and fill in table 29.2

VIII. Phylum Arthropoda:

p. 425-426: Read, answer questions and view diversity (back of room) to fill out Table 29.5.

-Observe Live Crayfish behavior (back of room).

p. 426 (bottom)-429 (top): Dissect a crayfish.

Read the procedures as a guide to locate/know functions for:

External Anatomy:

Carapace Swimmerettes Mouth Antennae Uropods Anus

Walking legs

Internal Anatomy:

Gills Heart Digestive Gland Brain Stomach Gastric Mill

Green Glands

IX. Review:

p. 434: answer questions 1-8, 12, 15, 18