

## **Laboratory 23**

### **Deuterostomes**

### **Student Tip Sheet**

Laboratories 22 and 23 cover an extensive amount of information and numerous activities. Obviously several lab periods could be used to study the listed specimens in any depth. Sometimes a computer CD-ROM or video simulation can assist the task. These aids should be used as ancillary materials and not as substitutions for the real thing, however. Your teacher will be your guide as to how you progress through these chapters.

#### **Tips concerning lab study of the sea star lancelet, frog, perch, pigeon, and pig:**

- ✓ Now is another time that your file of classification cards will be helpful. Add additional cards with correct taxonomy, specific characteristics, names of examples, and perhaps memory cues. The taxonomic terms here are more familiar as the organisms are larger, but the characteristics are more definitive and should be compared carefully. We all use tricks to assist in the study of detailed taxa. Sometimes these seem silly, but whatever works as a study aid is worthwhile.
- ✓ These organisms are separated from the Protostomes because of a definable embryological pattern. This will be studied and viewed in more depth in later courses.
- ✓ Echinoderms are prime examples of radial symmetry. Pictures are helpful, but if you can physically handle a specimen you will understand the principle more completely. Specimens may be available in your lab, but you may also find sea stars, sea urchins, sand dollars, etc., in souvenir and gift shops on the coast.
- ✓ Higher animals on the evolutionary scale have bilateral symmetry. Note this advancement as you continue your study, observation, and dissection of various animals.

#### **Dissection Preparation and Tips**

The study of animals has continued up the phylogenetic tree to the point of examining larger specimens. Criteria such as body cavities, digestive and reproductive organs, and number of heart chambers must be investigated internally. Therefore, dissection of commercially available preserved specimens is the best means of study. Most animal specimens are now preserved in noncarcinogenic fluid with minimum smell.

#### **The following tips may be helpful for this and future dissections:**

1. Dress appropriately. Casual, washable clothes are appropriate. Splashes of preservative are not uncommon.
2. You may wish to wear protective gloves and eyewear. If you have long exposure to preservative fluid, gloves may be necessary, but for brief periods, gloves may be an unnecessary barrier. Eyewear such as plastic goggles or regular eyeglasses will protect your eyes from splashes of liquid preservative.
3. Your class will probably be divided into groups for dissection. Teamwork can share responsibilities and conserve resources, but this should not mean that one person does the work while the others watch. Everyone should have a turn using the dissecting instruments, and therefore each student will certainly be responsible for knowing the identification and/or function of the required structures.

4. You will be given a dissecting pan with wax or soft plastic filler and various appropriate tools. You may be surprised that pins, a sharp or blunt probe, and a single-edge razor blade will be your primary instruments. Scissors and scalpels can do major damage to delicate structures that are out of sight. Use these tools sparingly.
5. Proper dissection requires a delicate hand and careful attention to diagrams and instructions. Think through each step carefully as you progress through the process.
6. Pin or label your required structures so that everyone in your group will have a chance to record all of the information.
7. Clean up your materials as your teacher instructs. Dispose of your specimens properly in a trash bag or label and reseal the specimens in plastic for future use. Be kind to the trash collectors and wrap the dissected specimens completely. Wash, dry, and replace your instruments so that they will not rust and will be ready for your next dissection.