**Active Learning Exercise 2.2**

to accompany

*Vertebrate Life*, Tenth Edition

Pough • Janis

**Chapter 2 Study Questions**

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**Level of Difficulty:** Easy

**Study Questions**

Section 2.1 Vertebrates in Relation to Other Animals

*1. What characterizes the Metazoa?*

*2. Which phylogenetic groups are identified as Chordata?*

Section 2.2 Characteristics of Chordates

*3. List and describe the five derived features characteristic of chordates.*

*4. List the distinguishing characteristics of cehalochordates or amphioxus (*Branchiostoma *sp.).*

Section 2.3 What Distinguishes a Vertebrate?

*5. What five outstanding features characterize a vertebrate?*

*6. Vertebrates have numerous characteristics different from non-vertebrate chordates. These are spelled out in Table 2.1, and you should know them. But why were they necessary? What’s different about the vertebrates in general? (See section 2.5.)*

Section 2.4 Vertebrate Embryonic Development

*7. What are the three germ layers common to animals more derived than sponges, and what does each form in the body?*

*8. What is the coeloem?*

*9. Draw a flow chart that traces the embryological development of the vertebrate from the zygote to the tissue layers to what they each become in the developed animal.*

*10. Explain this statement: Pharyngeal arches are an astounding example of homology conserved across vertebrate lineages.*

*11. What are the four unique developmental features of the vertebrates?*

*12. What are the three regions of the vertebrate brain, and what are their functions?*

Section 2.5 Basic Vertebrate Structures

*13. What are the four types of tissue in vertebrates, and what are their functions?*

*14. There are six mineralized tissues. What are they? Where are they? What do they do?*

Section 2.6 Basic Vertebrate Systems

*15. Sketch a diagram of each of the following vertebrate systems. What is their function?*

* *Alimentary system*
* *Cardiovascular system*
* *Excretory system*

*16. What senses are found in the vertebrates?*