



BIO BUGS

PRE-LAB EXERCISE: Comparative Vertebrate Anatomy

Investigator (your name): _____

In the same way that a dead body can provide forensic detectives with the clues to solve a murder case, the bodies of animals can tell us a lot about their ecology and evolution.

In this lab we will study the *internal anatomy* of the five classes of the vertebrates through hands-on examination of dissected whole specimens as well as prepared *skeletons and skins*. You will formulate hypotheses about the ecology of each dissected species based on your observations of the similarities and differences between each specimen. You will also learn how to use morphological observations to construct a *phylogenetic hypothesis* of the evolutionary history of each vertebrate class. Below are some basic questions to help you prepare.

1. List at least 2 characteristics that distinguish these vertebrate groups and name at least 1 example from Massachusetts.

Mammals:

Birds:

Fishes:

Amphibians:

2. Define *taxonomy*:

(Turn Over)

3. Define *phylogeny*:

4. Define *adaptation* (in an ecological context):

5. What is the function of each of these organs? (Use 1 sentence for each organ.)

Heart:

Lungs:

Large Intestine:

Kidney:

Lungs:

Skin:

(Turn Over)