Click [here](https://mycampus.aiu-online.com/Library/CourseGuides/5/Tutorials/scie206libraryresearchguide.pdf) for the SCIE 206 Library Research Guide: This guide illustrates how to use the AIU Online Library to find information for SCIE 206 including web resources, encyclopedias, articles, and book databases.

Organisms are placed in taxonomic classifications based on differences and similarities of their traits. If you know what critical traits to look for, it is possible to separate any animal into a taxonomic category using a dichotomous key.

The common taxonomic categories are Domain, Kingdom, **Phylum, Class**, Order, Family, Genus and Species (Specific Epithet.) We are looking at the Phylum and Class categories in this assignment.

**Assignment details:**

**Part 1:** The assignment document contains a table with nine images. The images are examples of nine different Animal phyla: Porifera, Cnidaria, Nematoda, Arthropoda, Platyhelminthes, Annelida, Mollusca, Echinodermata, and Chordata.

1. Download [U5IP\_Table](http://class.aiuniv.edu/LCMSFileShareCommon/e0c/b55/db7/609/455/598/816/4e0/7e2/158/9d/U5_IP_2012_with_Part_2.doc).
2. Next, Download Dichotomous [Key](http://class.aiuniv.edu/LCMSFileShareCommon/863/f49/2dd/ccb/47c/296/57f/af7/c6a/570/3a/U5IP_Dichotomous_Key_2010.doc)
3. Use the Dichotomous Key to determine the Class category as shown for each animal (picture), and write the Class names under the Classification Column on the table.

List in column 2, all of the dichotomous key steps you chose when using the key to arrive at the classification for each animal.

You will also need to list the Phylum name for each animal picture in column one using the nine Phyla listed above.  Once you have identified the Class category for each animal using the Key, look up the correct Phylum category using a credible reference.

1. For help on how to use the Dichotomous Key, download and review the document called [How to Use the Dichotomous Key](http://class.aiuniv.edu/LCMSFileShareCommon/e80/30e/0ee/6e6/4c3/6af/9fc/fe1/01a/ae4/61/U5IP_How_To_Dichotomous_Key%202010.pdf).
2. Save a copy of the table with your name in the file name.

**Part 2:** Answer the following questions as they relate to the nine phyla in the assignment table. (Porifera, Cnidaria, Nematoda, Athropoda, Platyhelminthes, Annelida, Mollusca, Echinodermata, and Chordata.)

1. Which phyla lack organs? What type of symmetry do they have?
2. List all of the phyla that show cephalization.
3. Do all organisms on the table have 3 germ layers (endoderm, ectoderm, and mesoderm)? If not, which phyla have fewer than three germ layers?
4. One phylum on the table has more species than all the others. State the name of this phylum, and provide several different examples of species found in this phylum.
5. Fish do not all have the same skeletal structure. Describe the differences among fish skeletal structures from the most primitive to more advanced types of fish.
6. Describe the three types of mammals based on how their young develop.

Provide references in APA format. This includes a reference list and in-text citations for references used throughout the assignment.

For information on Macintosh Word shortcuts, click [here](http://class.aiuniv.edu/LCMSFileShareCommon/4e8/9cf/381/be8/462/799/1b2/27a/745/772/cd/Macintosh_Word_Shortcuts.pdf).

**Please submit your assignment.**

**For assistance with your assignment, please use your text, Web resources, and all course materials. Please refer to the following.**

**External Web links:**

* **Unit 5: Animalia**
* **Unit 5: Intro to the Plantae**
* **Unit 5: Kingdom Animalia Overview**