Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Classification and Taxonomy Practice**

**Taxonomy** is the science which deals with the study of identifying, grouping, and naming organisms according to their established natural relationship. A taxon (pl. taxa) is a unit of organisms with common traits. An organism’s scientific name is based on the 2 most specific taxa: Genus and species. The first part of the scientific name, the genus, is Capitalized, and the second part of the name, the species, is NOT capitalized. The entire name is always italicized or bolded and underlined. For instance, the scientific name of a human is *Homo sapiens*; we are of the genus homo and species sapiens. Because of the 2 parts of this name, the naming system is called binomial nomenclature.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Taxon (group)** | **Example** | **Animal A** | **Animal B** | **Animal C** |
| **Kingdom** | All high schoolers | Animalia | Animalia | Animalia |
| **Phylum** | High schoolers in IL | Chordata | Chordata | Chordata |
| **Class** | District 117 high school students | Mammalia | Aves | Aves |
| **Order** | Lakes high school students | Primates | Passeriformes | Passeriformes |
| **Family** | Lakes Science Students | Pongidae | Fringillidae | Fringillidae |
| ***Genus*** | *Mrs. Baur’s Science Students* | *Pan* | *Spizella* | *Serinus* |
| ***species*** | *Mrs. Baur’s AP Bio students* | *troglodytes* | *passerina* | *canarius* |

*Guess the common name of*

*Animals A, B and C:*

1. Comparing Animals A and B, how many groups are the same? \_\_\_\_\_\_\_\_\_\_

2. Comparing Animals B and C, how many groups are the same? \_\_\_\_\_\_\_\_\_\_

3. Comparing Animals A and C, how many groups are the same? \_\_\_\_\_\_\_\_\_\_

4. Which 2 animals are most closely related?

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. What is the scientific name of Animal A? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. What does the first word of an animal’s scientific name represent? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. What does the second word of an animal’s scientific name represent? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Which part of the scientific name is capitalized? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. What is the naming technique used to give an organism its scientific name? \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_

10. Come up with a mnemonic device to remember the order of the above taxa from largest to smallest.

Part 2:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Level | Woodchuck | Grizzly bear | Raccoon | Squirrel | Panda | Marmot |
| 1 | Animalia | Animalia | Animalia | Animalia | Animalia | Animalia |
| 2 | Chordata | Chordata | Chordata | Chordata | Chordata | Chordata |
| 3 | Mammalia | Mammalia | Mammalia | Mammalia | Mammalia | Mammalia |
| 4 | Rodentia | Carnivora | Carnivora | Rodentia | Carnivora | Rodentia |
| 5 | Sciuridae | Ursidae | Procyonidae | Sciuridae | Ursidae | Sciruidae |
| 6 | *Marmota* | ***ursus*** | *Procyon* | *Sciurus* | *Ailuropoda* | *Marmota* |
| 7 | *monax* | *horribilis* | *lotor* | *carolinensis* | *melanoleuca* | *caligat* |

1. Which 2 organisms are most closely related and why?

2. Which organism is most closely related to the panda and why?

3. What is taxonomic level 5?

4. What is wrong with taxonomic level 6 of the grizzly bear?

5. Which organism is more closely related to the squirrel and woodchuck than to the other three animals? Why?

6. What is taxonomic level 2?

7. Using binomial nomenclature, write the scientific name of the grizzly bear:

8. If 2 organisms belong to the same genus, must they always belong to the same order?

9. If 2 organisms belong to the same class, must they always belong to the same family?

10. What is the lowest taxonomic level a human and a squirrel would be classified together?