**SBI3U - Classifying Life**

**Learning Target:** *#3. I can use proper sampling techniques to collect various organisms and classify them according to the principles of taxonomy.*

**Lesson Question: How do biologists group and name organisms?**

**Taxonomy -** The classification of organisms.

· Taxonomy serves two purposes:

**1)** Identifying individual organisms

**2)** Represents relationships among organisms.

**History of Classification**

· **Aristotle -** Arranged organisms according to their level of complexity and where they lived (air, water, land).

· **St. Augustine -** Classified organisms as useful, harmful, or redundant.

· **John Ray -** Classified organisms according to shape, structure and whether they reproduced with each other

· **Carl Linnaeus -** Swedish botanist

o Developed modern system of naming organisms according to their physical characteristics.

o System referred to as binomial nomenclature

**Binomial Nomenclature**

* The first word = genus
* The second word = species

o Ex. Human – *Homo sapiens*

* Capitalize the name of the genus.
* Do not capitalize the name of the species (or sub species).
* Use italics when typing.

**Current Classification System**

There are eight taxa (singular – taxon) used in the classification of organisms:

* The taxa start very broad and encompass many organisms

with similar characteristics.

* The taxa gradually get more specific until a single species is

isolated from other organisms.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Human** | **Walrus** | **Bald eagle** | **Honey bee** | |
| **Domain** | Eukarya | Eukarya | Eukarya | Eukarya |
| **Kingdom** | Animalia | Animalia | Animalia | Animalia |
| **Phylum** | Chordata | Chordata | Chordata | Anthropoda |
| **Class** | Mammalia | Mammalia | Aves | Insecta |
| **Order** | Primates | Carnivora | Accipitriformes | Hymenoptera |
| **Family** | Hominidae | Odobenidae | Accipitridae | Apidae |
| **Genus** | Homo | Odobenus | Haliaeetus | Apis |
| **Species** | Sapiens | rosmarus | leucocephalus | mellifera |

Which organism is least closely related to the other organisms? Explain why.

Which organisms are most closely related? Explain why.

**Summary**

· All species are given a unique binomial (two-word) species name.

· Taxonomy groups species together according to shared characteristics.

**Lesson Review**

Read pages 14-17.

1. Read *Ticks of Eastern Canada*. Create a taxonomy tree showing the 8 taxa of ticks outlined in the article. Be sure to show different species represented. Use the internet to find any additional info not supplied in the article.
2. Pg. 20. Question #5. A-D