

Classifying Living Things... How Are You Related to Dude?

Have you ever been to a family reunion? Do you get together with your relatives on your birthday? If you do you might talk with your uncle, aunt, or second cousin.

You may even have seen your family tree. This shows your different relatives and illustrates how everyone is related.

Every living thing on our planet has a family tree. This “family tree” shows the relationship of one living thing to other living things. Scientists call the study of how living things are related, **taxonomy**.

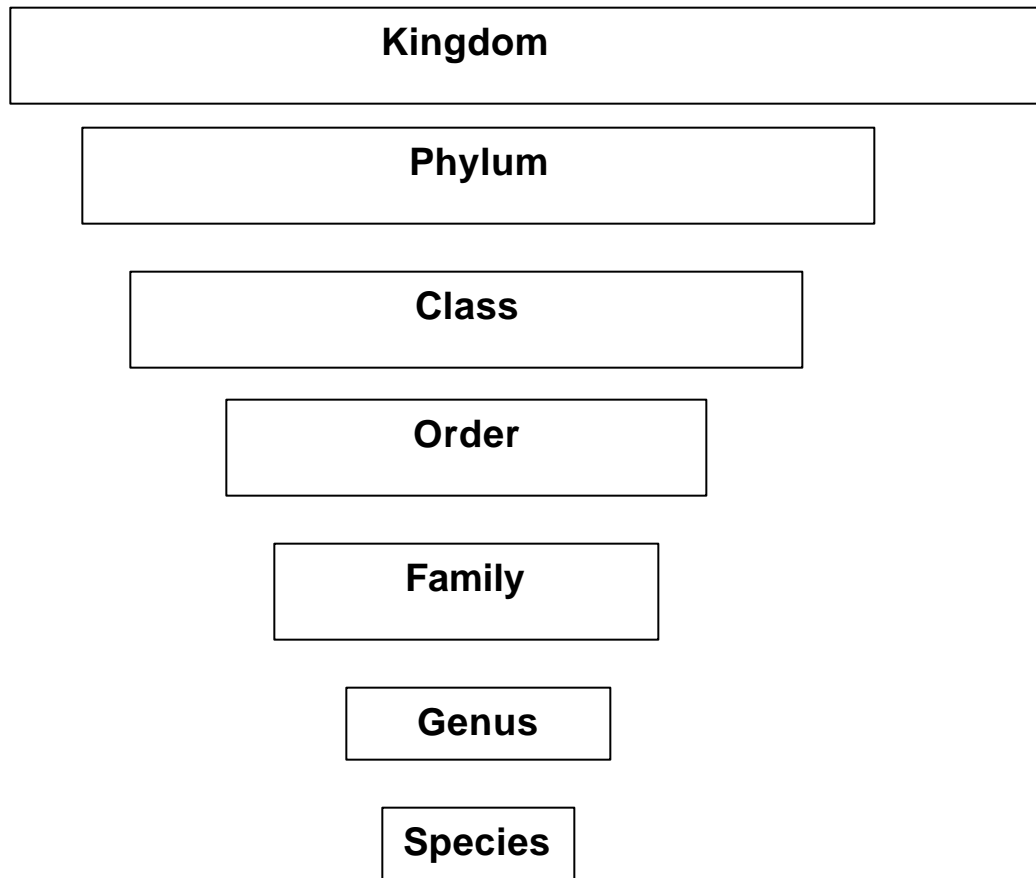
In the 1700’s a man named Carolus Linnaeus came up with a system of classifying living things into specific kingdoms. He looked at ways organisms are alike and different. Then he sorted them into categories that showed their relationships to each other. Mr. Linnaeus used Latin names for these categories. That is why words like phyla are the plural form of phylum.

Mr. Linnaeus especially liked plants. He also liked to travel. He explored over 7,499 kilometers of northern Scandinavia and discovered 100 new types of plants. Carolus Linnaeus was trained as a doctor and was interested in understanding how plants could be used to cure diseases. But it is for his classification system that he is best known.

Scientists have developed and changed Mr. Linnaeus’ classification system as they learn more about living things. For a long time, all life on Earth was divided into five kingdoms. Now many

scientists say there are six kingdoms. They have divided the first kingdom into two kingdoms.

Each kingdom is divided into many phyla. Phyla branch out into many classes. Below is a diagram that shows how taxonomy works.



Look at the diagram below to help you understand how scientists name a living thing like Maggie's dog, Dude.



Arf, arf, I'm Dude, the *Canis familiaris*, Canidae, Carnivora, Mammalia, Chordata, Animalia.

Kingdom..... Animalia

Phylum.....Chordata (Members of this phylum have a notochord during their early development. A notochord is a rod-like skeletal structure. It disappears or changes as the animal grows.)

Class.....Mammalia (Members of this class have 3 middle ear bones, have hair, and produce milk.)

Order.....Carnivora (Members of this order have teeth that could eat meat.)

Family.....Canidae (Members of this family share body characteristics such as the shape of the skull and the number of teeth.)

Genus.....Canis (Members of this genus are dogs including wolves and foxes)

Species.....familiarus (This is the domestic dog like Dude!)

Scientists all over the world would say Dude is a *Canis familiaris*. They write the Genus name first and capitalize it. Then they write the species name with a lower case letter.

Think about these questions. Your teacher may want your class to discuss them or you might want to write your answers.

1. Why do you think scientists use Latin to talk about types of living things?
2. How does writing the scientific name of Dude differ from the way you write your name?
3. Look at Dude's family tree. Where do you think a fish drops off this "family tree?" Where might a lion branch off of a dog's family tree? Where do YOU branch off?
4. Choose another animal. Write the family tree of this creature.
5. Make a display of how this classification system works. You may want to get many boxes. The biggest box can be labeled "Kingdom." Label the smaller boxes and put them inside of each other. You may want to use representations of living things inside your boxes. For example, if you wanted to show Dude's family tree, you might put a picture of a giraffe in the class box along with a picture of Dude. You could put a picture or statue of a bear in the order box. This will help you to see how living things are related.

You can probably name the two most popular kingdoms: plants and animals. Do you know any of the other three kingdoms? These kingdoms contain living things that are used in your toothpaste, cause African sleeping sickness, and help get rid of sewage. You can read more about these kingdoms at www.missmaggie.org.