

# TAXONOMY

## CLASSIFYING ORGANISMS

Middle School Science Lesson



# What does it mean to classify something?

Let's start with an example. How do you classify food?

I am going to split you all up into groups. You will be given 30 food items. I want you to split them into 2 groups that have similar traits.



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

**Food Categorization**

Category 1: \_\_\_\_\_ Category 2: \_\_\_\_\_

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What two groups did you use to sort your food?

Now choose one of your groups. Using the food in this group, create two subgroups. Circle your subgroup 1 in blue and your subgroup 2 in red.

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

**Food Categorization**

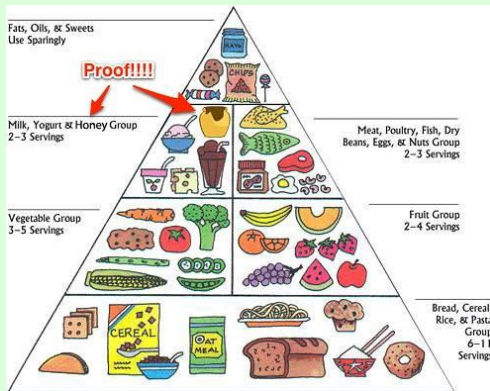
Category 1: \_\_\_\_\_ Category 2: \_\_\_\_\_

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Subgroup 1: \_\_\_\_\_  
Subgroup 2: \_\_\_\_\_

# What two subgroups did you use to sort your food?

## Do you think you could divide one of the subgroups into even smaller categories?



How does science classify organisms?

# Taxonomy



**KINGDOM**

**PHYLUM**

**CLASS**

**ORDER**

**FAMILY**

**GENUS**

**SPECIES**



Taxonomy is the scientific classification of living organisms.

This includes: Plants, Animals, Bacteria, Fungi, Protista, and Archaea

Taxonomy includes a series of levels from the most general to the most specific.

Taxonomy often uses Latin words. Some words used in taxonomy look like and sound like English words.



# Why do we classify?

We classify living things in groups...

**1**

---

To make the study of organisms easier

**2**

---

To clearly communicate about living things with people despite language differences

**3**

---

To explore how various living things are related to each other

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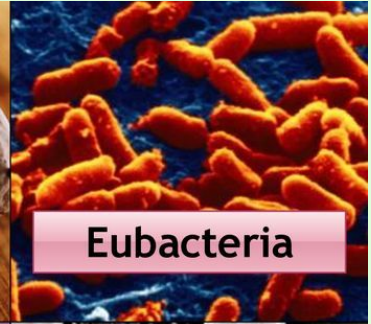
The different kingdoms are Animalia, Plantae, Fungi, Protista, Archaea, and Bacteria.



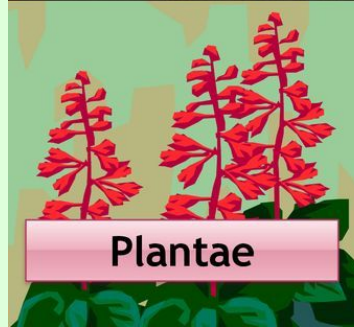
**Animalia**



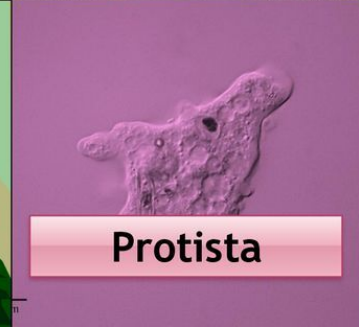
**Fungi**



**Eubacteria**



**Plantae**



**Protista**



**Archaeobacteria**

KINGDOM

PHYLUM

**ANIMALIA**

# **VERTEBRATES**

Vertebrates are animals that have a backbone and are members of the Phylum Vertebrata.

Examples of vertebrates include mammals, birds, reptiles, amphibians, and fish.

Fish



Mammals



Birds



Reptiles



Amphibians



KINGDOM

**ANIMALIA**

PHYLUM

**VERTEBRATES**

CLASS

**HOMEOTHERMIC/POIKILOTHERMIC**

Vertebrates can be further classified as being either warm-blooded (homeo-thermic) or cold-blooded (poikilothermic).

Fish



Mammals



Birds



Reptiles



Amphibians



# VERTEBRATES

**Warm - Blooded**

**Cold - Blooded**

Mammals



Birds



Reptiles

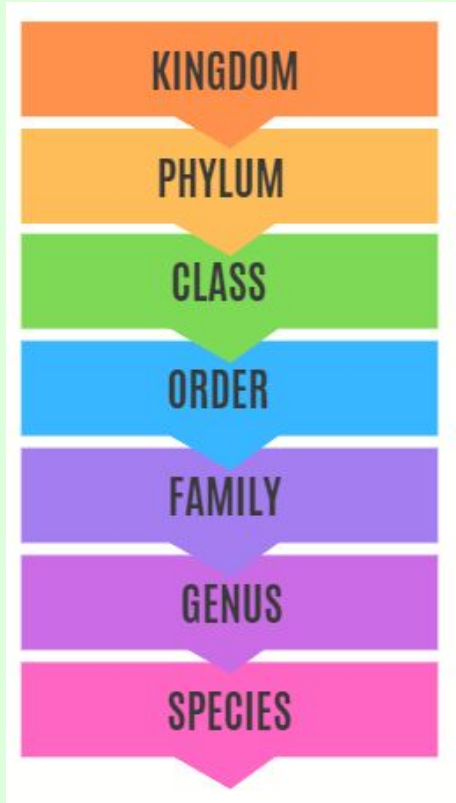


Fish



Amphibians





As we continue to move down on the Taxonomy ladder, the groupings get more specific. We will spend more time looking at specific orders, families, genus, and species later. But as we have just learned, taxonomy makes the study of organisms easier through classifications.

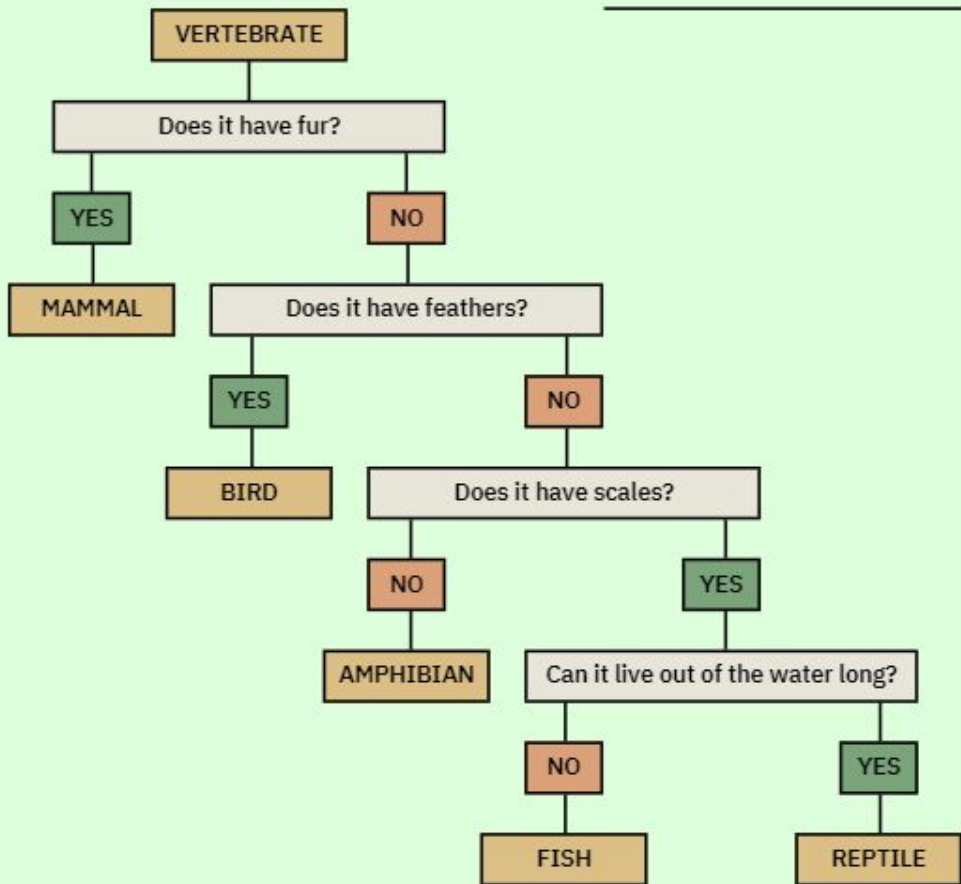
# Classification Using a Key

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A **classification key** is a set of questions and answers used to identify and classify a living thing.

It resembles a **flowchart**, making it helpful in identifying closely related organisms.

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Scientific Name: *Ursus americanus*



English Non-Scientific Name:  
Black Bear

Bulgarian Non-Scientific  
Name:  
Черна мечка

Swedish Non-Scientific  
Name: Svartbjörn



What if all of these



KINGDOM

PHYLUM

CLASS

ORDER

FAMILY

GENUS

SPECIES

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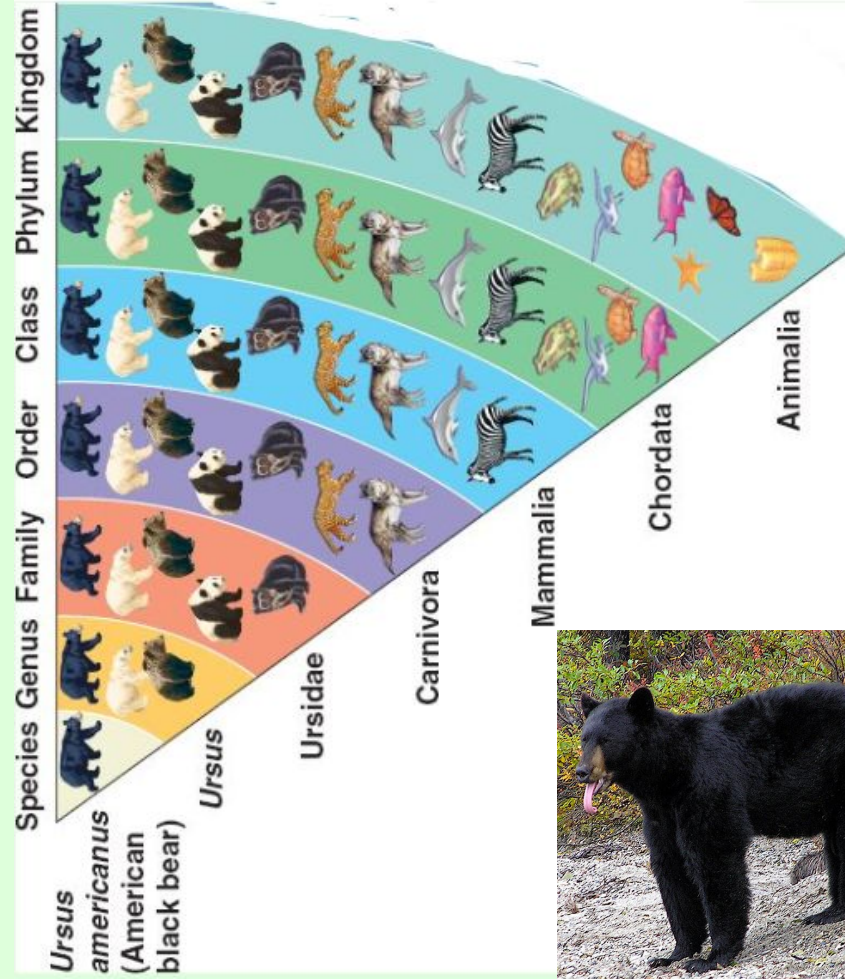
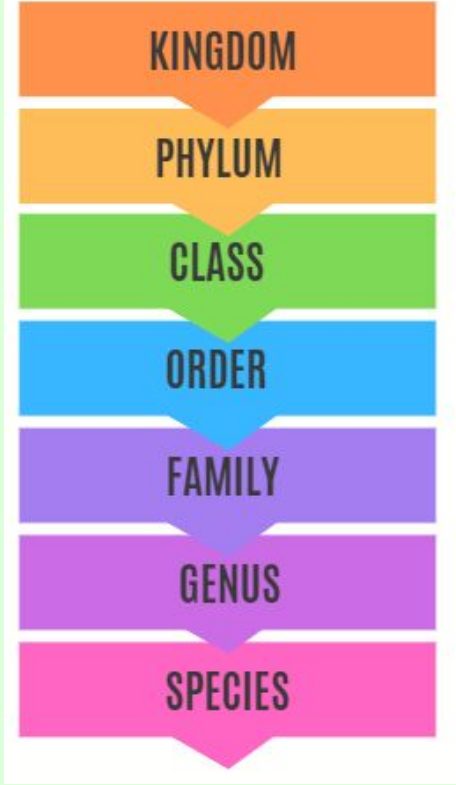
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To clearly communicate about living things with people despite language differences

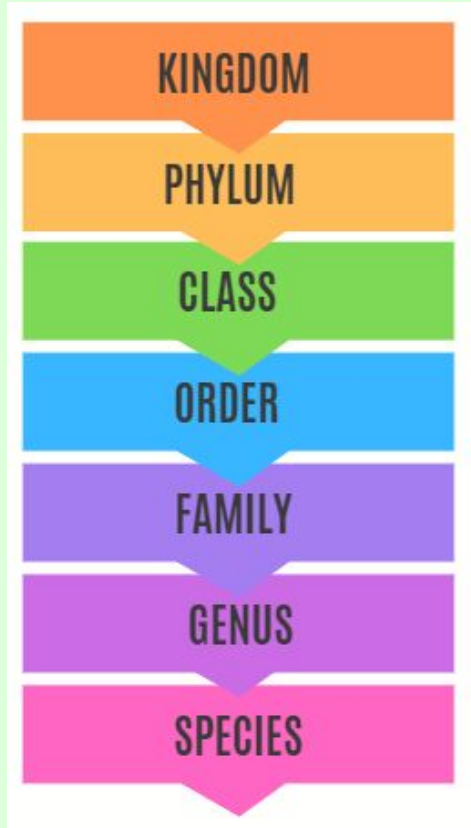
**3**

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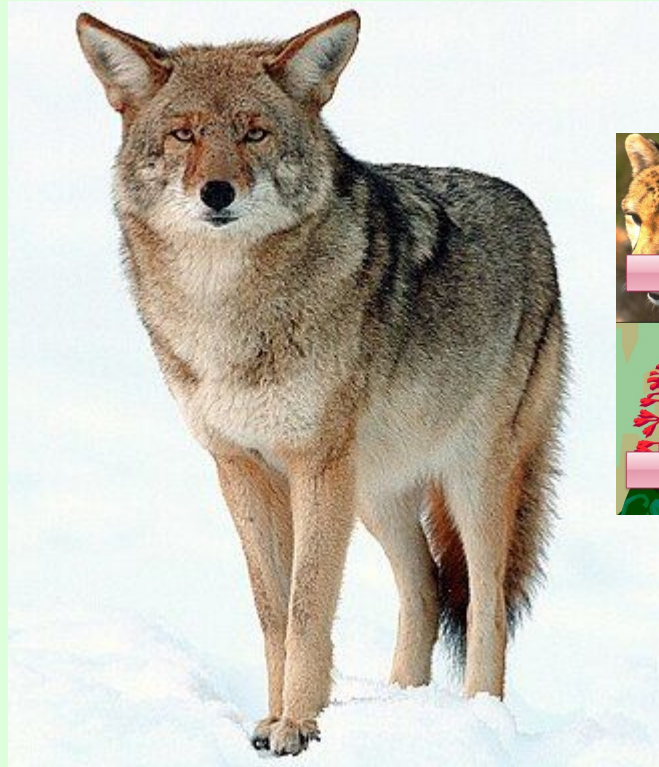
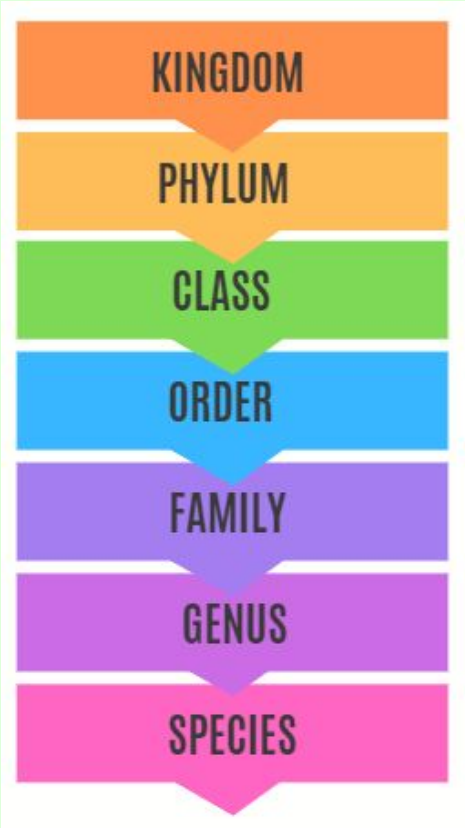
To explore how various living things are related to each other



# Canis latrans; Coyote

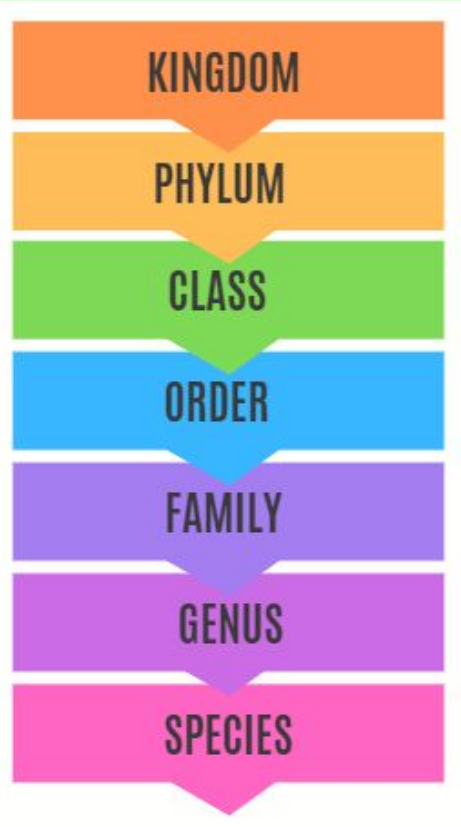


# Canis latrans; Coyote



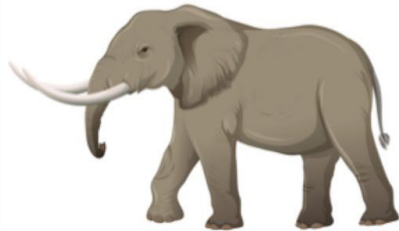
# Canis latrans; Coyote

Animalia



## Vertebrate

Animal with a backbone.

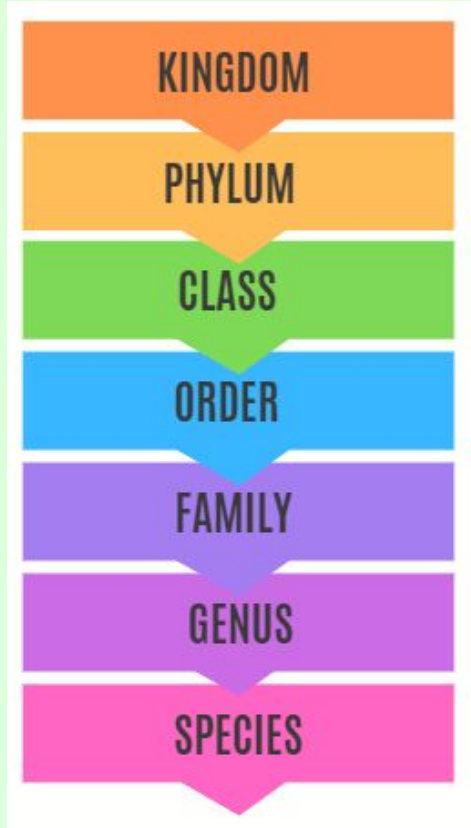


## Invertebrate

Animal without a backbone.



# Canis latrans; Coyote



Animalia

Chordata



# Canis latrans; Coyote



Notice, the scientific name includes the genus and species. The species is lowercase.

**Canis latrans**





# Independent Work

Individually, you will make a slide.

You can choose one of the following: Javelina, Bobcat, Mountain Lion, or Cottontail Rabbit.

Your slide will include your organism's Kingdom, Phylum, Class, Order, Family, Genus, and Species.

You may use your computer to research the order, family, genus and species. BUT try to determine the kingdom, phylum, and class on your own.

You will include the organisms Scientific and Non-Scientific Name.

You will include one photo of your organism.

# Canis latrans; Coyote

Kingdom: Animalia

Phylum: Chordata

Class: Mamalia

Order: Carnivora

Family: Canidae

Genus: Canis

Species: latrans



Example Slide

# Scientific Name; Non-Scientific Name

Kingdom:

Phylum:

Class:

Order:

Family:

Genus:

Species: