

# Classification

Classroom Notes

# Learning Goal(s):

## *Focus Standards:*

- **S5L1. Students will classify organisms into groups and relate how they determined the groups with how and why scientists use classification.**
  - a. Demonstrate how animals are sorted into groups (vertebrate and invertebrate) and how vertebrates are sorted into groups (fish, amphibian, reptile, bird, and mammal).
  - b. Demonstrate how plants are sorted into groups.

EQ What is classification?

- Classification is the way in which all living things are placed into larger and larger groups or categories that share similarities and a common ancestry.
- <http://www.kidzone.ws/animals/scientific.htm>

# Classification Unit

Classification the way in which all living things are placed into groups or categories that share similarities.

Kingdoms biggest groups

Species smallest groups

5 Kingdoms

- Animal
- Plant
- Fungus
- Bacteria
- Protist

## Taxonomy & Classification -

Two types of scientific processes deal with classifying and naming living things

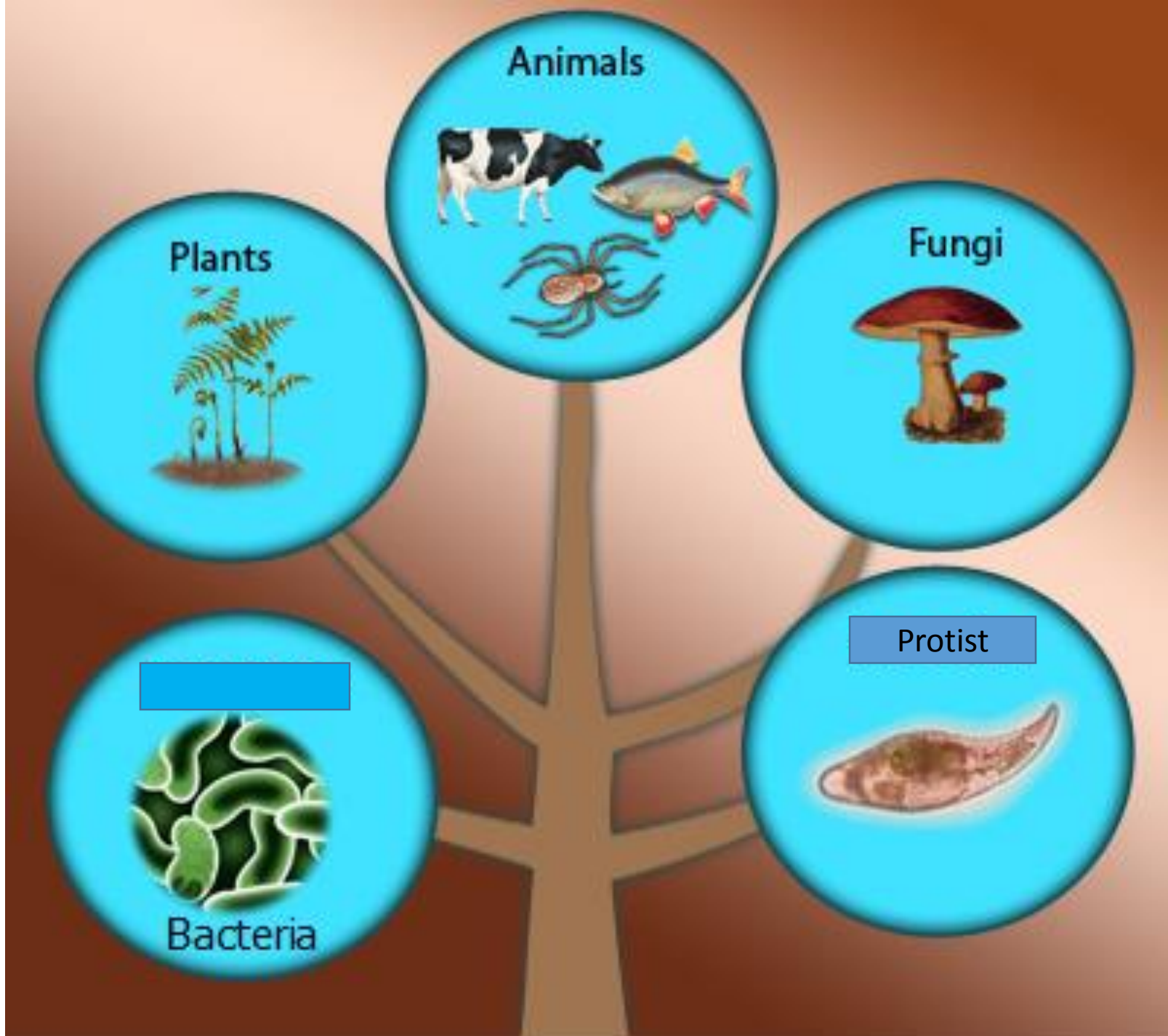
**Classification** is the process of arranging organisms into groups based on similarities.

**Taxonomy** is the science of naming and classifying organisms.

<http://www.d123.org/olhms/dedie/documents/classification2.1b.pdf>

EQ What are vertebrates and invertebrates?

# 5 Kingdoms

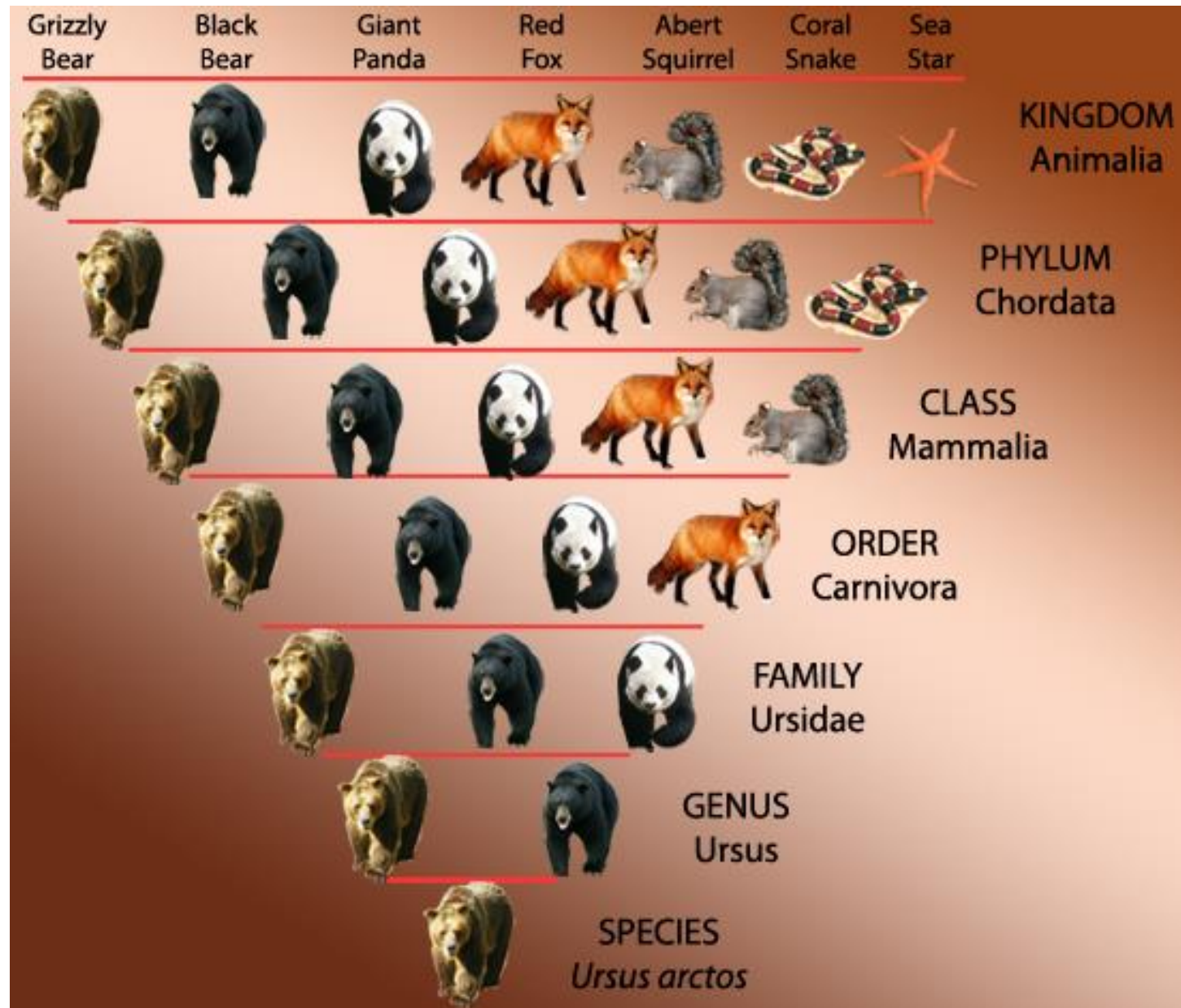


# Animal Classification





# Classification of a bear



## Classification

Animal  
Kingdom

Animals are divided into vertebrates and invertebrates.

Vertebrates

have a backbone.

Invertebrates

do not have a backbone.



# Classification

Warm  
Blooded

Body temperature stays the same whether it is warm or cold outside.

Mammals and birds are warm-blooded, which means that they can make their own body heat even when it is cold outside. Whether it is sunny and hot outside or there is a snowstorm and it is very cold, warm-blooded animals have body temperatures that usually stay the same.

Cold  
Blooded

Body temperature depends whether it is warm or cold outside.

Cold-blooded animals, like reptiles, amphibians, and fish, become hotter and colder, depending on the temperature outside. For example, when the sun sets at night, their bodies are cooler because it is less warm outside. When the sun is out, however, their bodies soak up the heat and become warmer.

# Animal Classification

## **Vertebrates**

Vertebrates- Have backbones

## **Invertebrates**

Invertebrates- Do not have backbones

Study Jams

Comparing and Contrasting  
Vertebrates and Invertebrates

# Vertebrates

- Mammals
  - Reptiles
  - Amphibians
  - Fish
  - Birds
- 
- [The Five Classes of Vertebrates](#)

# Vertebrates

- Mammals-have hair and produce milk
- Reptiles-Dry scaly skin
- Amphibians-moist skin, no scales
- Begin life in water, but go to land
- Fish-Live in water and breath through gills
- Birds-vertebrates with feathers











## Vertebrates-Examples

- Mammals- dogs, cats, humans, whales
- Reptiles- lizards, snakes, turtles
- Amphibians- frogs, newts
- Fish- bass, catfish, tuna
- Birds- crows, dove, penguins, EAGLES

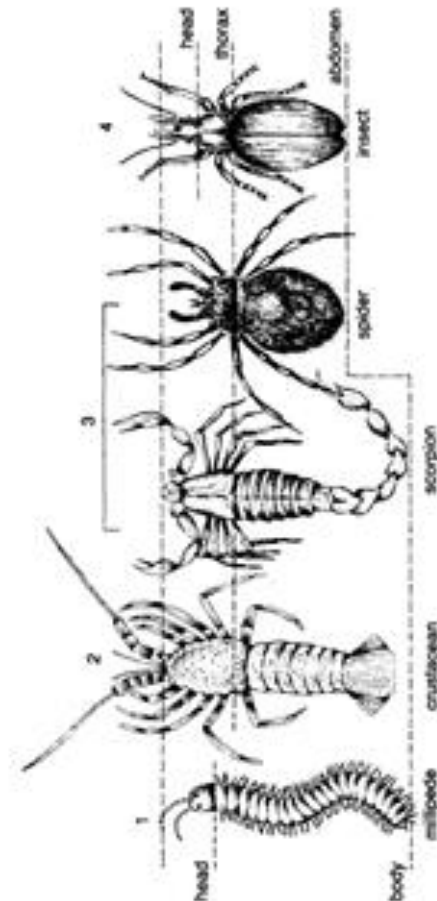
# Invertebrates-No Backbone

- Have legs and joints
- several groups, but Arthropods are the largest group.
- Insects are the largest group of Arthropods.
- Mollusks-
- May or may not have a shell
- Clams, snails, squids

# Arthropods

		
bee	ladybug	butterfly
		
dragonfly	beetle	crab
		
spider	caterpillar	katydid
	<p>Arthropods are the most numerous animals on earth. They have an exoskeleton, a segmented body, and jointed legs. They do not have a backbone and are cold-blooded.</p> <p><b>Can you discover other Arthropods?</b></p>	
moth		

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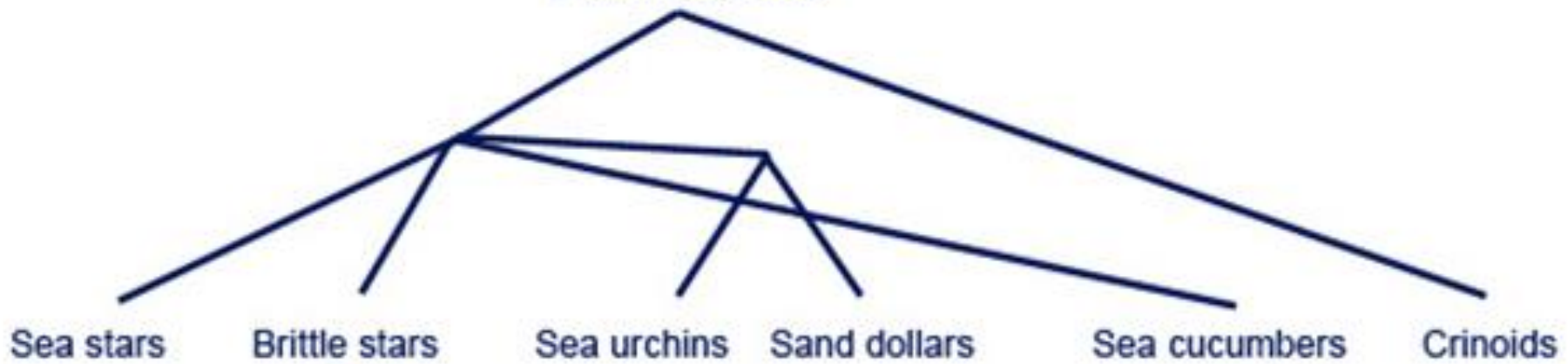


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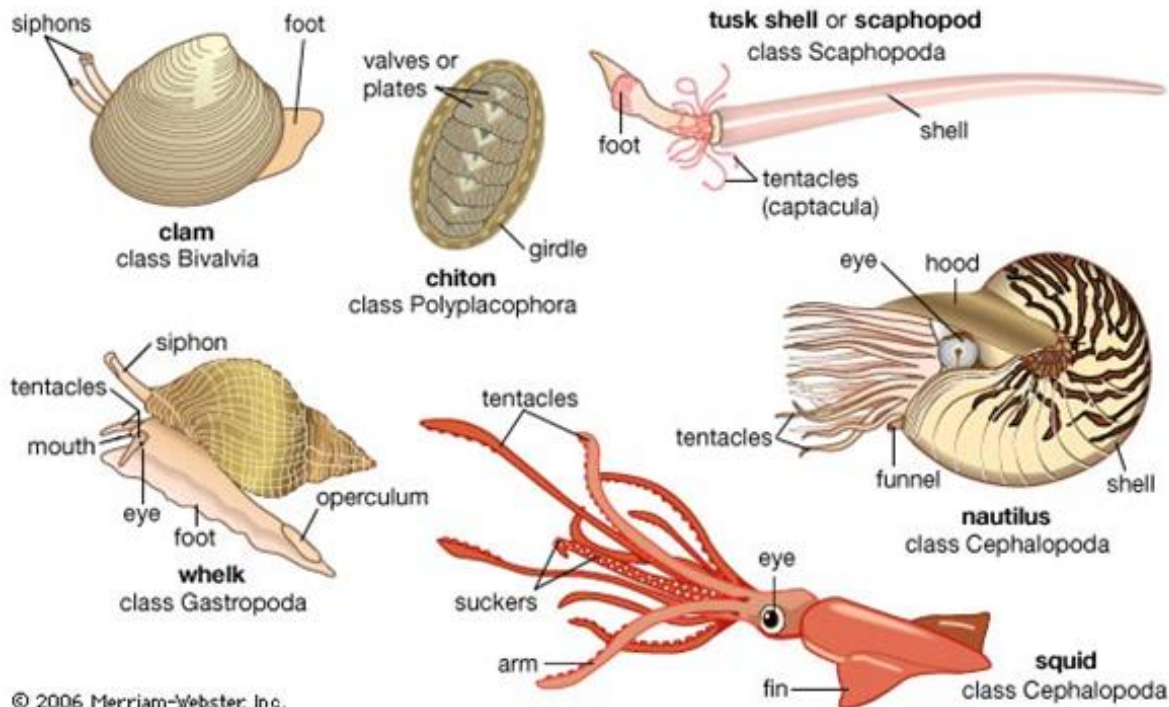
Four arthropod designs for life.



## Echinoderms

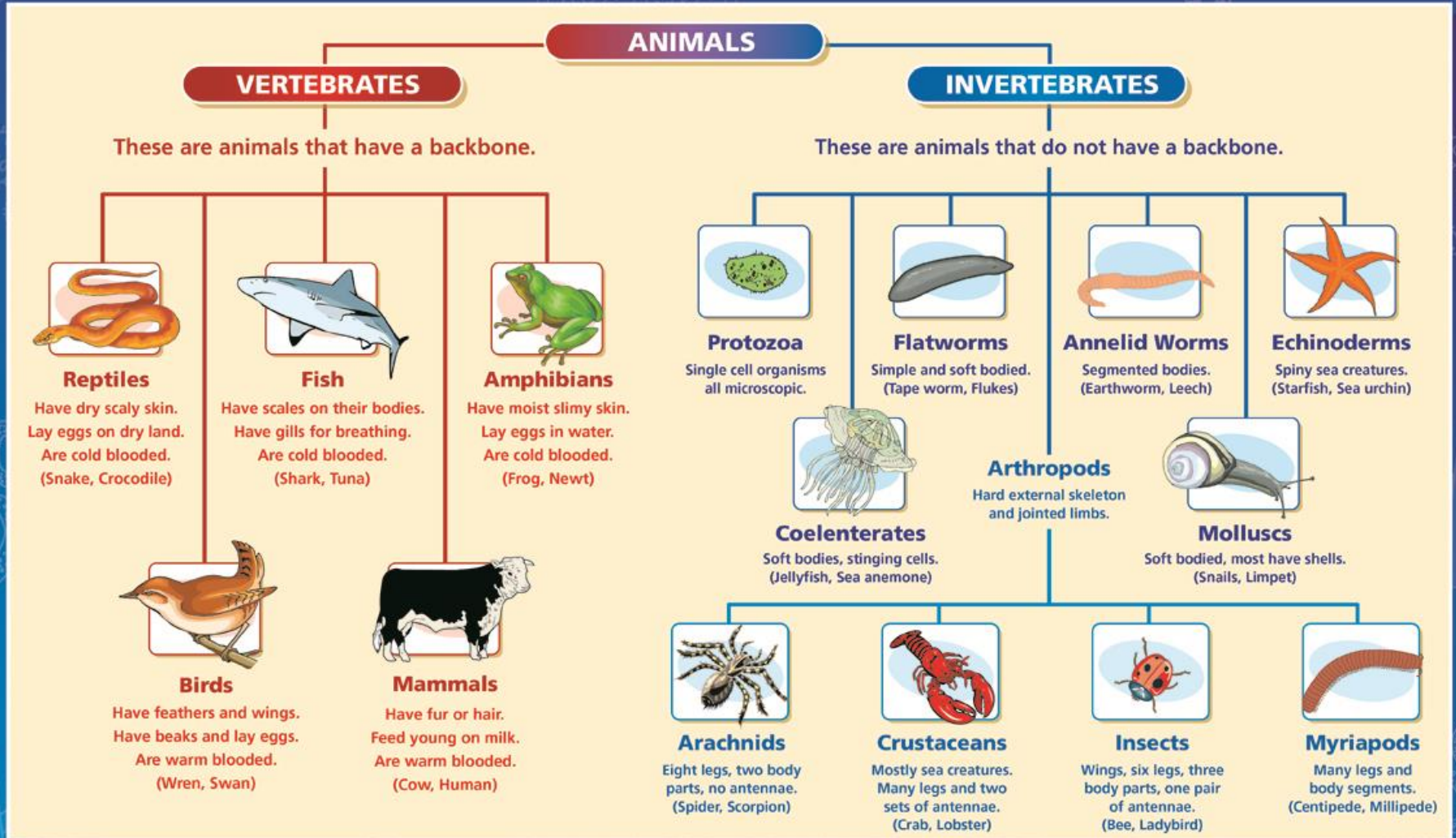


# Mollusks



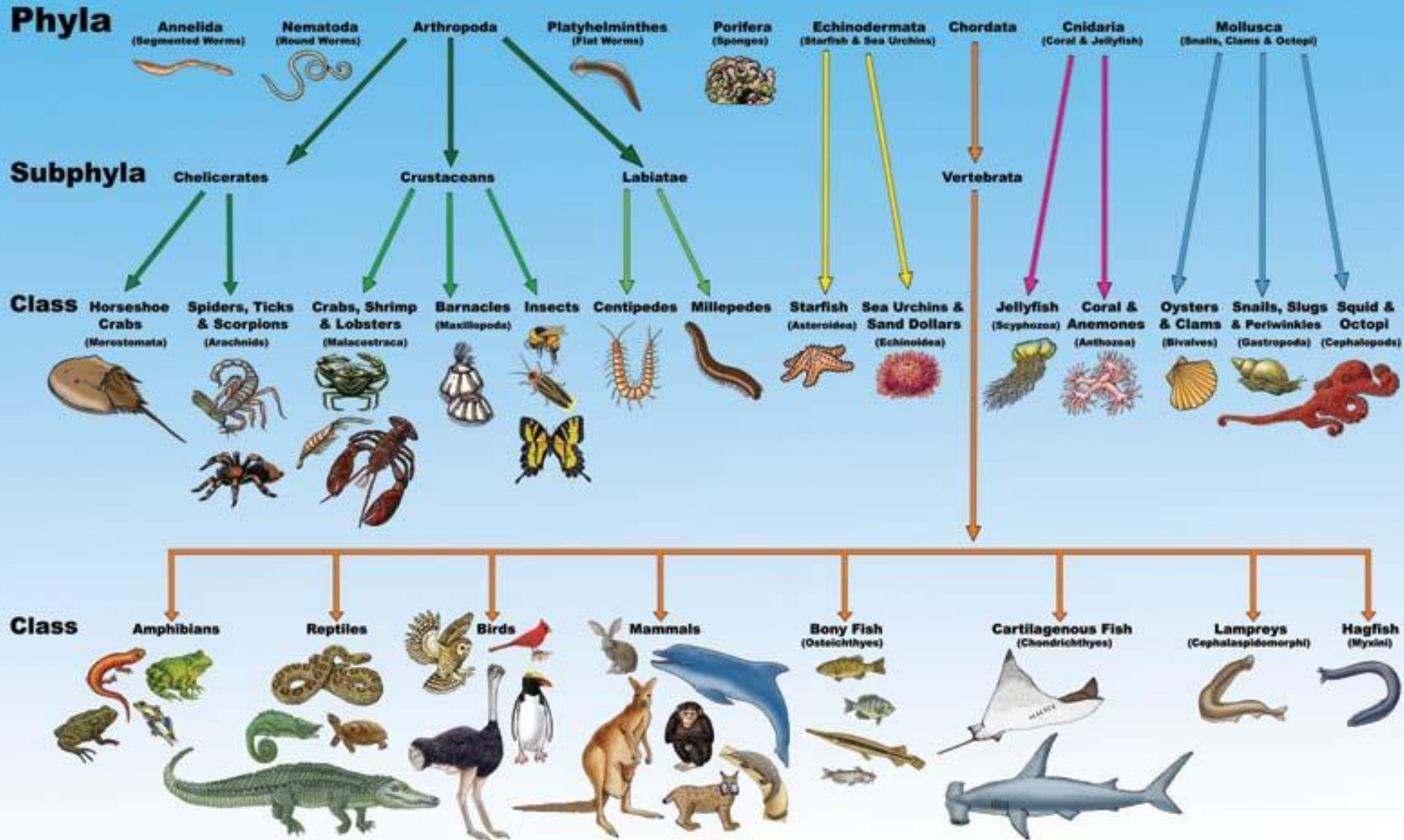
# CLASSIFICATION OF ANIMALS

This is the grouping together of animals with similar characteristics. Animals can be classed as either vertebrates or invertebrates.





# Animal Kingdom



*Other things to know:*

Kingdom

Fungi

Bacteria

Protists

Genus

Species

Classification

# Types of Plants

Vascular Plants  
-Roots, stems,  
leaves, (tubes)

Non-vascular-  
Absorbs water and  
nutrients cell by cell

or by how plants reproduce

Reproduction by seeds:

Seeds- a tiny new plant  
is protected by a seed.

Most vascular plants,  
but not all, make seeds.

Reproduction by spores:

Spores are plants that can  
grow into new plants. Mosses  
and other non-vascular plants  
reproduce from spores. Ferns  
are a vascular plant that  
reproduces by spores.

GA G.P.S. Coach book (2011 p. 81

List some of the groups into which scientists classify plants.

color, shape, size, how they reproduce, and their flowers or seeds.

Draw the picture of short root and long root plants.

Which will probably live in a dry environment?

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**Vascular Plants** -Have roots, tubes, leaves, flowers, other

**Non-vascular Plants** -Absorb nutrients

**Xylem** - carries water & nutrients from the roots.

**Phloem** - carries food from the leaves to the rest of the plant.

**Gymnosperms**- Plants that grow flowers. Produces naked seeds.

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Main Idea: Non Vascular plants have characteristics that distinguish them from other plants.

Detail 1: They have root-like structures, but have no true root.

Detail 2: Their leaf-like structures help them make food.

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