

## Classification/Kingdom Notes

\_\_\_\_\_ is the arrangement of \_\_\_\_\_ into orderly groups based on their \_\_\_\_\_.

Classifying things allows \_\_\_\_\_ to answer many questions:

- How many \_\_\_\_\_ are there?
- What are their \_\_\_\_\_?
- What are the \_\_\_\_\_ between species?

Classifying species also allows us to assign them

\_\_\_\_\_ names. \_\_\_\_\_ nomenclature uses two \_\_\_\_\_ words to name an organism.

Example: *Tyrannosaurus rex*

The first name is called the \_\_\_\_\_ name, and always begins with a \_\_\_\_\_ letter. The second name is called the \_\_\_\_\_ name, and is always in \_\_\_\_\_ letters. Both names MUST be written in \_\_\_\_\_.

\_\_\_\_\_ (1707-1778) developed a science called \_\_\_\_\_; the science of \_\_\_\_\_, classifying and \_\_\_\_\_ living organisms.

\_\_\_\_\_ (1920-1980) divided all living \_\_\_\_\_ into six categories called Kingdoms:

1. \_\_\_\_\_ – Made up of bacteria
  - Prokaryotes (\_\_\_\_\_)
  - \_\_\_\_\_ organisms
  - Get \_\_\_\_\_ in many ways
2. \_\_\_\_\_ – The newest kingdom
  - Organisms that have been on earth at least \_\_\_\_\_ years
  - Prokaryotes (\_\_\_\_\_)
  - Single-celled organisms

- Get \_\_\_\_\_ in many ways

3. \_\_\_\_\_ – very difficult to classify

- Usually single-celled
- Eukaryotes (\_\_\_\_\_)
- Include \_\_\_\_\_ and \_\_\_\_\_ organisms (e.g. Euglena uses chlorophyll and eats food.)

4. \_\_\_\_\_

- Multi-celled eukaryotes
- Cannot \_\_\_\_\_ from place to place
- Get food from their \_\_\_\_\_
- Examples: \_\_\_\_\_, \_\_\_\_\_, yeasts

5. \_\_\_\_\_

- Multi-celled eukaryotes (\_\_\_\_\_)
- Make their own \_\_\_\_\_
- Cannot move from place to place
- Examples range from \_\_\_\_\_ to giant \_\_\_\_\_

6. \_\_\_\_\_

- Multi-celled eukaryotes (has a nucleus)
- Cannot make their own \_\_\_\_\_
- Most can \_\_\_\_\_ from place to place

\_\_\_\_\_ are divided into \_\_\_\_\_, then \_\_\_\_\_, then \_\_\_\_\_, then \_\_\_\_\_, then \_\_\_\_\_, then \_\_\_\_\_.

How to remember these levels:

D \_\_\_\_\_ K \_\_\_\_\_ p \_\_\_\_\_  
 C \_\_\_\_\_ O \_\_\_\_\_ F \_\_\_\_\_  
 G \_\_\_\_\_ S \_\_\_\_\_

A \_\_\_\_\_ is an aid to identifying \_\_\_\_\_ organisms. It consists of several pairs of \_\_\_\_\_ statements, of which only \_\_\_\_\_ will apply to the unknown organism.

Each statement \_\_\_\_\_ to another until the organism is identified.

\_\_\_\_\_ put things into groups based on evolutionary relationships, often by using DNA.

## Classification/Kingdom Notes

Classification is the arrangement of organisms into orderly groups based on their similarities.

Classifying things allows biologists to answer many questions:

- How many species are there?
- What are their characteristics?
- What are the relationships between species?

Classifying species also allows us to assign them scientific names. Binomial nomenclature uses two Latin or Greek words to name an organism.

Example: *Tyrannosaurus rex*

The first name is called the genus name, and always begins with a CAPITOL letter. The second name is called the species name, and is always in lowercase letters. Both names **MUST** be written in italics.

Carolus Linnaeus (1707-1778) developed a science called taxonomy; the science of identifying, classifying and naming living organisms.

Robert Whittaker (1920-1980) divided all living organisms into six categories called Kingdoms:

1. Eubacteria – Made up of bacteria
  - Prokaryotes (no nucleus)
  - Single-celled organisms
  - Get food in many ways
2. Archaeobacteria – The newest kingdom
  - Organisms that have been on earth at least 3 billion years
  - Prokaryotes (no nucleus)
  - Single-celled organisms
  - Get food in many ways
3. Protista – very difficult to classify
  - *Usually* single-celled
  - Eukaryotes (has a nucleus)
  - Include animal-like and plant-like organisms (e.g. Euglena uses chlorophyll and eats food.)

#### 4. Fungi

- Multi-celled eukaryotes (has a nucleus)
- Cannot move from place to place
- Get food from their surroundings
- Examples: mushrooms, molds, and yeasts

#### 5. Plantae

- Multi-celled eukaryotes (has a nucleus)
- Make their own food
- Cannot move from place to place
- Examples range from mosses to giant trees

#### 6. Animalia

- Multi-celled eukaryotes (has a nucleus)
- Cannot make their own food
- Most can move from place to place

Domains are divided into kingdoms, then phylum, then classes, then orders, then families, then genus, then species.

How to remember these levels:

Daring King Philip Crossed Over From Great Spain

A dichotomous key is an aid to identifying unknown organisms. It consists of several pairs of descriptive statements, of which only one will apply to the unknown organism.

Each statement leads to another until the organism is identified.

Cladogram put things into groups based on evolutionary relationships, often by using DNA.