

How things are classified

1.4

I. Classification

- Organisms are classified into groups with similar characteristics

A. History of Classification

- More than 2000 years ago Aristotle classified organisms into 2 groups – Animals or Plants
- Then he broke those 2 groups down into smaller groups

B. Linnaeus

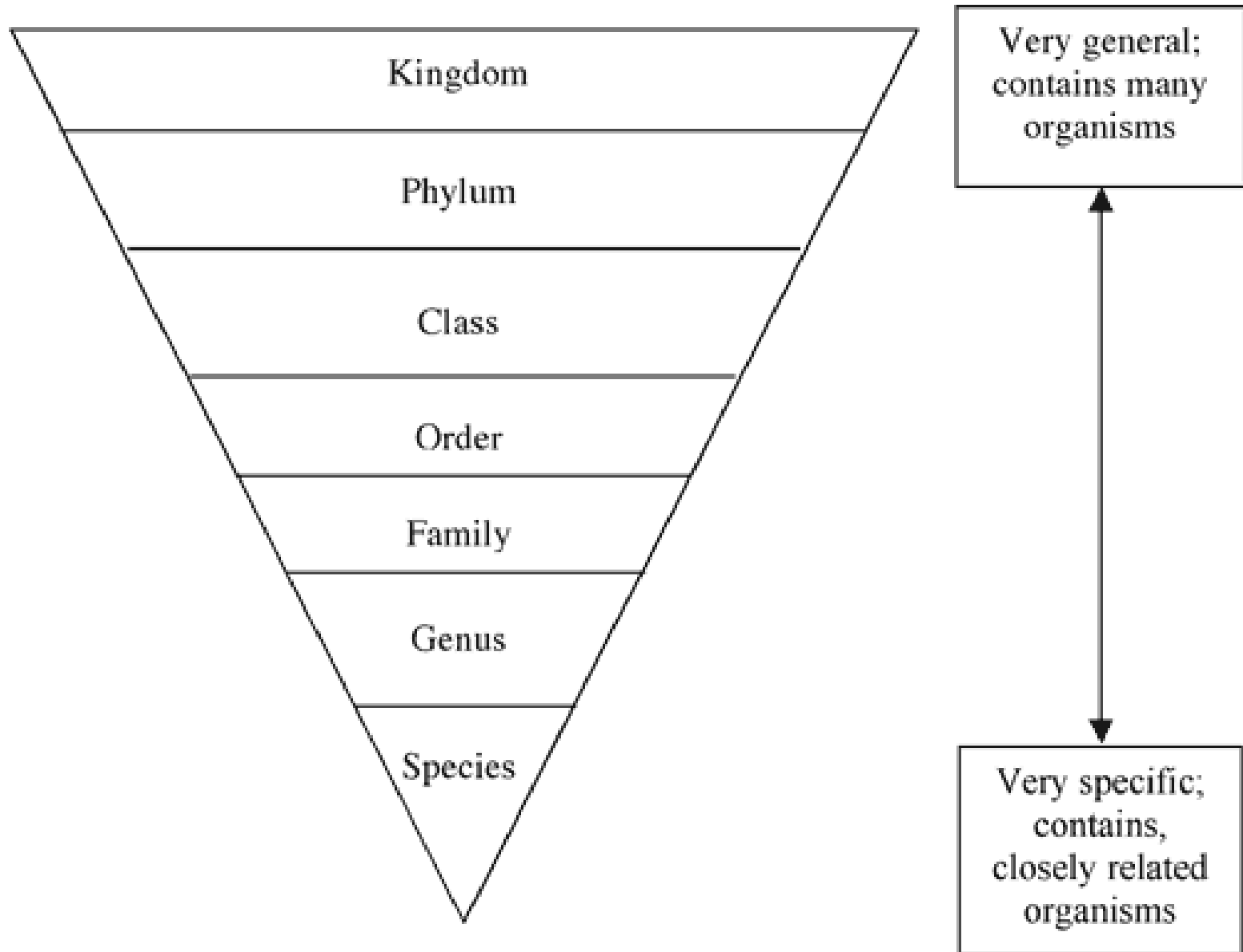
- In late 18th Century Carolus Linnaeus, a Swedish naturalist, grouped organisms with similar structures
- This became the accepted method of classification

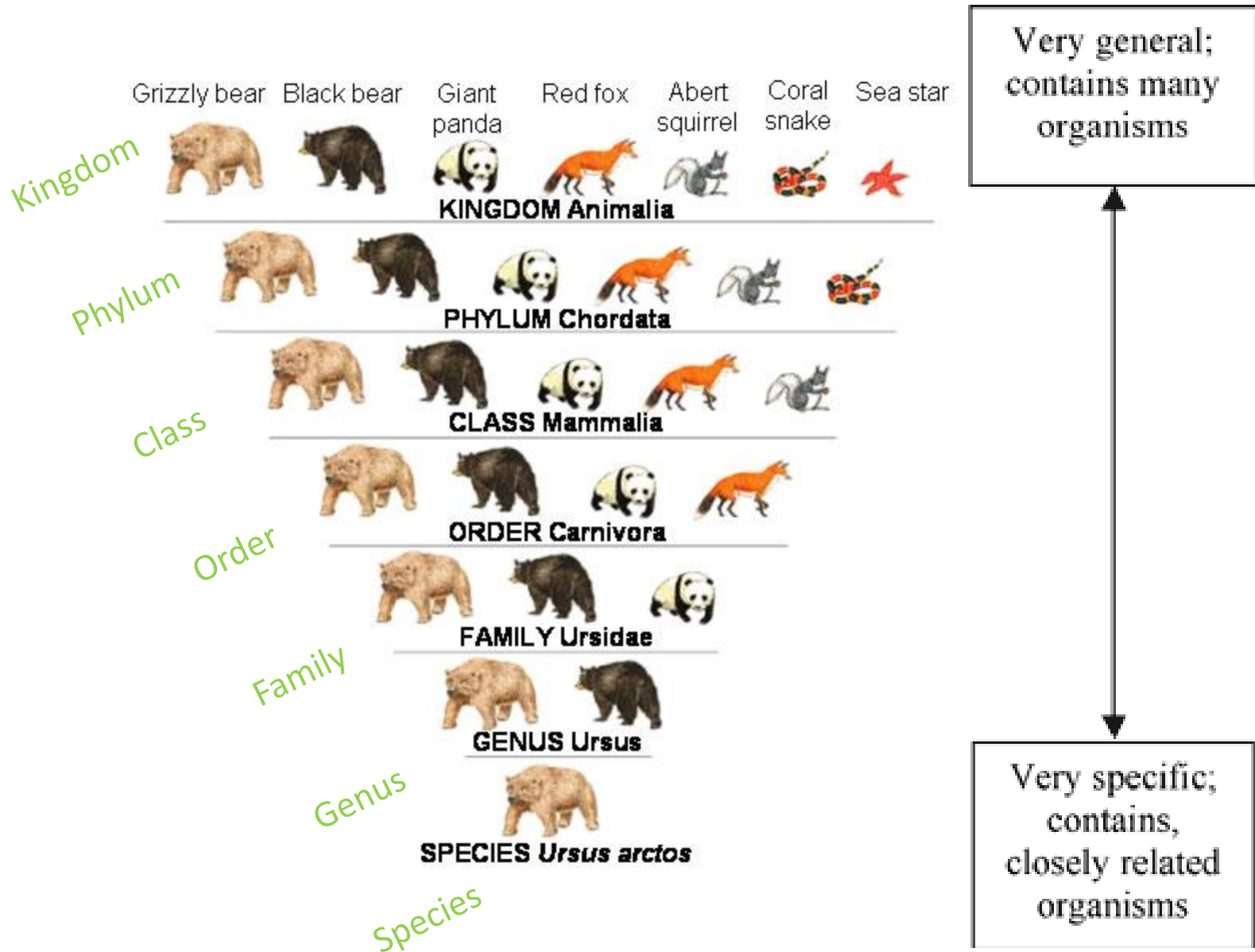
C. Modern Classification

- Phylogeny is how and organism has changed over time

- A classification system commonly used today groups organisms into 6 kingdoms
 - A kingdom is the first and LARGEST category

Draw into Notes





Same species can mate and produce fertile offspring

II. Scientific Names

- Each species has a unique, 2 word scientific name
- Binomial nomenclature is the 2 word naming system used by scientist to name organism

A. Binomial Nomenclature

- The first word of the 2 word system identifies the genus group the organism belongs to
 - A genus is a group of similar species
- The second word of the name will tell you something about the organism
 - What it looks like, where it is found, who discovered it...
 - » Example: A red maple is given the name *Acer rubrum*. The maple genus is *Acer* and the word *rubrum* is Latin for red – the color of a red maple's leaves in the fall.

B. Uses of Scientific Names

Scientific names are used for 4 reasons

1. They help avoid mistakes
2. Organisms with similar evolutionary histories are classified together
3. Scientific names give descriptive information about the species
4. Scientific names allow information about organisms to be organized easily and efficiently

III. Tools for Identifying Organisms

- Field Guides
- Dichotomous key

A. Dichotomous Keys

- A dichotomous key is a detailed list of identifying characteristics that includes scientific names
 - Arranged in steps with 2 descriptive statements at each step