Classification & Dichotomous Keys

What is Classification?

Classification: putting things into orderly groups based on similar characteristics

Taxonomy: the science of describing, naming, and classifying organisms
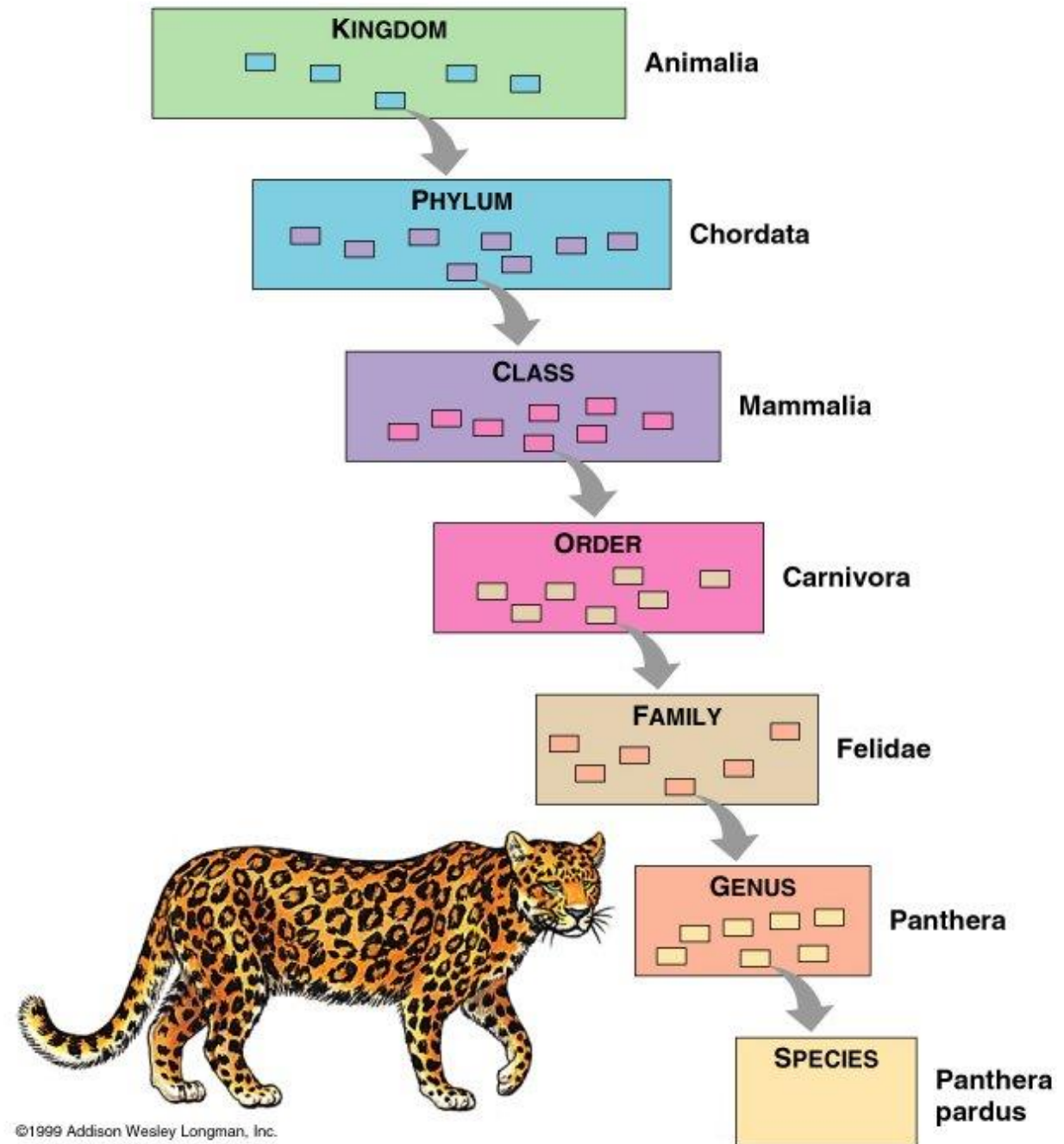
Early Classification

- Aristotle grouped everything into simple groups such as animals or plants

- He then grouped animals according to if they had blood or didn't have blood, and if they had live young or laid eggs, and so on…

Modern Classification

The modern system of classification has 8 levels:
- **Domain**
- **Kingdom**
- **Phylum**
- **Class**
- **Order**
- **Family**
- **Genus**
- **Species**

KINGDOM — Animalia

PHYLUM — Chordata

CLASS — Mammalia

ORDER — Carnivora

FAMILY — Felidae

GENUS — Panthera

SPECIES — Panthera pardus

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Binomial Nomenclature

- Developed by Carolus Linnaeus
  - Swedish biologist, 1700's
- Two-name system
  - "Di" means divided into 2 parts
- Genus and species named using Latin or Greek words

Dichotomous Keys

Organism: An individual animal, plant or single-celled life form

- Organisms are classified into groups.

- Organisms in the same Kingdom have similar characteristics.

Dichotomous Keys

Dichotomous Keys: A tool used to determine the identity of things in the natural world.

- "Dichotomous" means "divided into two parts"
  - Greek origin

Examples of identifiable things using a dichotomous key:

Dichotomous Keys

Examples of couplets

1a The fish has barbs on its head. Go to1
1b The fish has no barbs on its head. Go to 4

1a The flowers has eight petals. Go to 2
1b The flower has twelve petals. Go to 3

1a The leaf has three main sections. Go to 5
1b The leaf does not have three
       main sections. Go to 2

- Consists of a series of choices that lead to the correct answer.

Couplets: A pair of contradictory statements.

- One statement is accepted and the other rejected.

- Both statements should be read before making a choice.