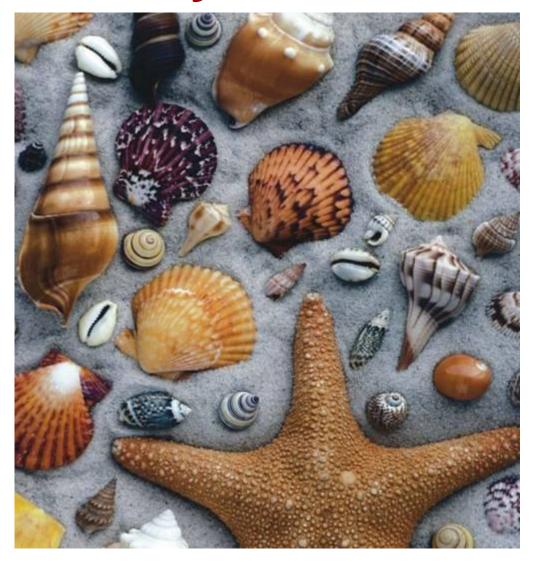
18-1 Finding Order in Diversity





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18-1 Finding Order in Diversity Why Classify?



To study the diversity of life, biologists use a classification system to name organisms and group them in a logical manner.



18-1 Finding Order in Diversity Assigning Scientific Names

Binomial Nomenclature



What is binomial nomenclature?



18-1 Finding Order in Diversity Assigning Scientific Names

Carolus Linneaus developed a naming system called **binomial nomenclature**.



In binomial nomenclature, each species is assigned a two-part scientific name.

The scientific name is italicized.



Linnaeus's System of Classification



What is Linneaus's system of classification?











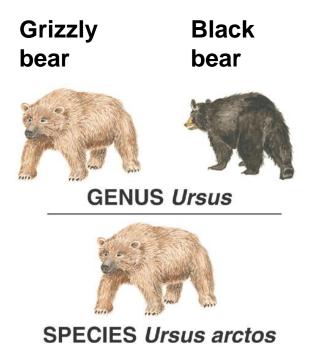
Linnaeus's seven levels of classification are—from smallest to largest—

- species
- genus
- family
- order
- class
- phylum
- kingdom



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Each level is called a **taxon**, or taxonomic category. Species and genus are the two smallest categories.





Genera that share many characteristics are grouped in a larger category, the **family**.





An **order** is a broad category composed of similar families.

Grizzly bear



Black bear



Giant panda



ORDER Carnivora

Red fox





The next larger category, the class, is composed of similar orders.

Grizzly bear

Black bear Giant panda

Red fox

Abert squirrel











Class Mammalia



Several different classes make up a phylum.

Grizzly bear



Black bear























PHYLUM

Chordata



The **kingdom** is the largest and most inclusive of Linnaeus's taxonomic categories.

Grizzly bear





Red fox

Abert squirrel

Coral snake



















Grizzly Black Giant Red Abert Coral Sea bear bear panda fox squirrel snake star





























PHYLUM Chordata











CLASS Mammalia









ORDER Carnivora







FAMILY Ursidae





GENUS Ursus



SPECIES Ursus arctos

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- Which statement about classification is true?
 - a. Biologists use regional names for organisms.
- A
- b. Biologists use a common classification system based on similarities that have scientific significance.
- c. Biologists have identified and named most species found on Earth.
- d. Taxonomy uses a combination of common and scientific names to make the system more useful.



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- Linnaeus's two-word naming system is called
- A a. binomial nomenclature.
 - b. taxonomy.
 - c. trinomial nomenclature.
 - d. classification.



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- Several different classes make up a(an)
 - a. family.
 - b. species.
 - c. kingdom.
- A

d. phylum.



- 4
- A group of closely related species is a(an)
 - a. class.



- b. genus.
- c. family.
- d. order.



- Which of the following lists the terms in order from the group with the most species to the group with the least?
 - a. order, phylum, family, genus
 - b. family, genus, order, phylum
- A
- c. phylum, class, order, family
- d. genus, family, order, phylum



END OF SECTION