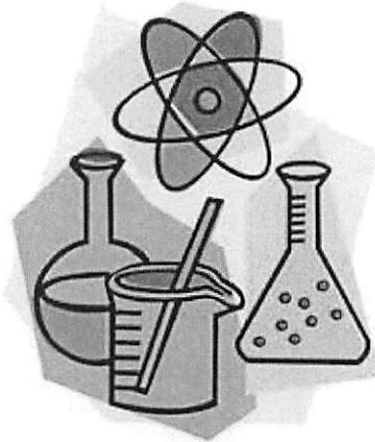


Road Branch Elementary & Middle School

NTID PACKETS

6TH GRADE



SCIENCE


DAY 5

Taxonomy

Using taxonomy, scientists divide all living things on Earth into three groups called domains. Domains are divided into kingdoms, and then phyla (FI luh; singular, phylum), classes, orders, families, genera (singular, genus), and species. A species is made of all organisms that can mate with one another and produce offspring that can reproduce. The first word in an organism's scientific name is the organism's genus (JEE nus), and the second word might describe a distinguishing characteristic of the organism. For example, dogs belong to the genus *Canis*. The *Canis* genus also includes wolves, coyotes, and jackals.

Recall that Linnaeus used similar physical traits to group organisms. Today, scientists also look for other similarities, such as how an organism reproduces, how it processes energy, and the types of genes it has.

Dichotomous Keys

A dichotomous (di KAH tah mus) key is a tool used to identify an organism based on its characteristics. Dichotomous keys contain descriptions of traits that are compared when classifying an organism. Dichotomous keys are organized in steps. Each step might ask a yes or a no question and have two answer choices. Which question is answered next depends on the answer to the previous question. Based on the features, a choice is made that best describes the organism. 

Math Skills

A ratio expresses the relationship between two or more things. Ratios can be written

3 to 5, 3:5, or $\frac{3}{5}$.

Reduce ratios to their simplest form. For example, of about 3 million species in the animal kingdom, about 50,000 are mammals. What is the ratio of mammals to animals?

Write the ratio as a fraction.

$$\frac{50,000}{3,000,000}$$

Reduce the fraction to the simplest form.

$$\frac{50,000}{3,000,000} = \frac{5}{300} = \frac{1}{60}$$

(or 1:60 or 1 to 60)

13. Use Ratios Of the 5,000 species of mammals, 250 species are carnivores. What is the ratio of carnivores to mammals? Write the ratio in all three ways.

Key Concept Check

14. Describe How are living things classified?

Naming Living Things

Scientists use a system called binomial nomenclature (bi NOH mee ul • NOH mun klay chur) to name living things. **Binomial nomenclature** is a naming system that gives each living thing a two-word scientific name.

More than 300 years ago, a scientist named Carolus Linnaeus created the binomial nomenclature system. All scientific names are in Latin. *Homo sapiens* is the scientific name for humans. As the table below shows, the scientific name for an Eastern chipmunk is *Tamias striatus*. ✓

✓ Reading Check

11. State Scientific names are given in what language?

Classification of the Eastern Chipmunk		
Taxonomic Group	Number of Species	Examples
Domain Eukarya	about 4–10 million	
Kingdom Animalia	about 2 million	
Phylum Chordata	about 50,000	
Class Mammalia	about 5,000	
Order Rodentia	about 2,300	
Family Sciuridae	299	
Genus <i>Tamias</i>	25	
Species <i>Tamias striatus</i>	1	

Interpreting Tables

12. Point Out What taxonomic group has about 50,000 species?

Classification Systems

Linnaeus also classified organisms based on their behavior and appearance. Today, the branch of science that classifies living things is called taxonomy.

A group of organisms is called a **taxon** (plural, taxa). There are many taxa, as shown in the table above. Recall that all living things share similar traits. However, not all living things are exactly the same.